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1. General information

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Practical information

Local contact

LOUIS BELET SA
Les Gasses 11
CH - 2943 Vendlincourt
Tel. +41 (0) 32 474 04 10
Fax +41 (0) 32 474 45 42
www.louisbelet.ch
info@louisbelet.ch

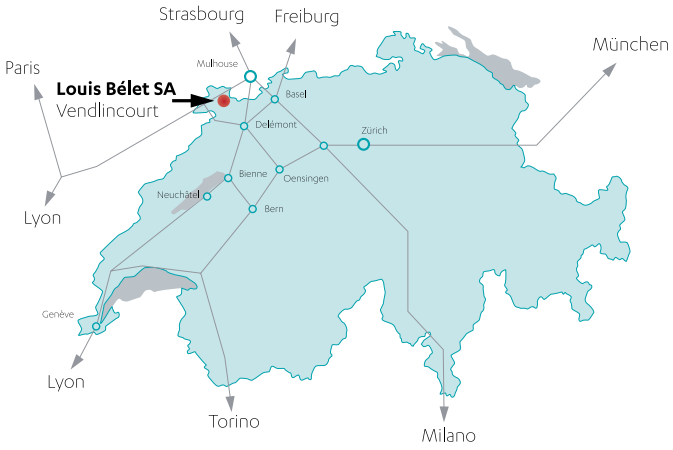
Working hours

Monday to Friday
7:00 AM to 12:00 noon / 1:00 PM to 5:30 PM (UTC +1)

Availability & time schedules

The majority of the articles listed in the catalogue are available in stock. Depending on the coating desired, there may be a time delay of 3-4 days.

Situation



Ordering

Delivery of articles in stock (next working day)

	For orders until:
Monday - Thursday :	5:00 PM
Friday :	4:00 PM
Pick-up from the warehouse	Preparation time 30 minutes

Hobs for milling gears

You may send a request for a quotation for hob cutters via our on-line form. Our technical office shall analyse your requirements and can recommend the suitable hob cutter for your application

› www.goo.gl/AVQHQ6

Warehouse with remote control

We supply a small cabinet with a range of tools free of charge and this can be discussed in detail and coordinated to meet your needs. You may use these tools depending on your needs without being charged for doing so. If a tool of this stock gets worn out or used up, we shall provide a replacement against payment.
The great advantage of this system is that you have the desired tool directly on-site where you need it. We apply the customary volume discount on orders depending on the stock transactions.

If one of the two parties would like to reverse this stock for any reason, we shall accept is free of charge provided that it contains the initial stock of tools

Order on demand by the customer

You place an order for a large quantity of tools so that you can benefit from the attractive conditions. The tools are kept in stock with Louis Belet. We shall supply small quantities to you on call and we shall also raise invoices for the same respectively. The discounts shall be granted depending on the article and quantity. Such an order may run for 1 to 2 years (based on mutual consultation).

SKYLIGHT

› www.louisbelet.ch/skylight

Please visit our on-line inventory!

Skylight is a web portal that enables you to search the stocks of standard and special tools of Louis Belet SA and its associated stock. You can search based on the type of tool and dimensions or reference dimensions and diameter.

Discount

Volume discount on the catalogue products:

10-19 pieces :	**5%**
20-49 pieces :	**10%**
50-99 pieces :	**15%**
100-149 pieces :	**20%**
≥ 150 pieces :	**25%**

Authorized Distributors

> www.louisbelet.ch to get the latest information about resellers

SUNRION PRECISION MACHINERY CO. LTD.

NO.21312, Building 2, i-Duhui
Rd. South Tangyan, Hi-Tech Zone
710065 XI'AN CHINA

www.sunrion.com.cn
Phone : +86 (0)29-68714838
Fax : +86 (0)29-83326264

AFFOLTER CHINA CO., LTD. OFFICE

Room 109 Tianxiang Building,
No.1068 Mao Tai Road, Changning
District, Shanghai 200336, P.R. CHINA

www.affolterchina.cn
Phone : +86 21 6237 0228
Fax : +86 21 6237 0226

RAINFORD PRECISION MACHINES
(Sole agent)

Pasture Lane Business Centre
Rainford, St Helens, WA11 8PU
ENGLAND

http://www.rainfordprecision.com
Phone : +44 (0) 1744 889726
Fax : +44 (0) 1744 885201

FABRICE BERCHE OUTILLAGE - F.B.O.

98 rue Stanislas
54000 Nancy
FRANCE

Phone : +33 3 83 40 37 14
Fax : +33 9 67 05 37 14

ALPES OUTILLAGES PERFORMANCES - A.O.P.

450 avenue du mont-blanc
74300 CLUSES FRANCE

www.alpes-outillages-performances.fr
Phone : +33 4 50 58 28 98
Fax : +33 4 50 58 60 75

ERICH KLINGSEISEN KG

Brunnenstraße 2
78554 Aldingen
GERMANY

www.klingseisen.de
Phone : +49 74 24 98192-0
Fax : +49 70 43 92 27 46

REXIM WERKZEUG GMBH

Glaitstrasse 29
75433 Maulbronn
GERMANY

www.rexim.de
Phone : +49 70 43 9227-0
Fax : +49 70 43 92 27 46

PCS MACHINE TOOLS LIMITED
(Sole agent for Hong Kong)

Rm.1220A Well Fung Ind Ctr, 58-76
Ta Chuen Ping St Kwai Chung
Dongguang Province

info@pcstools.com.hk
Tel: (852) 2364 1829
Fax: (852) 2364 1839

M. E. WEINSTOCK LTD.

6 Halahav St. PO Box 1864
59118 Holon
ISRAEL

www.weinstock.co.il
Phone : +972 3 558 40 20
Fax : +972 3 558 40 22

VEMAS SRL

Via Magellano 5/C
20090 Cesano Boscone
ITALIA

www.vemas.it
Phone : +39 02 45 86 40 59
Fax : +39 02 45 83 133

RHINOS COMPANY LTD

1-8 Karakiyo-cho Tennoji-ku
543-0018 Osaka
JAPAN

www.rhinos.co.jp
Phone : +81 6 6766 77 70
Fax : +81 6 6766 77 78

JINSUNG EUROTEC Co.Ltd

817 Daerung Techno Town 12nd
327-32, Gasan-Dong, GeumCheon-Gu 156-811 Seoul, SOUTH KOREA

www.bestjinsung.com
Phone : +82 2 832 1888
Fax : +82 2 827 0909

EHN & LAND AB

Cylindervägen 12, Box 1202
131 27 Nacka strand
SWEDEN

www.ehnland.se
Phone : +46 8 635 34 50
Fax : +46 8 635 34 70

GENSWISS INDUSTRIES, INC.
(Sole agent)

6 Old Stage Road
Westfield, MA 01085
USA

www.genswiss.com
Phone : +413 562 4800
Fax : +413 562 4800

Fields of application

Watchmaking & jewellery

Louis BELET excels in manufacturing customised end mills for the high end watchmaking market. Our tool quality and high reactivity enabled us to become a benchmark for the leading watchmaking brands.

Medical technologies

Because of our know how and experience over more than half a century in customised tools, Louis BELET has become an essential partner for the leading names in the medical industry.

Aeronautic industry

Bélet offers several tools designed for machining aluminium, titanium, inconel and alloyed steels. In addition, a specific set of tools has been developed for machining composite materials.

Telephony / Electronics

Bélet's standard and custom end mills are used by leading companies in this sector. Thanks to our high end CNC machines, we are able to produce theses tools in large quantities.

Quality & Inspection

Quality : Swiss made

We do not compromise when it comes to the quality of our products. All our tools offer the same quality regardless of whether they are of standard or special design.

Inspection

Louis Belet AG has the latest technical means and resources for testing the tools.

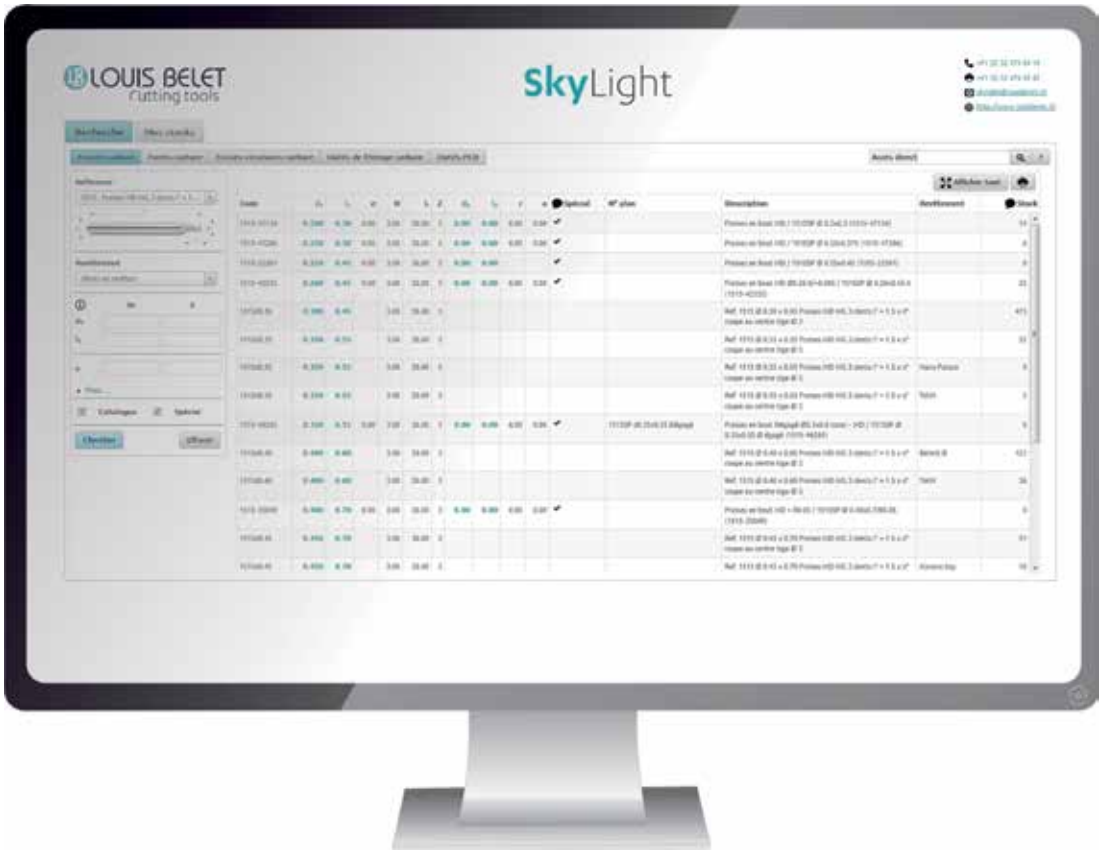
We are in a position to prepare test certificates in accordance with DIN EN 10204: 2005-01.

Digital Optical Systems
Digital measurement and profile comparisons directly from the CAD file

Automatic computer-aided controller
This equipment can generate test reports on request

Diameter with the help of laser measurement
Dimensions in micrometres (µm) of milling and drilling before and after machining

3D measuring instruments
Optical measurement system optimised for 3D measurements



SKYLIGHT : Give a look at our inventory !

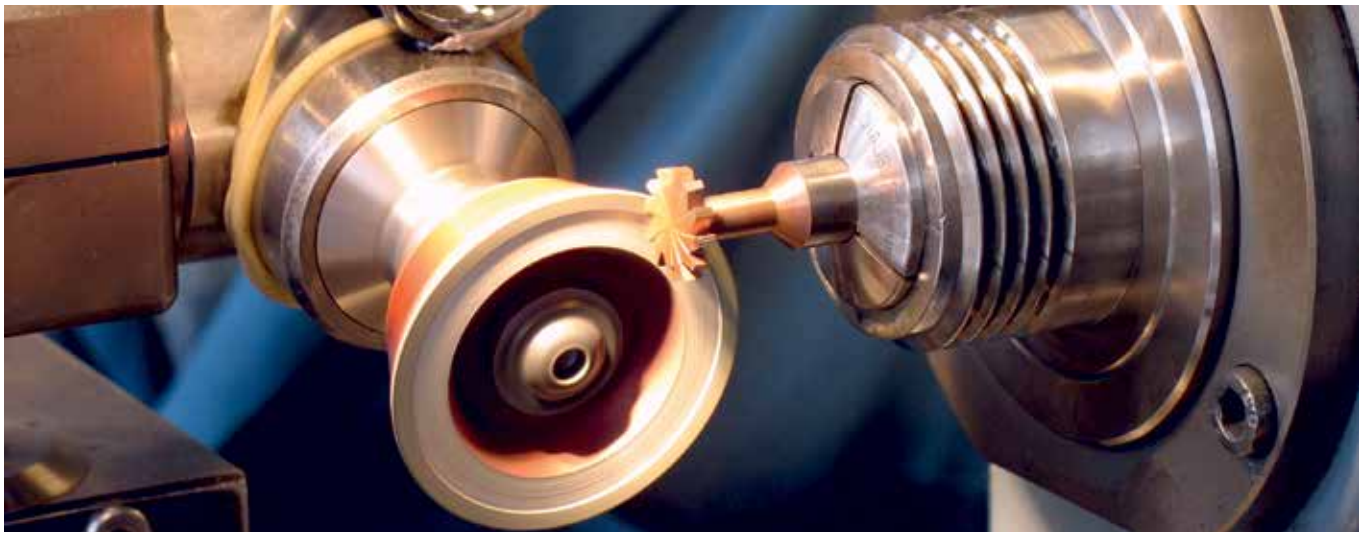
The skylight module enables you to look at the stock (Bélet's one or yours dedicated stock) of standard and special tools. You can search by tool type and size or by reference and diameter.

For any price request, please contact us indicating the item code of the tools. For more information about the use of Skylight: info@louisbelet.ch

Access Skylight :

› http://www.louisbelet.ch/skylight

Reconditioning



Bélet tools are made to last!
Most tools can be reconditioned, either if manufactured by Bélet or by our competitors. For instance :

- End mills in solid carbide or HSS, from ø 6 mm
- Drills in solid carbide or HSS
- Circular cutters in carbide or HSS
- Cutting tools in PCD: mills, drills, circular saws, etc...
- Inserts and turning tools in carbide or PCD
- Form cutters in solide carbide, PCD or HSS

Reconditioning allows the renewal of your tool at low cost and within a short timeframe. Depending on the dimensions of the tools, of the cost of a new tool or on the condition of the used tools, it may happen that reconditioning is not possible or judicious. In this case, our specialists will contact you to propose an alternative. Reconditioned tools can also be coated again.

Reprofiling
Profiled tools with constant or logarithmic relief can also be reconditioned on our specialized machines. Form tools with a logarithmic profile have the advantage that they can be resharpen while keeping their exact original profile.

The company

Mr. Louis Bélet has founded the company in 1948. Since then we have gained a solid know-how in manufacturing cutting tools. Nowadays, the company is run by the two grandchildren of the founder, Mrs Roxane Piquerez and Mr Arnaud Maître.

The quest of excellence

Bélet's spirit relies on the quest of excellence. In all our activities, we constantly focus on finding the best solutions, for our customers and our employees. This applies to the following areas :

Quality

- No compromise is tolerated on the quality of our products. All of our tools, either standard or special, have the same quality level.

Service

- The customer first! We focus on delivering the best service to any customer
- Reactivity is a key point for us: our goal is to give a prompt and accurate feedback to any request we get from our customers.

Practices

- We apply an employee loyalty program. This is a key point to keep and develop our know-how.
- We make sure that our production processes are environment friendly. This is followed throught our ISO 14001 certification.

Economical performance

- Healthy finance is obviously a key point. We focus on being independant of any backers. All our machines and equipment are financed by our own equity.

Quality and environmental management are testified by our ISO 9001:2008 and ISO 14001:2004 certifications.

General terms & conditions

Prices
The prices are per piece and for delivery ex works Vendlincourt, Switzerland, without packaging, postage, taxes (VAT), custom fees nor insurance. Price modifications are reserved. Minimum amount by order: CHF 50.-

Special tools
The tools manufactured according to special requests are invoiced on the basis of a quotation or, unless otherwise stated in the order confirmation, on the basis of the result. Louis Bélet SA reserves the right to deliver up to ± 10% of the number of ordered parts, but at least one part. Invoicing of such over-/under-quantities is based on the agreed price in the original order.

Deliveries
Ex-works Vendlincourt, Switzerland, with all the risks being passed to the ordering party upon dispatch of the relevant goods. The postage and packaging costs are invoiced.
The delivery deadlines are given without engagement. They are evaluated as accurately as possible and are respected as well as possible. For the standard tools of the catalogue, the deliveries of pieces in stock are carried out the day of order, as far as possible. The delivery deadlines for special tools are communicated upon request. Unforeseeable delays do not authorize the customer to cancel the order. In the case of a delay, the purchaser is not entitled to compensation or other benefits.

Control certificates
Certificates for quality controls may be provided upon request and will be invoiced.

Payment terms
The invoices are payable as a net amount within 30 days, as from the date of the invoice, in Swiss francs, except another convention. The terms of payment and delivery stipulated on the orders of our customers and not corresponding to ours are recognized by us only through a specific written confirmation.
The goods delivered shall remain the property of Louis Bélet SA until they have been paid for in full.

Machining parameters
The cutting parameters and technical informations provided in this catalogue are indicative and do not engage us. These parameters are to be adapted according to the type of work, to the part to be manufactured, to the machine, the attachments, the layings and the lubricant.

Complaints
The complaints must reach us in writing within 8 days after reception of the goods. Any part presenting a defect will be replaced or credited as soon as possible. This guarantee covers only the replacement of the tool. No other compensation could be required. The tools defective following a normal or an excessive usage will not be replaced for free.

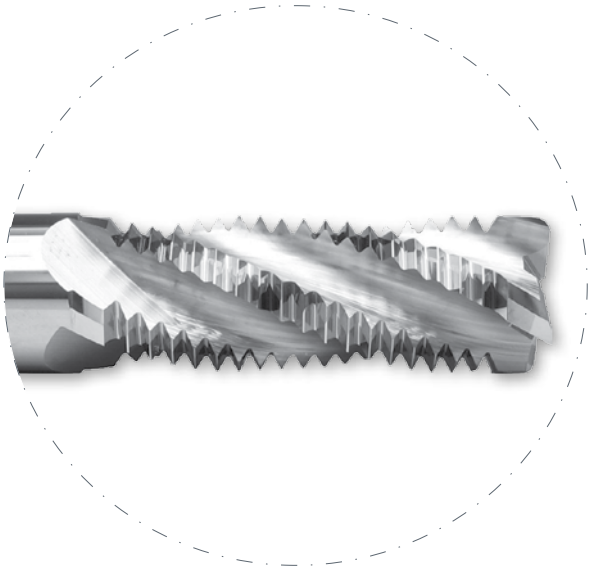
Liability for defects
The purchaser shall only be entitled to the replacement or repair of defective goods. The purchaser is not entitled to further claims, especially for compensation for damage or consequential damage. In no case can claims be considered by the purchaser for compensation for damage which is not caused to the object itself, e.g. loss of production, inability to use the goods, loss of contracts, loss of profit and other direct or indirect damage.

Special terms
The standard tools are manufactured according to drawings designed by Louis Bélet SA. The illustrations as well as the technical data appearing in the present catalogue do not engage us. Modifications in the geometries of the cutting zones, in the quality of the raw material like in any other technical data may happen without prior notice. For special tools, we manufacture according to a customer's drawing or to a drawing designed by Louis Bélet SA but validated by the customer. The tool production is launched based on the latest drawing in our possession. Any subsequent modification of the drawing is subject to be charged to the customer.

Jurisdiction
The Swiss law shall apply. Place of jurisdiction: CH - 2900 Porrentruy (Jura).

The French text of the above general terms and conditions is used as reference

2. Special tools



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Tools for the machine 701S from Willemin-Macodel

Louis Bélet has developed an assortment of tools for the machine 701S from Willemin-Macodel.

These mills and drills have been specifically designed to take advantage of the potentials of this machine.

They allow a precise and fast machining, with an excellent surface quality

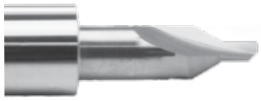
Tools tested and validated on the 701S machine :

REF. 7010 End mill for 701S machine

REF. 7102 Micro end mill 2 teeth for 701S machine

REF. 7119 Engraving mill for 701S machine

REF. 7111-1 Straight cut end mill Z1 for 701S machine



REF. 7339 Twist drill helix 24° for 701S machine

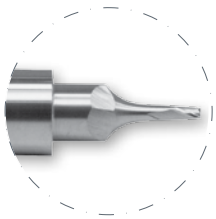
REF. 7111-3 Straight cut end mill Z3 for 701S machine

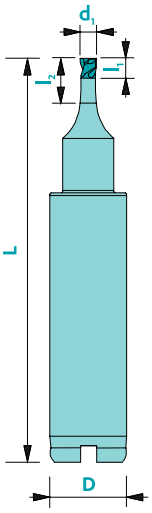
REF. 74119-3 Engraving mill in PCD for 701S machine

Any other geometry upon request

End mill for 701S machine

WILLEMIN-MACODEL

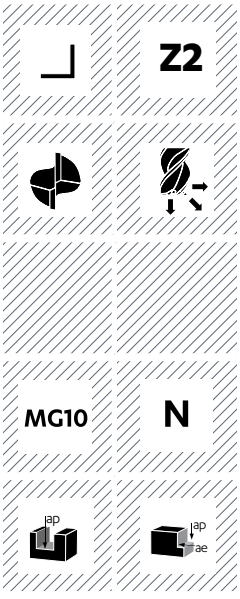




Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	□	Trio
Steel > 700 N/mm²	80	100	□	□	Trio
Stainless steel	50	70	□	□	Trio
Cast iron	60	100	□	□	Trio
Copper	150	180	□	□	Solo
Brass - Bronze	150	180	■	■	Solo
Aluminium	200	350	□	□	Rico/Solo
Gold - Silver	140	180	□	□	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	□	Trio
Titanium	40	60	□	□	Rico/Trio

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm: +0/-0.01 D: h5
$d_1 > 1$ mm: +0/-0.02



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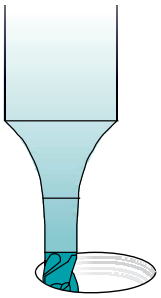
ae=0.8xd_1
ap=0.3xd_1



ideal for drilling by helical interpolation

Art. n°	d_1	l_1	l_2	D	L
7010d0.10	**0.10**	**0.05**	0.40	6	33
7010d0.20	**0.20**	**0.10**	0.80	6	33
7010d0.32	**0.32**	**0.16**	1.28	6	33
7010d0.50	**0.50**	**0.25**	2.00	6	33
7010d0.63	**0.63**	**0.32**	2.52	6	33
7010d0.80	**0.80**	**0.40**	3.20	6	33
7010d1.25	**1.25**	**0.63**	5.00	6	33
7010d2.00	**2.00**	**1.00**	-	6	33
7010d3.20	**3.20**	**1.60**	-	6	33

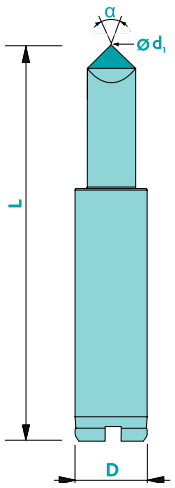
Engraving mill for 701S machine

WILLEMIN-MACODEL

7119

Material	n [rpm]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 -0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	-	-	□	■	-
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■



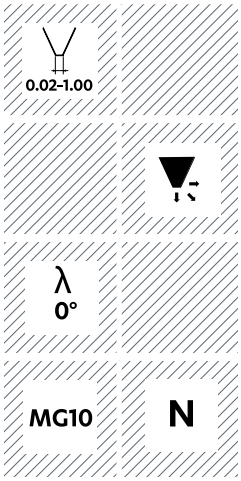
Tolerances a: +/- 0.01
D: h5

Article number: 7119a##d#.##
Example: End mill ref. 7119 with 25° angle and tip diameter 0.05 mm: 7119a25d0.05

α*	d_1**	D	L
15°-45°	0.02-0.09	6	33
15°-45°	0.10-0.30	6	33
50°-140°	0.02-0.09	6	33
50°-140°	0.10-0.30	6	33

* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

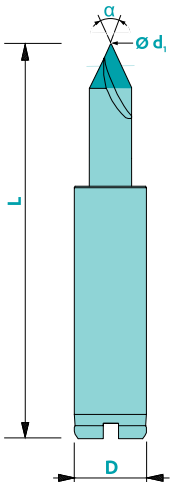
Other dimensions (angle, tip diameter, shank) upon request



74119-3

Engraving mill in PCD for 701S machine

WILLEMIN-MACODEL



Material	n [rpm]	Ap	Perf.
Steel < 700 N/mm²	-	-	-
Steel > 700 N/mm²	-	-	-
Stainless steel	-	-	-
Cast iron	-	-	-
Copper	≥ 40'000	0.05 - 0.40	□
Brass - Bronze	≥ 40'000	0.05 - 0.40	□
Aluminium	≥ 40'000	0.05 - 0.40	■
Gold - Silver	≥ 40'000	0.05 - 0.40	■
Platinum - Palladium	≥ 40'000	0.05 - 0.40	■
Superalloys	-	-	-
Titanium	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

≥ 0.02 | Z1

λ 0°

PCD | HSC

Art. n°	α	d_1	D	L
74119-3a40d0.05	40	0.05	6	33
74119-3a40d0.08	40	0.08	6	33
74119-3a40d0.10	40	0.10	6	33
74119-3a50d0.05	50	0.05	6	33
74119-3a50d0.08	50	0.08	6	33
74119-3a50d0.10	50	0.10	6	33
74119-3a60d0.05	60	0.05	6	33
74119-3a60d0.08	60	0.08	6	33

Art. n°	α	d_1	D	L
74119-3a60d0.10	60	0.10	6	33
74119-3a70d0.05	70	0.05	6	33
74119-3a70d0.08	70	0.08	6	33
74119-3a70d0.10	70	0.10	6	33
74119-3a90d0.05	90	0.05	6	33
74119-3a90d0.08	90	0.08	6	33
74119-3a90d0.10	90	0.10	6	33

☐ **Order** ☐ **Quotation request**

Angle (α):

☐ By default : 60° ☐ 30° ☐ 35° ☐ 45°

☐ Other : _____ ☐ 50° ☐ 55° ☐ 90°

Shank Ø :

☐ By default : D=3

☐ Other : D= _____

Order No :

_____

Machined material :

_____

Quantity :

_____

d_1 (from 0.02 mm) :

_____

Contact person :

_____

Company's stamp & date :

_____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

Other dimensions, CVD/CBN available upon request.

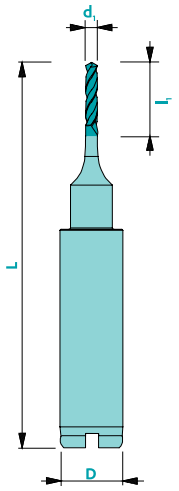
Twist drill helix 24° for 701S machine

WILLEMIN-MACODEL

7339

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	60	70	□	■	Trio
Steel > 700 N/mm²	50	60	□	■	Trio
Stainless steel	40	50	□	■	Trio
Cast iron	30	40	□	■	Solo
Copper	50	60	□	■	Solo
Brass - Bronze	120	130	■	□	Solo
Aluminium	130	140	□	■	Nemo
Gold - Silver	80	90	■	□	Solo
Platinum - Palladium	-	18	-	■	Solo
Superalloys	-	20	-	■	Trio
Titanium	30	40	□	■	Nemo

not adapted - adapted □ highly adapted ■



Tolerances d_1: -0.002/-0.004
D: h5

Art. n°	d_1	l_1	D	L
7339d0.230	0.230	1.0	6	33
7339d0.275	0.275	1.0	6	33
7339d0.320	0.320	1.5	6	33
7339d0.400	0.400	2.0	6	33
7339d0.480	0.480	3.0	6	33
7339d0.560	0.560	4.0	6	33
7339d0.640	0.640	4.0	6	33
7339d0.720	0.720	4.0	6	33
7339d0.800	0.800	4.0	6	33
7339d1.000	1.000	4.0	6	33
7339d1.150	1.150	4.0	6	33

118° Z2

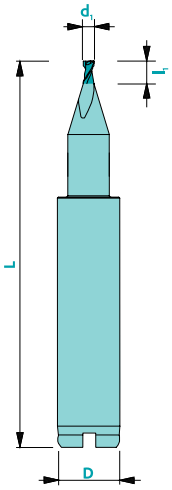
λ 24°

MG10 N

7102

Micro end mill Z2 for 701S machine

WILLEMIN-MACODEL



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	□	Trio
Steel > 700 N/mm²	80	100	□	□	Trio
Stainless steel	50	70	□	□	Trio
Cast iron	60	100	□	□	Trio
Copper	150	180	□	□	Solo
Brass - Bronze	150	180	■	■	Solo
Aluminium	200	350	□	□	Rico/Solo
Gold - Silver	140	180	□	□	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	□	Trio
Titanium	40	60	□	□	Rico/Trio

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm: +0/-0.01 D: h5
$d_1 > 1$ mm: +0/-0.02

Z2

λ 35°

γ 8-10°

MG10

N

ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
7102d0.10	0.10	0.10	6	33
7102d0.20	0.20	0.30	6	33
7102d0.25	0.25	0.75	6	33
7102d0.32	0.32	0.48	6	33
7102d0.40	0.40	0.80	6	33
7102d0.40	0.40	1.60	6	33
7102d0.50	0.50	0.75	6	33
7102d0.63	0.63	1.89	6	33
7102d0.80	0.80	1.60	6	33
7102d0.80	0.80	3.20	6	33
7102d1.25	1.25	2.50	6	33
7102d1.60	1.60	4.00	6	33
7102d2.00	2.00	2.50	6	33
7102d2.50	2.50	3.00	6	33
7102d3.20	3.20	3.20	6	33

Straight cut end mill Z1 for 701S machine

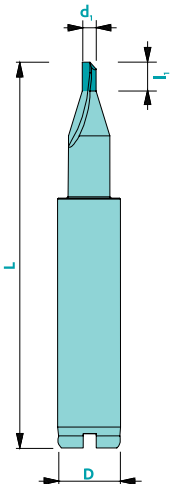
WILLEMIN-MACODEL

7111-1

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm: +0/-0.01 D: h5
$d_1 > 1$ mm: +0/-0.02



Art. n°	d_1	l_1	D	L
7111-1d0.63	0.63	1.89	6	33
7111-1d0.80	0.80	3.20	6	33
7111-1d1.25	1.25	2.50	6	33
7111-1d1.60	1.60	4.00	6	33
7111-1d2.00	2.00	2.50	6	33
7111-1d2.50	2.50	3.00	6	33
7111-1d3.20	3.20	3.20	6	33

Z1

λ 0°

γ 0°

MG10

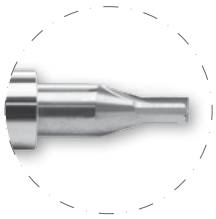
N

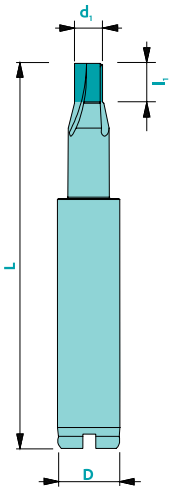
ap=0.5xd$_1$ ae=0.5xd$_1$
ap=0.5xd$_1$

7111-3

Straight cut end mill Z3 for 701S machine

WILLEMIN-MACODEL





Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm: +0/-0.01 D: h5
$d_1 > 1$ mm: +0/-0.02

Z3

λ 0°

γ 0°

MG10

N

ap=0.25xd_1

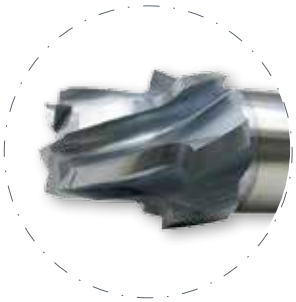
ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
7111-3d0.63	**0.63**	**1.89**	6	33
7111-3d0.80	**0.80**	**3.20**	6	33
7111-3d1.25	**1.25**	**2.50**	6	33
7111-3d1.60	**1.60**	**4.00**	6	33
7111-3d2.00	**2.00**	**2.50**	6	33
7111-3d2.50	**2.50**	**3.00**	6	33
7111-3d3.20	**3.20**	**3.20**	6	33

Special T-slot cutters and end mills

- Form cutters in tungsten carbide
- Manufactured according to specific tool drawing or finished product drawing
- Regrinding possible
- Choice of external diameter and teeth number upon request
- Straight, spiral or staggered teeth
- Logarithmical relief upon request

Finishing end mill with "hedgehog profile"

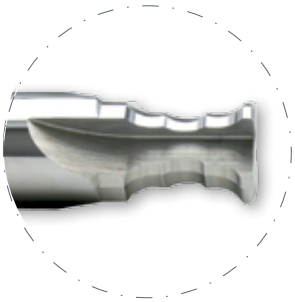


Helicoid multi-function end mill

Thread mill

Profiled T-slot end mill with staggered teeth for medical piece

Straight cut end mill for jewellery parts



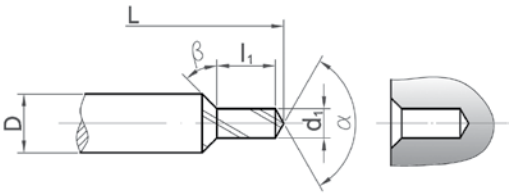
Milling cutter with logarithmical relief

Step drills - Ref. 335

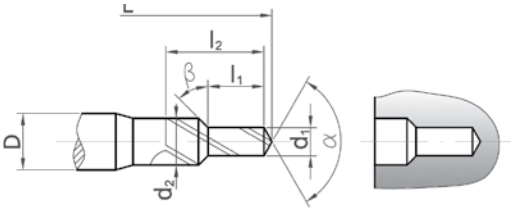
- Step drills in tungsten carbide
- Helix angle according to the machined material
- Right or left cut
- Four types of standard step drills are available (A, B, C and D type). Other types upon request
- Custom drills made to order
- With or without coolant holes

Step drills - Ref. 335

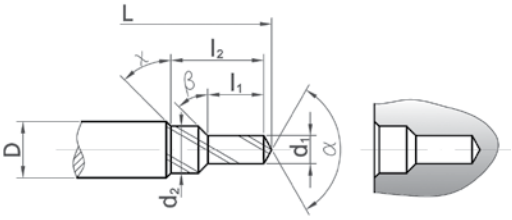
Type A



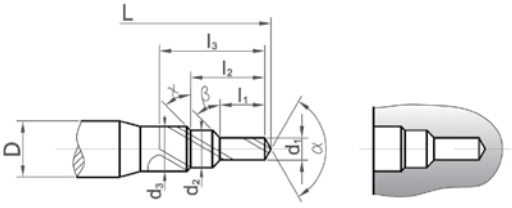
Type B



Type C



Type D



☐ **Order** ☐ **Quotation request**

☐ **Type A** ☐ **Type B** ☐ **Type C** ☐ **Type D**

Dimensions :

D : _____ L : _____ α : _____

d_1 : _____ l_1 : _____ β : _____

d_2 : _____ l_2 : _____ χ : _____

d_3 : _____ l_3 : _____

Z : ☐ 1 ☐ 2 ☐ 3

Helix angle :

☐ 24° for brass

☐ 34° for stainless steel

With coolant holes ?

☐ No

☐ Yes

Coating :

☐ Coated * : _____

☐ Uncoated

Quantity :

_____

Machined material :

_____

Order No :

_____

Company's stamp & date :

_____

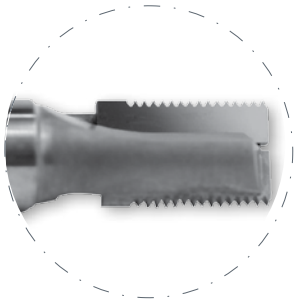
Contact person :

_____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

* Without information, the most suitable Coating will be applied.

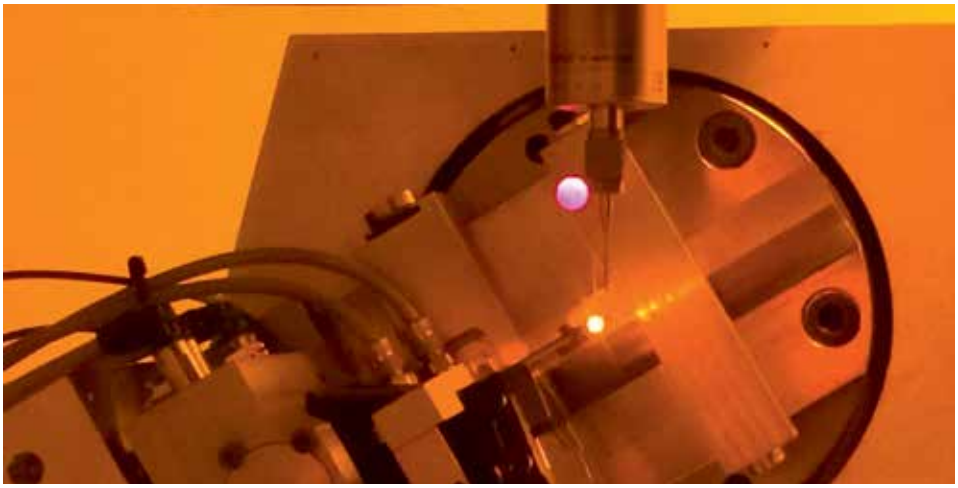
Form cutters in PCD/CVD/CBN Laser machining

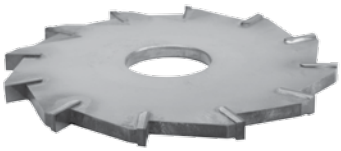


Profiled cutters

The production of PCD cutting tools by laser machining is highly complex, requiring ultra-precise and sophisticated machines.

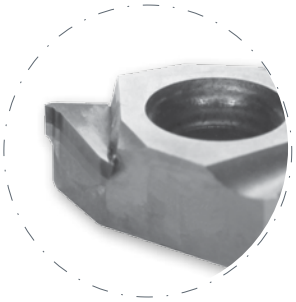
Form cutters





Slitting saws

Laser sharpening generating no efforts on the tool, the mass and the kinetic of the machine have been developed specifically to ensure very fast and precise movements.

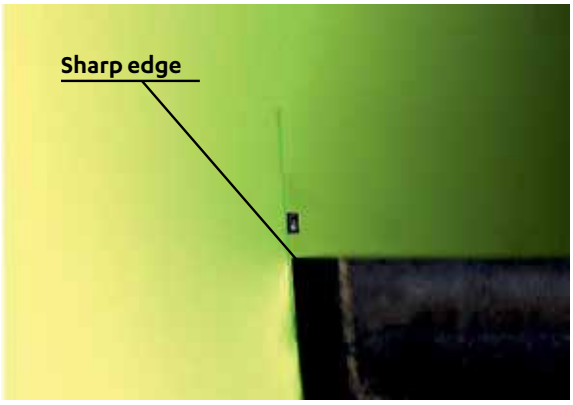


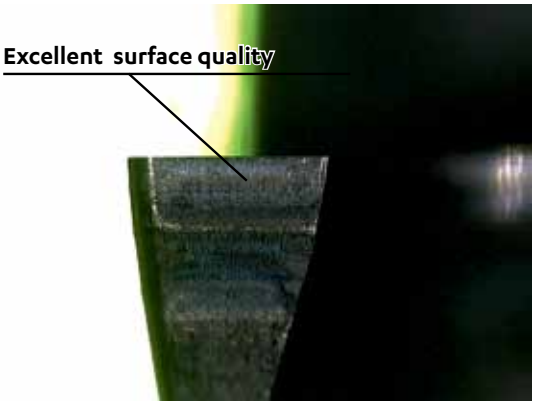
Turning tool with profiled insert

Form cutters in PCD/CVD/CBN
Laser machining

The 3 advantages of laser machining of cutting tools :

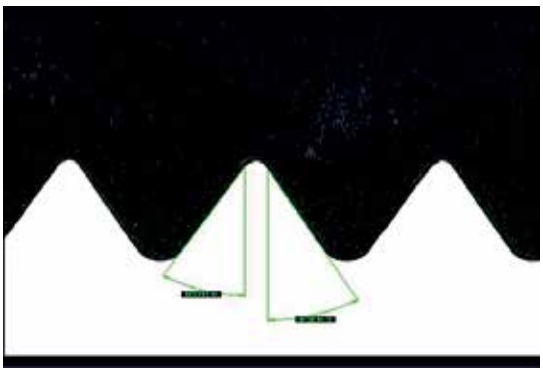
1° Very sharp cutting edges can be achieved. The laser cuts the synthetic diamond.





2° Very long tool life

3° Allows the production of highly complex shapes from a dxf file provided by the customer.



Turning tools with profiled inserts

- Turning tool with reversible solid tungsten carbide insert
- Change of insert without adjustment
- High precision of the insert's position
- Reduction of the machining time: only one adjustment!
- Manufactured according to specific tool drawing or finished product drawing
- Long lifetime due to the coating

Multi function turning tool with profiled insert

Turning tool with profiled insert

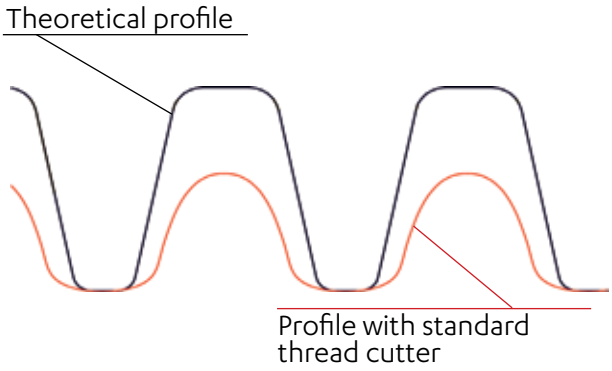
Offset whirl thread cutter

Segments: Automotive and medical equipment

Offset whirl thread cutter for machining deep threads

Internal thread whirling is a know and popular method for machining metric ISO threads and for threads with a relatively large opening angle.

For other types of threading operations (e.g. deep trapezoid-shaped) or special threads, internal thread whirling causes problems!



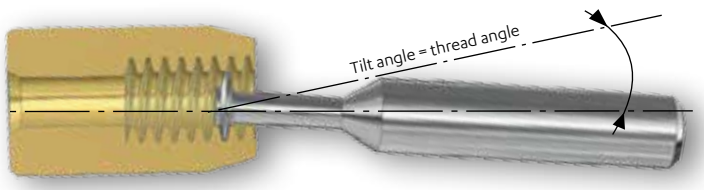
The problem

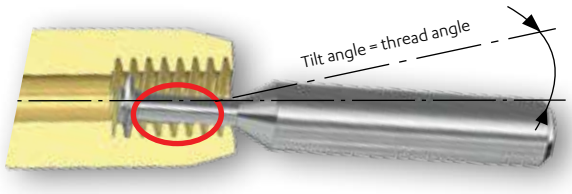
By milling the thread keeping the tool parallel to the part axis, interferences develop and the shape of the thread is not transferred correctly.

Standard solution

One solution is to tilt the tool in accordance with the helix angle. This solution is effective for short threads, but the spindle must be tilted while interpolating with the whirling cycle.

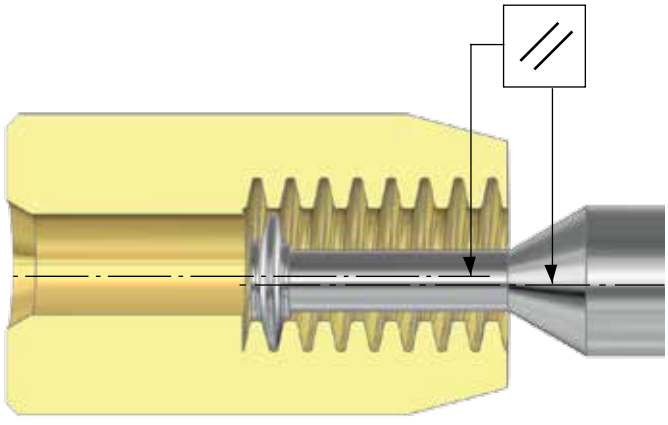
If the thread is deep, the tool touches the work-piece.





New solution!

With a specific modification to the shape of the thread cutter, the work-piece can be machined while the tool is kept parallel to the work-piece axis, which means that the correct shape is ensured.



Special punch tools

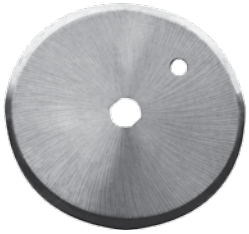
Machining an internal profile using a special punch tool

Louis Bélet manufactures also profiled punch tools for the machining of internal NIHS profiles (DIN or ISO). Tight tolerances are applied to these punches, as on all our profiled tools. Rotating punch tools are also available.

The punch tool may have a partially profiled shape, or a full one

Mills for snailing in solid carbide and PCD

Snailing mills are used to decorate timepieces by means of curved eccentric lines. They advantageously replace the conventional methods ensuring a constant aspect of the first to the last workpiece.



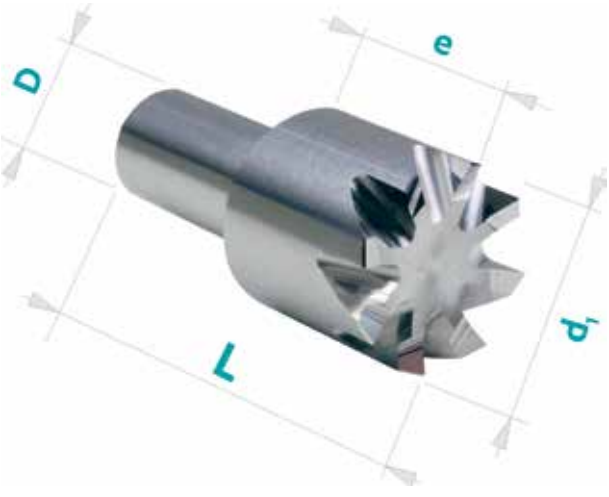
Snailing

Côte de Genève

Dimensions T-slot cutter

Ø d_1	e	D	L	Z
10	10	6	22	8
20	10	10	30	20
30	12	10	30	30
40	12	10	39	30
45	12	10	39	55

Snailing mills are available either right handed or left handed. The number of teeth may also be chosen for customized patterns on the workpiece. Available as circular mill or T shape.



End mill for snailing

Circular mill for snailing

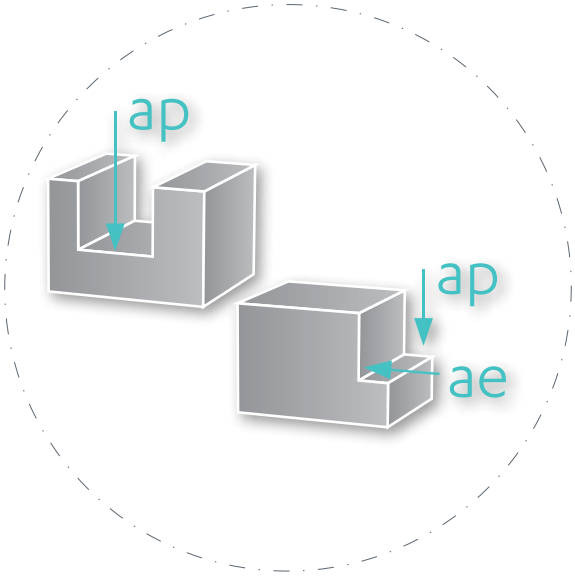
Tools with coolant holes

Step drills with coolant holes

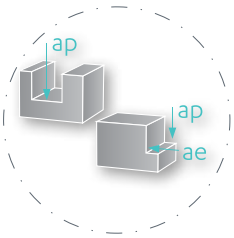
Special end mill with coolant holes

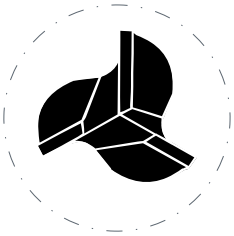
Special tools et step drills can be manufactured with coolant holes. This allows a better chip removal and heat dissipation. Moreover, an increased tool life is generally observed.

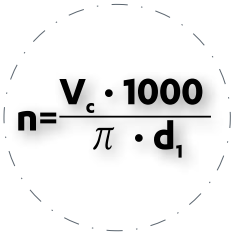
3. Machining recommendation and technical infos



Index - Machining recommendation and technical infos







Coatings

The coatings proposed by Louis Bélet come from leading suppliers on the market. We are able to provide many different coatings and we can recommend the most appropriate layer depending on your application.

Thanks to the high volume of coated tools, our **prices** are very **competitive**. **Delivery times** are **short** since our suppliers use dedicated shuttles to deliver the coated tools every day in our factory.

We have an **important stock** of coated tools with the most used coatings.

For standard applications, we have defined some reference coatings, that have been **tested**, and which we recommend :

Recommended coatings for standard applications

Material	1°	2°
Steel < 700 N/mm²	Trio (PO)	Nemo (NO)
Steel > 700 N/mm²	Nemo (NO)	Trio (PO)
Stainless steel	Nemo (NO)	Trio (PO)
Cast iron	Trio (PO)	Nemo (NO)
Copper	Solo (DA)	-
Brass - Bronze	-	Solo (DA)
Aluminium	Solo (DA)	-
Gold - Silver	Solo (DA)	-
Platinum - Palladium	Solo (DA)	-
Superalloys	Trio (PO)	-
Titanium	Rico (ZB)	-
Composite materials	Neo (FC)	-

These propositions of coatings apply to the majority of standard usages. They may not be adequate for particular materials, alloys or machining techniques. Don't hesitate to ask us for more specific advice !

Ordering coated tools

When ordering a standard tool, you can add a two letter suffix to the article code in order to identify the desired coating. This code is indicated in brackets in the above table.

For example, if you wish to order a coated tool REF 1510 diameter 1.0 mm :
The base article code (uncoated tool), visible on the product page, is the following : 1510 d1.00
The NEMO coated version of this tool has the code 1510d1.00**NO**

In case you want a specific coating not mentioned on the above table, just write it on your order. We can provide **any coating** available on the market !

Symbols

λ 30° — Helix angle

γ 8° — Rake angle

λ ALT — Staggered teeth

Slot milling

Contour milling

N — General machining

N HSC — General machining & High Speed Cutting

HSC — High speed cutting

MG10 — Micro-grain carbide Co 10%

SUB-CARFINE — Ultra-micro-grain carbide

PCD — Polycristalline diamond

Radial machining

Radial and diagonal machining

Radial, diagonal and axial machining

2 teeth center cutting

3 teeth center cutting

4 teeth center cutting

Multiflutes

Tips sharpened

Coarse pitch

Fine pitch

Extra-fine pitch

Point angle 60°

Conical, small Ø in front

Conical, large Ø in front

Slitting saws 1 cut

Slitting saws 3 cuts

Biconical cutters

Angular cutters 1 cut

Angular cutters 2 cuts

Sharp corners

Beveled edge

Corner radius (toric)

End mills with ball end

Roughing profile

2 flutes, sharpening with facets

2 flutes progressive relief

2 flutes, progressive relief, left hand

3 flutes, sharpening with facets

Centering tip

Gundrills tip

Flat tip for engraving mills

Radius for engraving mills

Z3 — Number of teeth

Formulas

V_c [m/min]	Cutting speed	n	Spindle speed	ap [mm]	Axial depth of cut
V_f [mm/min]	Feed speed	Z	Number of teeth	ae [mm]	Radial depth of cut
f_z [mm]	Feed per tooth	d_1 [mm]	Tool diameter	f [mm]	Feed per rotation

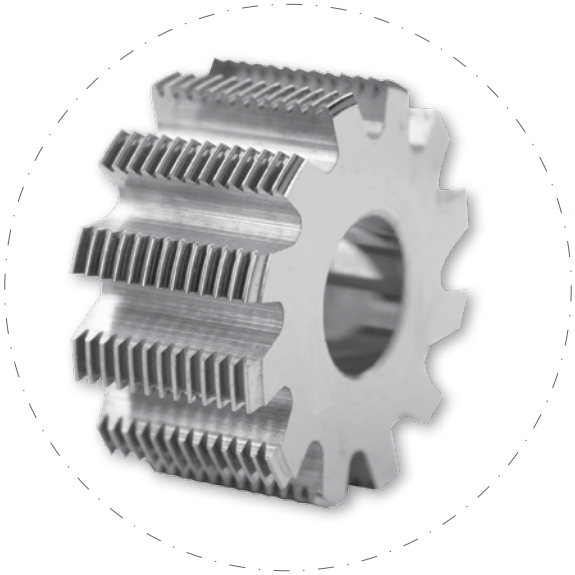
$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1} \qquad V_c = \frac{\pi \cdot d_1 \cdot n}{1000} \qquad f_z = \frac{V_f}{Z \cdot n}$$

$$f = f_z \cdot Z \qquad V_f = f_z \cdot Z \cdot n$$

Tolerances table

	[µm]			
Ø [mm]	h5	e8	f8	k8
0-3	0	-14	-6	+14
	-4	-28	-20	0
3-6	0	-20	-10	+18
	-5	-38	-28	0
6-10	0	-25	-13	+22
	-6	-47	-35	0
10-18	0	-32	-16	+27
	-8	-59	-43	0
18-30	0	-40	-20	+33
	-9	-73	-53	0
30-40	0	-50	-25	+39
	-11	-89	-64	0

4. Hob cutters



Hob cutters for gears

Gear cutting is a very high precision operation. It can be performed in multiple ways. The best one is the most efficient in terms of time and cost, depending on :

- The quantity of pieces to be cut
- The type of pieces
- The shape of the tooth profile
- The machine
- The habits and the know-how

For many years, Louis Bélet manufactures all kinds of gear cutting hobs. All have been tested and approved by our reference customers to their whole satisfation.

Request a quotation

You may send a request for a quotation for hob cutters via our on-line form. Our technical office shall analyse your requirements and can recommend the suitable hob cutter for your application

> www.goo.gl/AVQHQ6

Tool **Machined part**

Z² - Tooth by tooth gear cutters

Easy to set up, Perfect shape

Tooth by tooth gear cutting is a simple process, fast and economical for prototyping and small scale productions. This process allows cutting of all types of toothing, including deep teeth and asymmetrical profiles. Louis Bélet produces tooth by tooth gear cutters as circular mills or T-slot end mills, the dimensions beeing customized according to customer's needs. A perfect profile is guaranteed on the tool.

REVOLUTION - Hobs for asymmetrical gears

Fast cutting, Positioning drawing

Our « Revolution » hobs allows the cutting of gears which have a special profile: non symmetrical, too deep or simply not feasible using a classical gear cutting hob. The hob is delivered with the positioning drawing.

Hob cutters for gears

Tool | Machined part

E_2F - Hobs for frontal gear cutting

Easy to set up, Perfect shape, Short cycles, Burrs avoided

Frontal gear cutting creates sometimes a burr problem. The «E_2F» hobs from Bélet decrease drastically these burrs by integrating roughing and finishing teeth, while guaranteeing a perfect final shape of the desired profile.

TRINITY - Hobs for conical gears

Positionning drawing, All kinds of profiles possible

Cutting conical pinions or gears is also a specialty from Louis Bélet. Our Trinity tool allows cutting of all kinds of conical gears, whatever the tooth shape and the module are. These hobs can be used on any gear cutting machine.

ORIGIN - Hobs for epicyclic and Involute teeth

Fast cutting, Clean cutting

The « Origin » hobs are characterized by the high precision of the profile as well as the geometry of the whole tool. The bore tolerance (H3), the perpendicularity and the parallelism of the sides of the mill are essential features. Louis Bélet goes further than just producing high quality tools. Listening carefully to the needs of our customers, we help them solving the troubles they may have in gear cutting. «Origin» hobs distinguish themselves form module 0.02 up to module 2.00 in the watch gears and mechanical profiles.

Hob cutters for gears

Customized profile

Bélet is able to design hobs according to any conceivable profile in a very short timeframe. Prototypes can then be produced with the final profile of the teeth.

We calculate in house the profiles of the hobs thanks to a special software bundle developed by our means. Thus, there is no intermediate, ensuring a high reactivity and an optimisation of the profiles starting from the prototyping step.

NIHS Profiles

One special feature associated with the NIHS norms is a sharp tip of the tooth. Bélet's hobs allows the cutting of pointed teeth without any modification of the standard machining settings.

Gears of less than 12 teeth

The cutting of small gears with a low number of teeth is often linked with an issue regarding the deepness of the toothing. Unless accepting a not deep enough tooth bottom, it is often necessary to use a hob for asymmetric cutting, which then increases the cost of production.

Bélet solved this issue by designing hobs allowing the cutting of deep teeth. Grooves may also appear on the bottom of the teeth. In that case, we apply a correction to reduce theses grooves without modifying the tooth profile.

Non symmetrical profiles

The flexibility of our profiling process allows the creation of the most various gear cutting hobs. Non symmetrical toothing have been tested. The advantage is to be able to use a hob cutter instead of a special « setting hob ». The lifespan of the tool is much longer and the setting the machine is easier.

It's not possible to cut all profiles with this technique, so a study is performed at the stage of the quotation.

Hob cutters for gears

Standard dimensions of gear cutting hobs

Ø External	Thickness	Ø Bore	Z
6	4	3.5	12
6	5	3.5	12
6	6	3.5	12
8	4	3.5	12 / 15
8	5	3.5	12 / 15
8	6	3.5	12 / 15
8	8	3.5	12 / 15
10	4	3.5	12 / 15
10	5	3.5	12 / 15
10	6	3.5	12 / 15
10	5	4.5	12 / 15
10	6	4.5	12 / 15
12	6	3.5	12 / 15
12	5	4.5	12 / 15
12	6	4.5	12 / 15
12	8	4.5	12 / 15
12	10	4.5	12 / 15
12	6	5	12 / 15
12	8	5	12 / 15
12	6	6	12 / 15
12	8	6	12 / 15
16	4	8	15
16	6	8	15
16	8	8	15
16	10	8	15
18	6	6	15
18	6	8	15
18	8	8	15
18	10	8	15
18	12	8	15
24	6	8	15
24	8	8	15
24	10	8	15
24	12	8	15
24	15	8	15

Other dimensions (Ø max: 100 mm) or teeth numer available upon customer's request

5. PCD/CVD/CBN tools

Index - PCD/CVD/CBN cutting tools

PCD/CVD/CBN cutting tools

Table of Contents

PCD End mills (CVD & CBN upon request)

REF. 4010

Ø 0.5 - Ø 20.0 Ø 6 - Ø 20

Z1-2 λ 0°

Page 75

REF. 4015

Ø 1.0 - Ø 12.0 Ø 6 - Ø 12

Z1-2 λ 0°

Page 76

REF. 4020

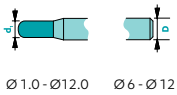
Ø 2.0 - Ø 8.0 Ø 6 - Ø 8

Z1-2 λ 0°

Page 77

PCD End mills with ball end (CVD & CBN upon request)

REF. 4200



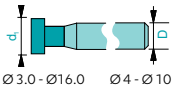
Ø 1.0 - Ø 12.0 Ø 6 - Ø 12

Z1-2 λ 0°

Page 81

PCD T-slot cutters (CVD & CBN upon request)

REF. 4100



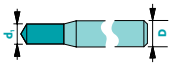
Ø 3.0 - Ø 16.0 Ø 4 - Ø 10

Z1-2 λ 0°

Page 78

PCD twist drills (CVD & CBN upon request)

REF. 4500



Ø 0.48 - Ø 2.50 Ø 3

118° Z2 λ 30°

Page 82

Engraving mills / Countersink in PCD (CVD & CBN upon request)

REF. 4119-3

Ø 3

±0.03 Z1 λ 0°

Page 79

REF. 4120

Ø 3 - Ø 6

0.1 Z1 λ 0°

Page 80

PCD thread mill (CVD & CBN upon request)

REF. 45200

M2.0 - M8.0 Ø 3 - Ø 6

Z1-2 λ 0°

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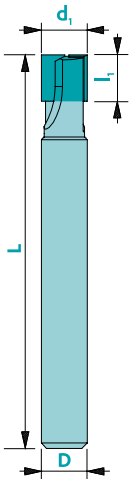
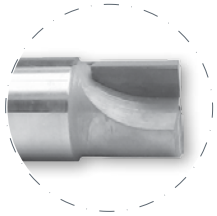
▶ Special tools in PCD/CBN/CVD upon request.
See examples page 28.

PCD end mill l_1=1xd_1

Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	350	■
Brass - Bronze	500	■
Aluminium	1000	■
Gold - Silver	300	■
Platinum - Palladium	130	■
Superalloys	-	-
Titanium	120	■

not adapted - adapted □ highly adapted ■





Tolerances d_1 < 1mm ▶ +0/-0.01 l_1: +0.2/-0
d_1 > 1mm ▶ +0/-0.02 D: h5

Art. n°	d_1	l_1	D	L	Z
4010d0.50L38Z1	0.5	0.5	6	38	1
4010d1.00L38Z1	1.0	1.0	6	38	1
4010d1.50L38Z1	1.5	1.5	6	38	1
4010d2.00L38Z1	2.0	2.0	6	38	1
4010d2.50L38Z1	2.5	2.5	6	38	1
4010d3.00L38Z1	3.0	3.0	6	38	1
4010d3.50L38Z1	3.5	3.5	6	38	1
4010d4.00L51Z1	4.0	4.0	6	51	1
4010d4.00L51Z2	4.0	4.0	6	51	2
4010d5.00L51Z2	5.0	5.0	6	51	2
4010d6.00L51Z2	6.0	6.0	6	51	2
4010d7.00L61Z2	7.0	7.0	8	61	2
4010d8.00L61Z2	8.0	8.0	8	61	2
4010d8.00L120Z2	8.0	8.0	8	120	2
4010d10.00L72Z2	10.0	10.0	10	72	2
4010d10.00L120Z2	10.0	10.0	10	120	2
4010d12.00L83Z2	12.0	12.0	12	83	2
4010d12.00L150Z2	12.0	12.0	12	150	2
4010d14.00L83Z2	14.0	14.0	14	83	2
4010d14.00L150Z2	14.0	14.0	14	150	2
4010d16.00L92Z2	16.0	16.0	16	92	2
4010d16.00L180Z2	16.0	16.0	16	180	2
4010d20.00L104Z2	20.0	20.0	20	104	2
4010d20.00L180Z2	20.0	20.0	20	180	2

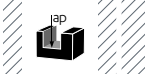
Z1-2

λ 0°

γ 0°

PCD

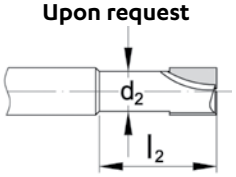
HSC



ap=0.15xd_1

ae=0.03xd_1
ap=1xd_1

Upon request

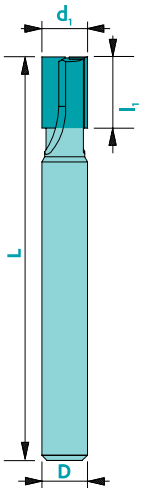


45° 0.03-0.20

r 0.05-2.00

Other dimensions, CVD/CBN available upon request.

PCD end mill l_1=1.5xd_1



Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	350	■
Brass - Bronze	500	■
Aluminium	1000	■
Gold - Silver	300	■
Platinum - Palladium	130	■
Superalloys	-	-
Titanium	120	■

not adapted - adapted □ highly adapted ■

Tolerances d_1 < 1mm ▶ +0/-0.01 D: h5
d_1 > 1mm ▶ +0/-0.02

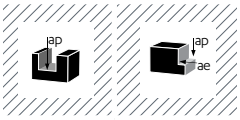
Z1-2

λ 0°

γ 0°

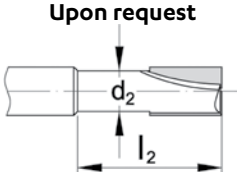
PCD

HSC



ap=0.1xd_1 ae=0.03xd_1 ap=1.5xd_1

Upon request



45° 0.03-0.20

r 0.05-2.00

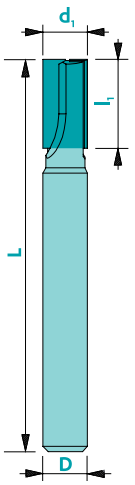
Art. n°	d_1	l_1	D	L	Z
4015d1.00L38Z1	1.0	1.5	6	38	1
4015d1.50L38Z1	1.5	2.5	6	38	1
4015d2.00L38Z1	2.0	3.0	6	38	1
4015d2.50L38Z1	2.5	3.5	6	38	1
4015d3.00L38Z1	3.0	4.5	6	38	1
4015d3.50L38Z1	3.5	5.0	6	38	1
4015d4.00L51Z1	4.0	6.0	6	51	1
4015d4.00L51Z2	4.0	6.0	6	51	2
4015d5.00L51Z2	5.0	7.5	6	51	2
4015d6.00L51Z2	6.0	9.0	6	51	2
4015d7.00L61Z2	7.0	10.5	8	61	2
4015d8.00L61Z2	8.0	12.0	8	61	2
4015d8.00L120Z2	8.0	12.0	8	120	2
4015d10.00L72Z2	10.0	15.0	10	72	2
4015d10.00L120Z2	10.0	15.0	10	120	2
4015d12.00L83Z2	12.0	18.0	12	83	2
4015d12.00L150Z2	12.0	18.0	12	150	2

Other dimensions, CVD/CBN available upon request.

PCD end mill l_1=2xd_1

Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	350	■
Brass - Bronze	500	■
Aluminium	1000	■
Gold - Silver	300	■
Platinum - Palladium	130	■
Superalloys	-	-
Titanium	120	■

not adapted - adapted □ highly adapted ■



Tolerances d_1 < 1mm ▶ +0/-0.01 D: h5
d_1 > 1mm ▶ +0/-0.02

Art. n°	d_1	l_1	D	L	Z
4020d2.00L38Z1	2.0	4.0	6	38	1
4020d2.50L38Z1	2.5	5.0	6	38	1
4020d3.00L38Z1	3.0	6.0	6	38	1
4020d3.50L38Z1	3.5	7.0	6	38	1
4020d4.00L38Z1	4.0	8.0	6	38	1
4020d5.00L51Z2	5.0	10.0	6	51	2
4020d6.00L51Z2	6.0	12.0	6	51	2
4020d8.00L61Z2	8.0	16.0	8	61	2
4020d8.00L120Z2	8.0	16.0	8	120	2

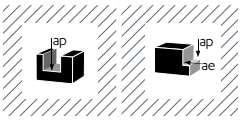
Z1-2

λ 0°

γ 0°

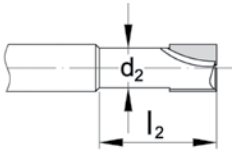
PCD

HSC



ap=0.15xd_1 ae=0.03xd_1 ap=1xd_1

Upon request

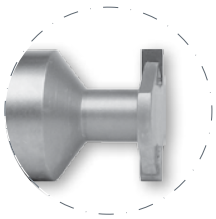


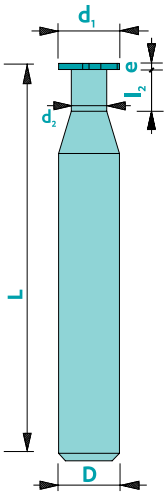
45° 0.03-0.20

r 0.05-2.00

Other dimensions, CVD/CBN available upon request.

4100 T-slot cutter in PCD





Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	350	■
Brass - Bronze	500	■
Aluminium	1000	■
Gold - Silver	300	■
Platinum - Palladium	130	■
Superalloys	-	-
Titanium	120	■

not adapted - adapted □ highly adapted ■

Tolerances d_1 < 1mm ▶ +0/-0.01 e: +0.01/-0.01 l_2: +0.2/-0
d_1 > 1mm ▶ +0/-0.02 d_2: +0/-0.5 D: h5

Z1-2

λ 0°

γ 0°

PCD HSC

Art. n°	d_1	e	d_2	l_2	D	L	Z
4100d3.00e#.##Z1	3	0.6 - 1.5	1.5	2	4	38	1
4100d4.00e#.##Z1	4	0.6 - 1.5	2.5	3	4	38	1
4100d4.00e#.##Z2	4	0.6 - 1.5	2.5	3	4	38	2
4100d5.00e#.##Z1	5	0.6 - 1.5	3.0	3	5	38	1
4100d5.00e#.##Z2	5	0.6 - 1.5	3.0	3	5	38	2
4100d6.00e#.##Z2	6	0.6 - 2.0	3.5	4	6	38	2
4100d8.00e#.##Z2	8	0.6 - 3.0	4.0	5	8	51	2
4100d10.00e#.##Z2	10	0.6 - 3.0	5.0	5	10	51	2
4100d12.00e#.##Z2	12	0.6 - 4.0	6.0	6	10	51	2
4100d15.00e#.##Z2	15	0.6 - 5.0	8.0	8	10	61	2
4100d16.00e#.##Z2	16	0.6 - 2.9	8.0	8	10	61	2
4100d16.00e#.##Z2	16	3.0 - 6.0	8.0	8	10	61	2

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ e : _____ d_2 : _____

D : _____ L : _____ l_2 : _____

Machined material : _____

Contact person : _____

Quantity : _____

Order No : _____

Company's stamp & date :

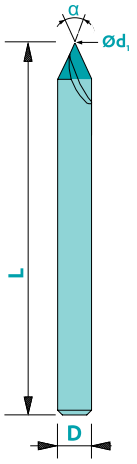
Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

Other dimensions, CVD/CBN available upon request.

Engraving mill in PCD - ¾ - flat tip

Material	n [rpm]	Ap	Uncoated
Steel < 700 N/mm²	-	-	-
Steel > 700 N/mm²	-	-	-
Stainless steel	-	-	-
Cast iron	-	-	-
Copper	20 - 40'000	0.05 - 0.40	■
Brass - Bronze	25 - 40'000	0.05 -0.40	■
Aluminium	25 - 40'000	0.05 - 0.50	■
Gold - Silver	20 - 40'000	0.05 -0.40	■
Platinum - Palladium	25 - 40'000	0.05 -0.40	■
Superalloys	-	-	-
Titanium	25 - 40'000	0.05 - 0.40	□

not adapted - adapted □ highly adapted ■



Tolerances d_1: +/- 0.01
D: h5

Art. n°	α	d_1	D	L
4119-3a40d0.05	40°	0.05	3	33
4119-3a40d0.08	40°	0.08	3	33
4119-3a40d0.10	40°	0.10	3	33
4119-3a50d0.05	50°	0.05	3	33
4119-3a50d0.10	50°	0.08	3	33
4119-3a50d0.15	50°	0.10	3	33
4119-3a60d0.05	60°	0.05	3	33
4119-3a60d0.08	60°	0.08	3	33

Art. n°	α	d_1	D	L
4119-3a60d0.10	60°	0.10	3	33
4119-3a70d0.05	70°	0.05	3	33
4119-3a70d0.08	70°	0.08	3	33
4119-3a70d0.10	70°	0.10	3	33
4119-3a90d0.05	90°	0.05	3	33
4119-3a90d0.08	90°	0.08	3	33
4119-3a90d0.10	90°	0.10	3	33

≥ 0.02 | Z1

λ 0°

PCD | HSC

☐ **Order** ☐ **Quotation request**

Angle (α):
☐ By default : 60° ☐ 30° ☐ 35° ☐ 45°
☐ Other : _____ ☐ 50° ☐ 55° ☐ 90°

Shank Ø :
☐ By default : D=3
☐ Other : D= _____

Order No : _____

Machined material : _____

Quantity : _____

d_1 (from 0.02 mm) : _____

Contact person :

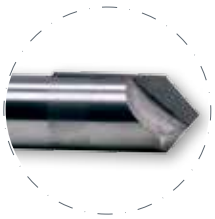
Company's stamp & date :

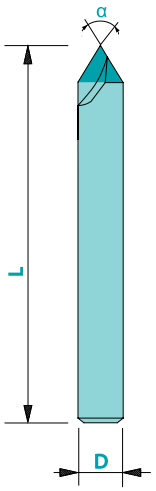
Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

Other dimensions, CVD/CBN available upon request.

4120

Countersink in PCD 90°





Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	300	■
Brass - Bronze	400	■
Aluminium	800	■
Gold - Silver	220	■
Platinum - Palladium	110	■
Superalloys	-	-
Titanium	100	■

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

0.1

Z1-2

λ
0°

PCD

HSC

Art. n°	α	D	L	Z
4010D3.00	90°	3	38	1
4010D4.00	90°	4	50	1
4010D6.00	90°	6	50	2

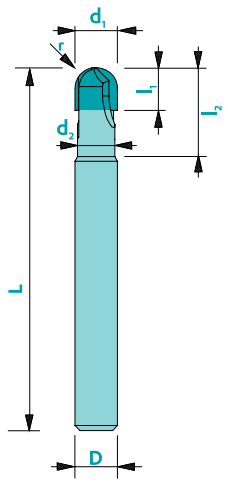
Other dimensions, CVD/CBN available upon request.

PCD end mill with ball end

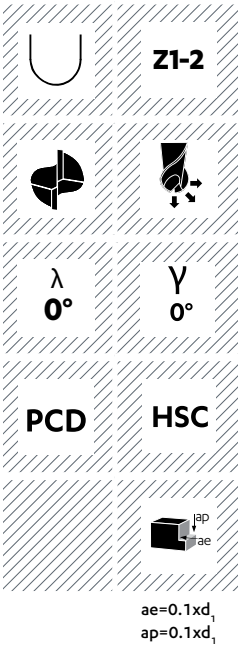
Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	300	■
Brass - Bronze	400	■
Aluminium	800	■
Gold - Silver	220	■
Platinum - Palladium	110	■
Superalloys	-	-
Titanium	100	■

not adapted - adapted □ highly adapted ■

Tolerances d_1 < 1mm ▶ +0/-0.01 ⌒ +0/-0.01
d_1 > 1mm ▶ +0/-0.02 D: h5



Art. n°	d_1	l_1	r	d_2	l_2	D	L	Z
4200d1.0L38Z1	1.00	1.00	0.50	-	-	6	38	1
4200d1.5L38Z1	1.50	1.50	0.75	-	-	6	38	1
4200d2.0L38Z1	2.00	2.00	1.00	1.75	6.50	6	38	1
4200d2.5L38Z1	2.50	2.50	1.25	2.20	7.50	6	38	1
4200d2.5L38Z2	2.50	2.50	1.25	2.20	7.50	6	38	2
4200d3.0L38Z1	3.00	3.00	1.50	2.60	8.00	6	38	1
4200d3.0L38Z2	3.00	3.00	1.50	2.60	8.00	6	38	2
4200d3.5L38Z1	3.50	3.50	1.75	3.00	9.00	6	38	1
4200d3.5L38Z2	3.50	3.50	1.75	3.00	9.00	6	38	2
4200d4.0L51Z1	4.00	4.00	2.00	3.50	10.00	6	51	1
4200d4.0L51Z2	4.00	4.00	2.00	3.50	10.00	6	51	2
4200d5.0L51Z2	5.00	5.00	2.50	4.40	11.00	6	51	2
4200d6.0L51Z2	6.00	6.00	3.00	5.25	12.50	6	51	2
4200d8.0L61Z2	8.00	8.00	4.00	7.00	15.00	8	61	2
4200d8.0L120Z2	8.00	8.00	4.00	7.00	15.00	8	120	2
4200d10.0L72Z2	10.00	10.00	5.00	8.75	17.00	10	72	2
4200d10.0L120Z2	10.00	10.00	5.00	8.75	17.00	10	120	2
4200d12.0L83Z2	12.00	12.00	6.00	10.50	20.00	12	83	2
4200d12.0L150Z2	12.00	12.00	6.00	10.50	20.00	12	150	2

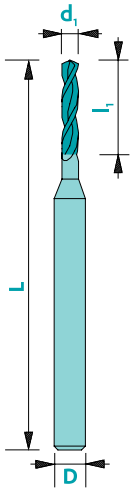


ae=0.1xd$_1$
ap=0.1xd$_1$

Other dimensions, CVD/CBN available upon request.

4500

PCD twist drill - 2 teeth



Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	180	■
Brass - Bronze	280	■
Aluminium	250	■
Gold - Silver	200	■
Platinum - Palladium	100	■
Superalloys	-	-
Titanium	140	■

not adapted - adapted □ highly adapted ■

Tolerances d_1=+0/-0.13
D: h6

118° Z2

λ 30°

PCD HSC

Art. n°	d_1	l_1	D	L
4500d0.48	0.48	4.0	3	38
4500d0.49	0.49	4.0	3	38
4500d0.50	0.50	4.0	3	38
4500d0.51	0.51	4.0	3	38
4500d0.52	0.52	4.0	3	38
4500d0.53	0.53	4.0	3	38
4500d0.54	0.54	4.0	3	38
4500d0.55	0.55	4.0	3	38
4500d0.56	0.56	4.0	3	38
4500d0.57	0.57	4.0	3	38
4500d0.58	0.58	4.0	3	38
4500d0.59	0.59	4.0	3	38
4500d0.60	0.60	5.0	3	38
4500d0.61	0.61	5.0	3	38
4500d0.62	0.62	5.0	3	38
4500d0.63	0.63	5.0	3	38
4500d0.64	0.64	5.0	3	38
4500d0.65	0.65	5.0	3	38
4500d0.66	0.66	5.0	3	38
4500d0.67	0.67	5.0	3	38
4500d0.68	0.68	5.0	3	38
4500d0.69	0.69	5.0	3	38
4500d0.70	0.70	5.0	3	38
4500d0.71	0.71	5.0	3	38
4500d0.72	0.72	5.0	3	38
4500d0.73	0.73	5.0	3	38
4500d0.74	0.74	5.0	3	38
4500d0.75	0.75	5.0	3	38
4500d0.76	0.76	5.0	3	38

Art. n°	d_1	l_1	D	L
4500d0.77	0.77	5.0	3	38
4500d0.78	0.78	5.0	3	38
4500d0.79	0.79	5.0	3	38
4500d0.80	0.80	6.0	3	38
4500d0.81	0.81	6.0	3	38
4500d0.82	0.82	6.0	3	38
4500d0.83	0.83	6.0	3	38
4500d0.84	0.84	6.0	3	38
4500d0.85	0.85	6.0	3	38
4500d0.86	0.86	6.0	3	38
4500d0.87	0.87	6.0	3	38
4500d0.88	0.88	6.0	3	38
4500d0.89	0.89	6.0	3	38
4500d0.90	0.90	7.0	3	38
4500d0.91	0.91	7.0	3	38
4500d0.92	0.92	7.0	3	38
4500d0.93	0.93	7.0	3	38
4500d0.94	0.94	7.0	3	38
4500d0.95	0.95	7.0	3	38
4500d0.96	0.96	7.0	3	38
4500d0.97	0.97	7.0	3	38
4500d0.98	0.98	7.0	3	38
4500d0.99	0.99	7.0	3	38
4500d1.00	1.00	8.0	3	38
4500d1.01	1.01	8.0	3	38
4500d1.02	1.02	8.0	3	38
4500d1.03	1.03	8.0	3	38
4500d1.04	1.04	8.0	3	38
4500d1.05	1.05	8.0	3	38

PCD twist drill - 2 teeth

Art. n°	d_1	l_1	D	L
4500d1.06	1.06	8.0	3	38
4500d1.07	1.07	8.0	3	38
4500d1.08	1.08	8.0	3	38
4500d1.09	1.09	8.0	3	38
4500d1.10	1.10	9.0	3	38
4500d1.11	1.11	9.0	3	38
4500d1.12	1.12	9.0	3	38
4500d1.13	1.13	9.0	3	38
4500d1.14	1.14	9.0	3	38
4500d1.15	1.15	9.0	3	38
4500d1.16	1.16	9.0	3	38
4500d1.17	1.17	9.0	3	38
4500d1.18	1.18	9.0	3	38
4500d1.19	1.19	9.0	3	38
4500d1.20	1.20	9.0	3	38
4500d1.21	1.21	9.0	3	38
4500d1.22	1.22	9.0	3	38
4500d1.23	1.23	9.0	3	38
4500d1.24	1.24	9.0	3	38
4500d1.25	1.25	9.0	3	38
4500d1.26	1.26	9.0	3	38
4500d1.27	1.27	9.0	3	38
4500d1.28	1.28	9.0	3	38
4500d1.29	1.29	9.0	3	38
4500d1.30	1.30	9.0	3	38
4500d1.31	1.31	9.0	3	38
4500d1.32	1.32	9.0	3	38
4500d1.33	1.33	9.0	3	38
4500d1.34	1.34	9.0	3	38
4500d1.35	1.35	9.0	3	38
4500d1.36	1.36	9.0	3	38
4500d1.37	1.37	9.0	3	38
4500d1.38	1.38	9.0	3	38
4500d1.39	1.39	9.0	3	38
4500d1.40	1.40	9.0	3	38
4500d1.41	1.41	9.0	3	38
4500d1.42	1.42	9.0	3	38
4500d1.43	1.43	9.0	3	38
4500d1.44	1.44	9.0	3	38
4500d1.45	1.45	9.0	3	38
4500d1.46	1.46	9.0	3	38
4500d1.47	1.47	9.0	3	38
4500d1.48	1.48	9.0	3	38
4500d1.49	1.49	9.0	3	38
4500d1.50	1.50	9.0	3	38

Art. n°	d_1	l_1	D	L
4500d1.55	1.55	9.0	3	38
4500d1.60	1.60	9.0	3	38
4500d1.65	1.65	9.0	3	38
4500d1.70	1.70	9.0	3	38
4500d1.75	1.75	9.0	3	38
4500d1.80	1.80	9.0	3	38
4500d1.85	1.85	9.0	3	38
4500d1.90	1.90	9.0	3	38
4500d1.95	1.95	9.0	3	38
4500d2.00	2.00	9.0	3	38
4500d2.05	2.05	9.0	3	38
4500d2.10	2.10	9.0	3	38
4500d2.15	2.15	9.0	3	38
4500d2.20	2.20	9.0	3	38
4500d2.25	2.25	9.0	3	38
4500d2.29	2.29	9.0	3	38
4500d2.30	2.30	9.0	3	38
4500d2.40	2.40	9.0	3	38
4500d2.50	2.50	9.0	3	38

118°

Z2

λ 30°

PCD

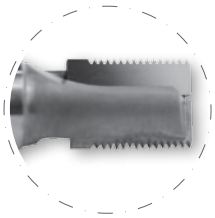
HSC

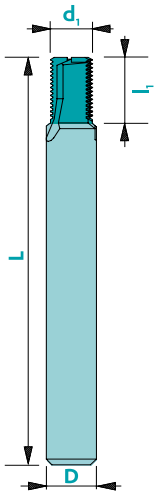
Other dimensions, CVD/CBN available upon request.

45200

PCD thread mill

Internal and external threading





Material	Vc	Uncoated
Steel < 700 N/mm²	-	-
Steel > 700 N/mm²	-	-
Stainless steel	-	-
Cast iron	-	-
Copper	150	■
Brass - Bronze	140	■
Aluminium	200	■
Gold - Silver	140	■
Platinum - Palladium	80	■
Superalloys	-	-
Titanium	40	□

not adapted - adapted □ highly adapted ■

Tolerances d_1=+0/-0.1
D: h5

Z1-2

λ **0°**

γ **0°**

PCD **HSC**

Art. n°	Ø nominal	Pitch	d_1	l_1	D	L	Z
45200M2.00	M2.00	0.40	1.40	4.0	3	38	1
45200M2.50	M2.50	0.45	1.80	5.0	6	57	1
45200M3.00	M3.00	0.50	2.30	6.0	6	57	1
45200M4.00	M4.00	0.70	3.00	8.0	6	57	2
45200M5.00	M5.00	0.80	3.80	10.0	6	57	2
45200M6.00	M6.00	1.00	4.50	12.0	6	57	2
45200M8.00	M8.00	1.25	5.00	16.0	6	57	2

Other dimensions, CVD/CBN available upon request.

Index - End mills

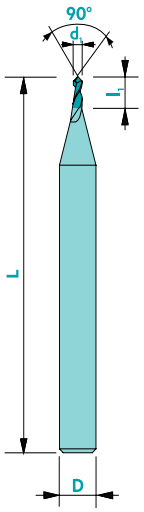
Multi-uses end mill

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

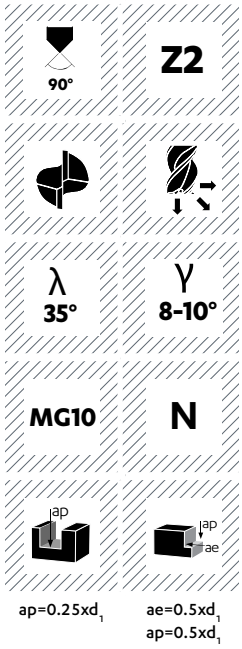
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
1120d0.50	0.50	1.0	3	38
1120d0.60	0.60	1.2	3	38
1120d0.70	0.70	1.4	3	38
1120d0.80	0.80	1.6	3	38
1120d0.90	0.90	1.8	3	38
1120d1.00	1.00	2.0	3	38
1120d1.50	1.50	3.0	3	38
1120d2.00	2.00	4.0	3	38
1120d3.00	3.00	6.0	6	51
1120d4.00	4.00	8.0	6	51
1120d6.00	6.00	12.0	6	51

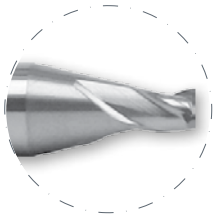


ap=0.25xd$_1$

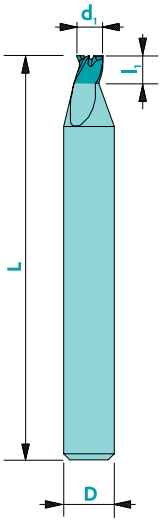
ae=0.5xd$_1$
ap=0.5xd$_1$

Upon request

End mill Z3 l_1=1xd_1



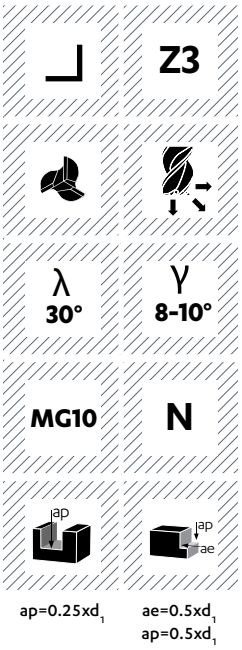
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1510d0.30	0.30	0.30	3	38
1510d0.35	0.35	0.35	3	38
1510d0.40	0.40	0.40	3	38
1510d0.45	0.45	0.45	3	38
1510d0.50	0.50	0.50	3	38
1510d0.55	0.55	0.55	3	38
1510d0.60	0.60	0.60	3	38
1510d0.65	0.65	0.65	3	38
1510d0.70	0.70	0.70	3	38
1510d0.75	0.75	0.75	3	38
1510d0.80	0.80	0.80	3	38
1510d0.85	0.85	0.85	3	38
1510d0.90	0.90	0.90	3	38
1510d0.95	0.95	0.95	3	38
1510d1.00	1.00	1.00	3	38
1510d1.05	1.05	1.05	3	38
1510d1.10	1.10	1.10	3	38
1510d1.15	1.15	1.15	3	38
1510d1.20	1.20	1.20	3	38
1510d1.25	1.25	1.25	3	38
1510d1.30	1.30	1.30	3	38
1510d1.35	1.35	1.35	3	38
1510d1.40	1.40	1.40	3	38
1510d1.45	1.45	1.45	3	38
1510d1.50	1.50	1.50	3	38
1510d1.55	1.55	1.55	3	38
1510d1.60	1.60	1.60	3	38
1510d1.65	1.65	1.65	3	38
1510d1.70	1.70	1.70	3	38
1510d1.75	1.75	1.75	3	38

Art. n°	d_1	l_1	D	L
1510d1.80	1.80	1.80	3	38
1510d1.85	1.85	1.85	3	38
1510d1.90	1.90	1.90	3	38
1510d1.95	1.95	1.95	3	38
1510d2.00	2.00	2.00	3	38
1510d2.05	2.05	2.05	3	38
1510d2.10	2.10	2.10	3	38
1510d2.15	2.15	2.15	3	38
1510d2.20	2.20	2.20	3	38
1510d2.25	2.25	2.25	3	38
1510d2.30	2.30	2.30	3	38
1510d2.35	2.35	2.35	3	38
1510d2.40	2.40	2.40	3	38
1510d2.45	2.45	2.45	3	38
1510d2.50	2.50	2.50	3	38
1510d2.55	2.55	2.55	3	38
1510d2.60	2.60	2.60	3	38
1510d2.65	2.65	2.65	3	38
1510d2.70	2.70	2.70	3	38
1510d2.75	2.75	2.75	3	38
1510d2.80	2.80	2.80	3	38
1510d2.85	2.85	2.85	3	38
1510d2.90	2.90	2.90	3	38
1510d2.95	2.95	2.95	3	38
1510d3.00	3.00	3.00	6	51
1510d3.10	3.10	3.10	6	51
1510d3.20	3.20	3.20	6	51
1510d3.30	3.30	3.30	6	51
1510d3.40	3.40	3.40	6	51

End mill Z3 l_1=1xd_1

Art. n°	d_1	l_1	D	L
1510d3.50	3.50	3.50	6	51
1510d3.60	3.60	3.60	6	51
1510d3.70	3.70	3.70	6	51
1510d3.80	3.80	3.80	6	51
1510d3.90	3.90	3.90	6	51
1510d4.00	4.00	4.00	6	51
1510d4.10	4.10	4.10	6	51
1510d4.20	4.20	4.20	6	51
1510d4.30	4.30	4.30	6	51
1510d4.40	4.40	4.40	6	51
1510d4.50	4.50	4.50	6	51
1510d4.60	4.60	4.60	6	51
1510d4.70	4.70	4.70	6	51
1510d4.80	4.80	4.80	6	51
1510d4.90	4.90	4.90	6	51
1510d5.00	5.00	5.00	6	51
1510d5.10	5.10	5.10	6	51
1510d5.20	5.20	5.20	6	51
1510d5.30	5.30	5.30	6	51
1510d5.40	5.40	5.40	6	51
1510d5.50	5.50	5.50	6	51
1510d5.60	5.60	5.60	6	51
1510d5.70	5.70	5.70	6	51
1510d5.80	5.80	5.80	6	51
1510d5.90	5.90	5.90	6	51
1510d6.00	6.00	6.00	6	51
1510d6.50	6.50	6.50	8	61
1510d7.00	7.00	7.00	8	61
1510d7.50	7.50	7.50	8	61
1510d8.00	8.00	8.00	8	61
1510d8.50	8.50	8.50	10	72
1510d9.00	9.00	9.00	10	72
1510d9.50	9.50	9.50	10	72
1510d10.00	10.00	10.00	10	72
1510d11.00	11.00	11.00	11	83
1510d12.00	12.00	12.00	12	83
1510d13.00	13.00	13.00	13	83
1510d14.00	14.00	14.00	14	83
1510d15.00	15.00	15.00	15	83
1510d16.00	16.00	16.00	16	92

Available uncoated or coated (see page 61)

Z3

λ 30°

γ 8-10°

MG10

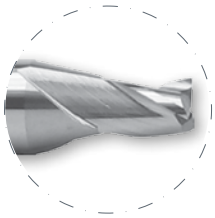
N

ap=0.25xd_1

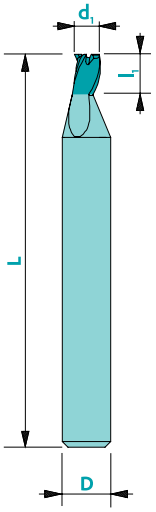
ae=0.5xd_1
ap=0.5xd_1

1515

End mill Z3 l_1=1.5xd_1



Available uncoated or coated (see page 61)

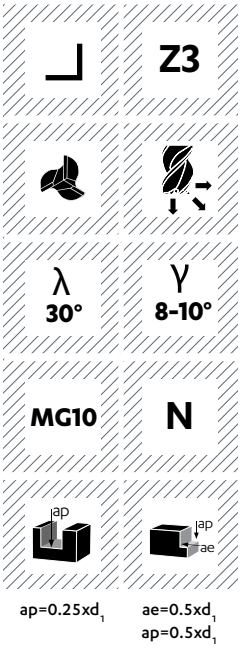


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8



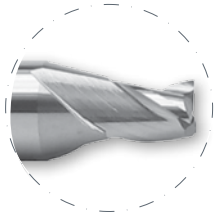
ap=0.25xd_1 ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1515d0.30	0.30	0.45	3	38
1515d0.35	0.35	0.55	3	38
1515d0.40	0.40	0.60	3	38
1515d0.45	0.45	0.70	3	38
1515d0.50	0.50	0.75	3	38
1515d0.55	0.55	0.85	3	38
1515d0.60	0.60	0.90	3	38
1515d0.65	0.65	1.00	3	38
1515d0.70	0.70	1.05	3	38
1515d0.75	0.75	1.15	3	38
1515d0.80	0.80	1.20	3	38
1515d0.85	0.85	1.30	3	38
1515d0.90	0.90	1.35	3	38
1515d0.95	0.95	1.45	3	38
1515d1.00	1.00	1.50	3	38
1515d1.05	1.05	1.60	3	38
1515d1.10	1.10	1.65	3	38
1515d1.15	1.15	1.70	3	38
1515d1.20	1.20	1.80	3	38
1515d1.25	1.25	1.90	3	38
1515d1.30	1.30	1.95	3	38
1515d1.35	1.35	2.05	3	38
1515d1.40	1.40	2.10	3	38
1515d1.45	1.45	2.15	3	38
1515d1.50	1.50	2.25	3	38
1515d1.55	1.55	2.35	3	38
1515d1.60	1.60	2.40	3	38
1515d1.65	1.65	2.45	3	38
1515d1.70	1.70	2.55	3	38
1515d1.75	1.75	2.65	3	38

Art. n°	d_1	l_1	D	L
1515d1.80	1.80	2.70	3	38
1515d1.85	1.85	2.80	3	38
1515d1.90	1.90	2.85	3	38
1515d1.95	1.95	2.90	3	38
1515d2.00	2.00	3.00	3	38
1515d2.05	2.05	3.05	3	38
1515d2.10	2.10	3.15	3	38
1515d2.15	2.15	3.20	3	38
1515d2.20	2.20	3.30	3	38
1515d2.25	2.25	3.40	3	38
1515d2.30	2.30	3.45	3	38
1515d2.35	2.35	3.55	3	38
1515d2.40	2.40	3.60	3	38
1515d2.45	2.45	3.70	3	38
1515d2.50	2.50	3.75	3	38
1515d2.55	2.55	3.80	3	38
1515d2.60	2.60	3.90	3	38
1515d2.65	2.65	3.95	3	38
1515d2.70	2.70	4.05	3	38
1515d2.75	2.75	4.15	3	38
1515d2.80	2.80	4.20	3	38
1515d2.85	2.85	4.30	3	38
1515d2.90	2.90	4.35	3	38
1515d2.95	2.95	4.45	3	38
1515d3.00	3.00	4.50	6	51
1515d3.10	3.10	4.65	6	51
1515d3.20	3.20	4.80	6	51
1515d3.30	3.30	4.95	6	51
1515d3.40	3.40	5.10	6	51

End mill Z3 l_1=1.5xd_1

Art. n°	d_1	l_1	D	L
1515d3.50	3.50	5.25	6	51
1515d3.60	3.60	5.40	6	51
1515d3.70	3.70	5.55	6	51
1515d3.80	3.80	5.70	6	51
1515d3.90	3.90	5.85	6	51
1515d4.00	4.00	6.00	6	51
1515d4.10	4.10	6.15	6	51
1515d4.20	4.20	6.30	6	51
1515d4.30	4.30	6.45	6	51
1515d4.40	4.40	6.60	6	51
1515d4.50	4.50	6.75	6	51
1515d4.60	4.60	6.90	6	51
1515d4.70	4.70	7.05	6	51
1515d4.80	4.80	7.20	6	51
1515d4.90	4.90	7.35	6	51
1515d5.00	5.00	7.50	6	51
1515d5.10	5.10	7.65	6	51
1515d5.20	5.20	7.80	6	51
1515d5.30	5.30	7.95	6	51
1515d5.40	5.40	8.10	6	51
1515d5.50	5.50	8.25	6	51
1515d5.60	5.60	8.40	6	51
1515d5.70	5.70	8.55	6	51
1515d5.80	5.80	8.70	6	51
1515d5.90	5.90	8.85	6	51
1515d6.00	6.00	9.00	6	51
1515d6.50	6.50	9.75	8	61
1515d7.00	7.00	10.50	8	61
1515d7.50	7.50	11.25	8	61
1515d8.00	8.00	12.00	8	61
1515d8.50	8.50	12.75	10	72
1515d9.00	9.00	13.50	10	72
1515d9.50	9.50	14.25	10	72
1515d10.00	10.00	15.00	10	72
1515d11.00	11.00	16.50	11	83
1515d12.00	12.00	18.00	12	83
1515d13.00	13.00	19.50	13	83
1515d14.00	14.00	21.00	14	83
1515d15.00	15.00	22.50	15	83
1515d16.00	16.00	24.00	16	92



Available uncoated or coated (see page 61)

Z3

λ 30°

γ 8-10°

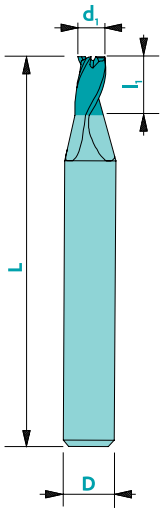
MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

End mill Z3 $l_1=2xd_1$



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8

Available uncoated or coated (see page 61)

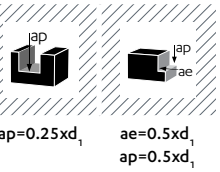
Z3

λ 30°

γ 8-10°

MG10

N



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

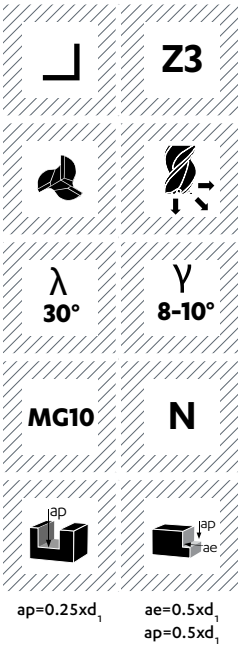
Art. n°	d_1	l_1	D	L
1520d0.30	0.30	0.60	3	38
1520d0.35	0.35	0.70	3	38
1520d0.40	0.40	0.80	3	38
1520d0.45	0.45	0.90	3	38
1520d0.50	0.50	1.00	3	38
1520d0.55	0.55	1.10	3	38
1520d0.60	0.60	1.20	3	38
1520d0.65	0.65	1.30	3	38
1520d0.70	0.70	1.40	3	38
1520d0.75	0.75	1.50	3	38
1520d0.80	0.80	1.60	3	38
1520d0.85	0.85	1.70	3	38
1520d0.90	0.90	1.80	3	38
1520d0.95	0.95	1.90	3	38
1520d1.00	1.00	2.00	3	38
1520d1.05	1.05	2.10	3	38
1520d1.10	1.10	2.20	3	38
1520d1.15	1.15	2.30	3	38
1520d1.20	1.20	2.40	3	38
1520d1.25	1.25	2.50	3	38
1520d1.30	1.30	2.60	3	38
1520d1.35	1.35	2.70	3	38
1520d1.40	1.40	2.80	3	38
1520d1.45	1.45	2.90	3	38
1520d1.50	1.50	3.00	3	38
1520d1.55	1.55	3.10	3	38
1520d1.60	1.60	3.20	3	38
1520d1.65	1.65	3.30	3	38
1520d1.70	1.70	3.40	3	38
1520d1.75	1.75	3.50	3	38

Art. n°	d_1	l_1	D	L
1520d1.80	1.80	3.60	3	38
1520d1.85	1.85	3.70	3	38
1520d1.90	1.90	3.80	3	38
1520d1.95	1.95	3.90	3	38
1520d2.00	2.00	4.00	3	38
1520d2.05	2.05	4.10	3	38
1520d2.10	2.10	4.20	3	38
1520d2.15	2.15	4.30	3	38
1520d2.20	2.20	4.40	3	38
1520d2.25	2.25	4.50	3	38
1520d2.30	2.30	4.60	3	38
1520d2.35	2.35	4.70	3	38
1520d2.40	2.40	4.80	3	38
1520d2.45	2.45	4.90	3	38
1520d2.50	2.50	5.00	3	38
1520d2.55	2.55	5.10	3	38
1520d2.60	2.60	5.20	3	38
1520d2.65	2.65	5.30	3	38
1520d2.70	2.70	5.40	3	38
1520d2.75	2.75	5.50	3	38
1520d2.80	2.80	5.60	3	38
1520d2.85	2.85	5.70	3	38
1520d2.90	2.90	5.80	3	38
1520d2.95	2.95	5.90	3	38
1520d3.00	3.00	6.00	6	51
1520d3.10	3.10	6.20	6	51
1520d3.20	3.20	6.40	6	51
1520d3.30	3.30	6.60	6	51
1520d3.40	3.40	6.80	6	51

End mill Z3 l_1=2xd_1

Art. n°	d_1	l_1	D	L
1520d3.50	3.50	7.00	6	51
1520d3.60	3.60	7.20	6	51
1520d3.70	3.70	7.40	6	51
1520d3.80	3.80	7.60	6	51
1520d3.90	3.90	7.80	6	51
1520d4.00	4.00	8.00	6	51
1520d4.10	4.10	8.20	6	51
1520d4.20	4.20	8.40	6	51
1520d4.30	4.30	8.60	6	51
1520d4.40	4.40	8.80	6	51
1520d4.50	4.50	9.00	6	51
1520d4.60	4.60	9.20	6	51
1520d4.70	4.70	9.40	6	51
1520d4.80	4.80	9.60	6	51
1520d4.90	4.90	9.80	6	51
1520d5.00	5.00	10.00	6	51
1520d5.10	5.10	10.20	6	51
1520d5.20	5.20	10.40	6	51
1520d5.30	5.30	10.60	6	51
1520d5.40	5.40	10.80	6	51
1520d5.50	5.50	11.00	6	51
1520d5.60	5.60	11.20	6	51
1520d5.70	5.70	11.40	6	51
1520d5.80	5.80	11.60	6	51
1520d5.90	5.90	11.80	6	51
1520d6.00	6.00	12.00	6	51
1520d6.50	6.50	13.00	8	51
1520d7.00	7.00	14.00	8	61
1520d7.50	7.50	15.00	8	61
1520d8.00	8.00	16.00	8	61
1520d8.50	8.50	17.00	10	72
1520d9.00	9.00	18.00	10	72
1520d9.50	9.50	19.00	10	72
1520d10.00	10.00	20.00	10	72
1520d11.00	11.00	22.00	11	83
1520d12.00	12.00	24.00	12	83
1520d13.00	13.00	26.00	13	83
1520d14.00	14.00	28.00	14	83
1520d15.00	15.00	30.00	15	83
1520d16.00	16.00	32.00	16	92

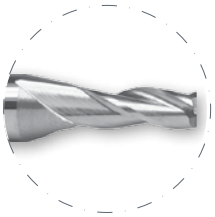
Available uncoated or coated (see page 61)



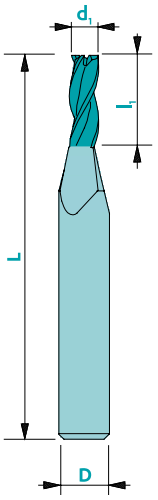
ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

End mill Z3 l_1=3xd_1



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

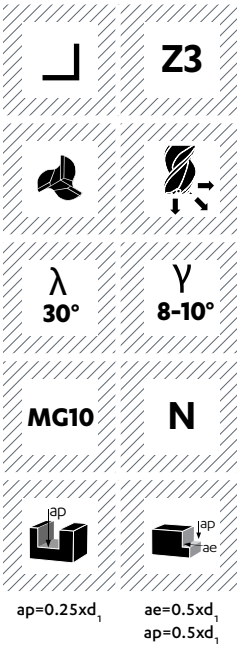
Art. n°	d_1	l_1	D	L
1530d0.50	0.50	1.50	3	38
1530d0.55	0.55	1.65	3	38
1530d0.60	0.60	1.80	3	38
1530d0.65	0.65	1.95	3	38
1530d0.70	0.70	2.10	3	38
1530d0.75	0.75	2.25	3	38
1530d0.80	0.80	2.40	3	38
1530d0.85	0.85	2.55	3	38
1530d0.90	0.90	2.70	3	38
1530d0.95	0.95	2.85	3	38
1530d1.00	1.00	3.00	3	38
1530d1.05	1.05	3.15	3	38
1530d1.10	1.10	3.30	3	38
1530d1.15	1.15	3.45	3	38
1530d1.20	1.20	3.60	3	38
1530d1.25	1.25	3.75	3	38
1530d1.30	1.30	3.90	3	38
1530d1.35	1.35	4.05	3	38
1530d1.40	1.40	4.20	3	38
1530d1.45	1.45	4.35	3	38
1530d1.50	1.50	4.50	3	38
1530d1.55	1.55	4.65	3	38
1530d1.60	1.60	4.80	3	38
1530d1.65	1.65	4.95	3	38
1530d1.70	1.70	5.10	3	38
1530d1.75	1.75	5.25	3	38
1530d1.80	1.80	5.40	3	38
1530d1.85	1.85	5.55	3	38
1530d1.90	1.90	5.70	3	38
1530d1.95	1.95	5.85	3	38

Art. n°	d_1	l_1	D	L
1530d2.00	2.00	6.00	3	38
1530d2.05	2.05	6.15	3	38
1530d2.10	2.10	6.30	3	38
1530d2.15	2.15	6.45	3	38
1530d2.20	2.20	6.60	3	38
1530d2.25	2.25	6.75	3	38
1530d2.30	2.30	6.90	3	38
1530d2.35	2.35	7.05	3	38
1530d2.40	2.40	7.20	3	38
1530d2.45	2.45	7.35	3	38
1530d2.50	2.50	7.50	3	38
1530d2.55	2.55	7.65	3	38
1530d2.60	2.60	7.80	3	38
1530d2.65	2.65	7.95	3	38
1530d2.70	2.70	8.10	3	38
1530d2.75	2.75	8.25	3	38
1530d2.80	2.80	8.40	3	38
1530d2.85	2.85	8.55	3	38
1530d2.90	2.90	8.70	3	38
1530d2.95	2.95	8.85	3	38
1530d3.00	3.00	9.00	6	51
1530d3.10	3.10	9.30	6	51
1530d3.20	3.20	9.60	6	51
1530d3.30	3.30	9.90	6	51
1530d3.40	3.40	10.20	6	51
1530d3.50	3.50	10.50	6	51
1530d3.60	3.60	10.80	6	51
1530d3.70	3.70	11.10	6	51
1530d3.80	3.80	11.40	6	51

End mill Z3 l_1=3xd_1

Art. n°	d_1	l_1	D	L
1530d3.90	3.90	11.70	6	51
1530d4.00	4.00	12.00	6	51
1530d4.10	4.10	12.30	6	51
1530d4.20	4.20	12.60	6	51
1530d4.30	4.30	12.90	6	51
1530d4.40	4.40	13.20	6	51
1530d4.50	4.50	13.50	6	51
1530d4.60	4.60	13.80	6	51
1530d4.70	4.70	14.10	6	51
1530d4.80	4.80	14.40	6	51
1530d4.90	4.90	14.70	6	51
1530d5.00	5.00	15.00	6	51
1530d5.10	5.10	15.30	6	51
1530d5.20	5.20	15.60	6	51
1530d5.30	5.30	15.90	6	51
1530d5.40	5.40	16.20	6	51
1530d5.50	5.50	16.50	6	51
1530d5.60	5.60	16.80	6	51
1530d5.70	5.70	17.10	6	51
1530d5.80	5.80	17.40	6	51
1530d5.90	5.90	17.70	6	51
1530d6.00	6.00	18.00	6	51
1530d6.50	6.50	19.50	8	51
1530d7.00	7.00	21.00	8	61
1530d7.50	7.50	22.50	8	61
1530d8.00	8.00	24.00	8	61
1530d8.50	8.50	25.50	10	72
1530d9.00	9.00	27.00	10	72
1530d9.50	9.50	28.50	10	72
1530d10.00	10.00	30.00	10	72
1530d11.00	11.00	33.00	11	83
1530d12.00	12.00	36.00	12	83
1530d13.00	13.00	39.00	13	83
1530d14.00	14.00	42.00	14	92
1530d15.00	15.00	45.00	15	92
1530d16.00	16.00	48.00	16	104

Available uncoated or coated (see page 61)



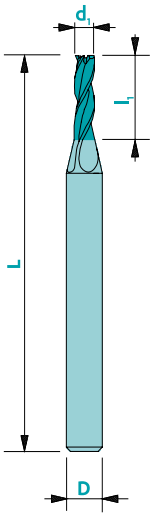
ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

1540

End mill Z3 l_1=4xd_1

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1540d0.50	0.50	2.0	3	51
1540d0.55	0.55	2.2	3	51
1540d0.60	0.60	2.4	3	51
1540d0.65	0.65	2.6	3	51
1540d0.70	0.70	2.8	3	51
1540d0.75	0.75	3.0	3	51
1540d0.80	0.80	3.2	3	51
1540d0.85	0.85	3.4	3	51
1540d0.90	0.90	3.6	3	51
1540d0.95	0.95	3.8	3	51
1540d1.00	1.00	4.0	3	51
1540d1.05	1.05	4.2	3	51
1540d1.10	1.10	4.4	3	51
1540d1.15	1.15	4.6	3	51
1540d1.20	1.20	4.8	3	51
1540d1.25	1.25	5.0	3	51
1540d1.30	1.30	5.2	3	51
1540d1.35	1.35	5.4	3	51
1540d1.40	1.40	5.6	3	51
1540d1.45	1.45	5.8	3	51
1540d1.50	1.50	6.0	3	51
1540d1.55	1.55	6.2	3	51
1540d1.60	1.60	6.4	3	51
1540d1.65	1.65	6.6	3	51
1540d1.70	1.70	6.8	3	51
1540d1.75	1.75	7.0	3	51
1540d1.80	1.80	7.2	3	51
1540d1.85	1.85	7.4	3	51
1540d1.90	1.90	7.6	3	51
1540d1.95	1.95	7.8	3	51

Art. n°	d_1	l_1	D	L
1540d2.00	2.00	8.0	3	51
1540d2.05	2.05	8.2	3	51
1540d2.10	2.10	8.4	3	51
1540d2.15	2.15	8.6	3	51
1540d2.20	2.20	8.8	3	51
1540d2.25	2.25	9.0	3	51
1540d2.30	2.30	9.2	3	51
1540d2.35	2.35	9.4	3	51
1540d2.40	2.40	9.6	3	51
1540d2.45	2.45	9.8	3	51
1540d2.50	2.50	10.0	3	51
1540d2.55	2.55	10.2	3	51
1540d2.60	2.60	10.4	3	51
1540d2.65	2.65	10.6	3	51
1540d2.70	2.70	10.8	3	51
1540d2.75	2.75	11.0	3	51
1540d2.80	2.80	11.2	3	51
1540d2.85	2.85	11.4	3	51
1540d2.90	2.90	11.6	3	51
1540d2.95	2.95	11.8	3	51
1540d3.00	3.00	12.0	6	51
1540d3.10	3.10	12.4	6	51
1540d3.20	3.20	12.8	6	51
1540d3.30	3.30	13.2	6	51
1540d3.40	3.40	13.6	6	51
1540d3.50	3.50	14.0	6	51
1540d3.60	3.60	14.4	6	51
1540d3.70	3.70	14.8	6	51
1540d3.80	3.80	15.2	6	51

End mill Z3 l_1=4xd_1

Art. n°	d_1	l_1	D	L
1540d3.90	3.90	15.6	6	51
1540d4.00	4.00	16.0	6	51
1540d4.10	4.10	16.4	6	51
1540d4.20	4.20	16.8	6	51
1540d4.30	4.30	17.2	6	51
1540d4.40	4.40	17.6	6	51
1540d4.50	4.50	18.0	6	51
1540d4.60	4.60	18.4	6	51
1540d4.70	4.70	18.8	6	51
1540d4.80	4.80	19.2	6	51
1540d4.90	4.90	19.6	6	51
1540d5.00	5.00	20.0	6	57
1540d5.10	5.10	20.4	6	57
1540d5.20	5.20	20.8	6	57
1540d5.30	5.30	21.2	6	57
1540d5.40	5.40	21.6	6	57
1540d5.50	5.50	22.0	6	57
1540d5.60	5.60	22.4	6	57
1540d5.70	5.70	22.8	6	57
1540d5.80	5.80	23.2	6	57
1540d5.90	5.90	23.6	6	57
1540d6.00	6.00	24.0	6	57
1540d6.50	6.50	26.0	8	72
1540d7.00	7.00	28.0	8	72
1540d7.50	7.50	30.0	8	72
1540d8.00	8.00	32.0	8	72
1540d8.50	8.50	34.0	10	92
1540d9.00	9.00	36.0	10	92
1540d9.50	9.50	38.0	10	92
1540d10.00	10.00	40.0	10	92
1540d11.00	11.00	44.0	11	92
1540d12.00	12.00	48.0	12	104
1540d13.00	13.00	52.0	13	104
1540d14.00	14.00	56.0	14	120
1540d15.00	15.00	60.0	15	130
1540d16.00	16.00	64.0	16	130

Available uncoated or coated (see page 61)

Z3

λ 30°

γ 8-10°

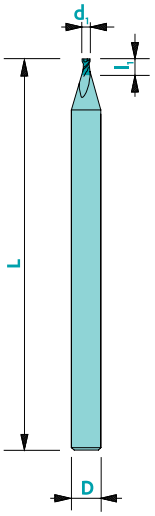
MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Micro end mill Z2 l_1=1xd_1



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02

Available uncoated or coated (see page 61)

Z2

λ 35°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1210d0.08	0.08	0.08	3	38
1210d0.09	0.09	0.09	3	38
1210d0.10	0.10	0.10	3	38
1210d0.12	0.12	0.12	3	38
1210d0.15	0.15	0.15	3	38
1210d0.20	0.20	0.20	3	38
1210d0.25	0.25	0.25	3	38
1210d0.30	0.30	0.30	3	38
1210d0.35	0.35	0.35	3	38
1210d0.40	0.40	0.40	3	38
1210d0.45	0.45	0.45	3	38
1210d0.50	0.50	0.50	3	38
1210d0.55	0.55	0.55	3	38
1210d0.60	0.60	0.60	3	38
1210d0.65	0.65	0.65	3	38
1210d0.70	0.70	0.70	3	38
1210d0.75	0.75	0.75	3	38
1210d0.80	0.80	0.80	3	38
1210d0.85	0.85	0.85	3	38
1210d0.90	0.90	0.90	3	38
1210d0.95	0.95	0.95	3	38
1210d1.00	1.00	1.00	3	38
1210d1.05	1.05	1.05	3	38
1210d1.10	1.10	1.10	3	38
1210d1.15	1.15	1.15	3	38
1210d1.20	1.20	1.20	3	38
1210d1.25	1.25	1.25	3	38
1210d1.30	1.30	1.30	3	38
1210d1.35	1.35	1.35	3	38
1210d1.40	1.40	1.40	3	38

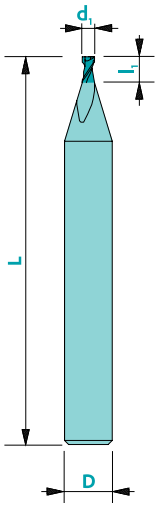
Art. n°	d_1	l_1	D	L
1210d1.45	1.45	1.45	3	38
1210d1.50	1.50	1.50	3	38
1210d1.55	1.55	1.55	3	38
1210d1.60	1.60	1.60	3	38
1210d1.65	1.65	1.65	3	38
1210d1.70	1.70	1.70	3	38
1210d1.75	1.75	1.75	3	38
1210d1.80	1.80	1.80	3	38
1210d1.85	1.85	1.85	3	38
1210d1.90	1.90	1.90	3	38
1210d1.95	1.95	1.95	3	38
1210d2.00	2.00	2.00	3	38
1210d2.10	2.10	2.10	3	38
1210d2.20	2.20	2.20	3	38
1210d2.30	2.30	2.30	3	38
1210d2.40	2.40	2.40	3	38
1210d2.50	2.50	2.50	3	38
1210d2.60	2.60	2.60	3	38
1210d2.70	2.70	2.70	3	38
1210d2.80	2.80	2.80	3	38
1210d2.90	2.90	2.90	3	38

Micro end mill Z2

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

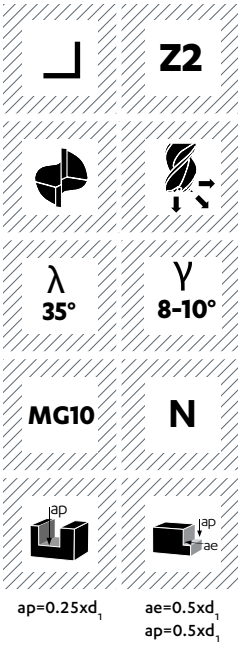
Tolerances $d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
102d0.08	0.08	0.16	3	38
102d0.10	0.10	0.20	3	38
102d0.11	0.11	0.20	3	38
102d0.12	0.12	0.20	3	38
102d0.13	0.13	0.30	3	38
102d0.14	0.14	0.30	3	38
102d0.15	0.15	0.30	3	38
102d0.16	0.16	0.30	3	38
102d0.17	0.17	0.30	3	38
102d0.18	0.18	0.40	3	38
102d0.19	0.19	0.40	3	38
102d0.20	0.20	0.40	3	38
102d0.21	0.21	0.40	3	38
102d0.22	0.22	0.40	3	38
102d0.23	0.23	0.50	3	38
102d0.24	0.24	0.50	3	38
102d0.25	0.25	0.60	3	38
102d0.26	0.26	0.60	3	38
102d0.27	0.27	0.60	3	38
102d0.28	0.28	0.60	3	38
102d0.29	0.29	0.60	3	38
102d0.30	0.30	0.60	3	38
102d0.35	0.35	0.80	3	38
102d0.40	0.40	0.80	3	38
102d0.45	0.45	1.00	3	38
102d0.50	0.50	1.00	3	38
102d0.55	0.55	1.20	3	38
102d0.60	0.60	1.20	3	38
102d0.65	0.65	1.40	3	38
102d0.70	0.70	1.40	3	38

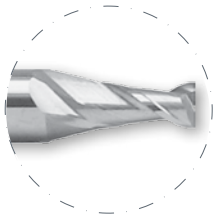
Art. n°	d_1	l_1	D	L
102d0.75	0.75	1.60	3	38
102d0.80	0.80	1.60	3	38
102d0.85	0.85	1.80	3	38
102d0.90	0.90	1.80	3	38
102d0.95	0.95	2.00	3	38
102d1.00	1.00	2.00	3	38
102d1.05	1.05	2.20	3	38
102d1.10	1.10	2.20	3	38
102d1.15	1.15	2.40	3	38
102d1.20	1.20	2.40	3	38
102d1.25	1.25	2.60	3	38
102d1.30	1.30	2.60	3	38
102d1.35	1.35	2.80	3	38
102d1.40	1.40	2.80	3	38
102d1.45	1.45	3.00	3	38
102d1.50	1.50	3.00	3	38
102d1.55	1.55	3.20	3	38
102d1.60	1.60	3.20	3	38
102d1.65	1.65	3.40	3	38
102d1.70	1.70	3.40	3	38
102d1.75	1.75	3.60	3	38
102d1.80	1.80	3.60	3	38
102d1.85	1.85	4.00	3	38
102d1.90	1.90	4.00	3	38
102d1.95	1.95	6.00	3	38
102d2.00	2.00	6.00	3	38
102d2.05	2.05	7.00	3	38
102d2.10	2.10	7.00	3	38
102d2.15	2.15	7.00	3	38



ap=0.25xd$_1$

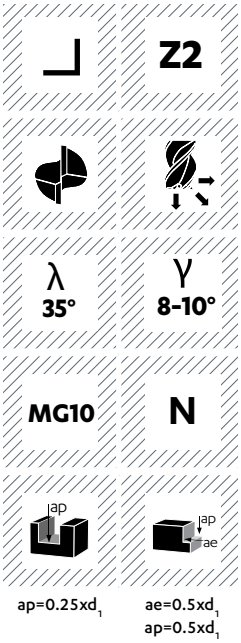
ae=0.5xd$_1$
ap=0.5xd$_1$

Micro end mill Z2



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
102d2.20	**2.20**	**7.00**	3	38
102d2.25	**2.25**	**7.00**	3	38
102d2.30	**2.30**	**7.00**	3	38
102d2.35	**2.35**	**7.00**	3	38
102d2.40	**2.40**	**7.00**	3	38
102d2.45	**2.45**	**7.00**	3	38
102d2.50	**2.50**	**7.00**	3	38
102d2.60	**2.60**	**7.00**	3	38
102d2.70	**2.70**	**7.00**	3	38
102d2.80	**2.80**	**7.00**	3	38
102d2.90	**2.90**	**7.00**	3	38



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

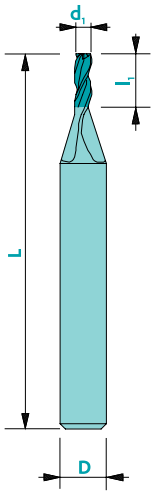
Micro end mill Z3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

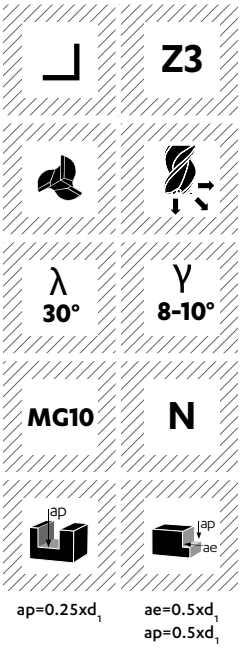
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

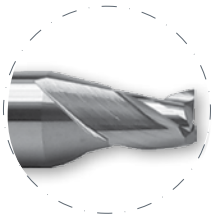


Available uncoated or coated (see page 61)

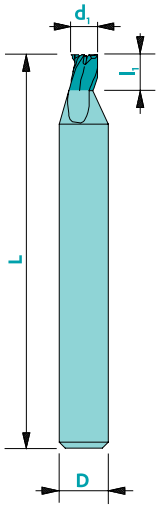
Art. n°	d_1	l_1	D	L
102-1d0.20	0.20	0.50	3	38
102-1d0.30	0.30	0.80	3	38
102-1d0.40	0.40	1.00	3	38
102-1d0.50	0.50	1.50	3	38
102-1d0.60	0.60	2.50	3	38
102-1d0.70	0.70	2.50	3	38
102-1d0.80	0.80	2.50	3	38
102-1d0.90	0.90	4.00	3	38
102-1d1.00	1.00	4.00	3	38
102-1d1.10	1.10	4.00	3	38
102-1d1.20	1.20	4.00	3	38
102-1d1.30	1.30	4.00	3	38
102-1d1.40	1.40	4.00	3	38
102-1d1.50	1.50	6.00	3	38
102-1d1.60	1.60	6.00	3	38
102-1d1.70	1.70	6.00	3	38
102-1d1.80	1.80	6.00	3	38
102-1d1.90	1.90	6.00	3	38
102-1d2.00	2.00	6.00	3	38
102-1d2.10	2.10	6.00	3	38
102-1d2.20	2.20	6.00	3	38
102-1d2.30	2.30	6.00	3	38
102-1d2.40	2.40	6.00	3	38
102-1d2.50	2.50	6.00	3	38
102-1d2.60	2.60	6.00	3	38
102-1d2.70	2.70	6.00	3	38
102-1d2.80	2.80	6.00	3	38
102-1d2.90	2.90	6.00	3	38
102-1d3.00	3.00	6.00	3	38



Short end mill Z3



Available uncoated or coated (see page 61)

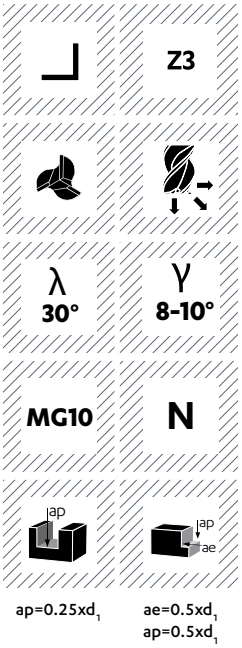


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Art. n°	d_1	l_1	D	L
103-0d1.00	1.00	2.0	4	38
103-0d1.05	1.05	2.0	4	38
103-0d1.10	1.10	2.0	4	38
103-0d1.15	1.15	3.0	4	38
103-0d1.20	1.20	3.0	4	38
103-0d1.25	1.25	3.0	4	38
103-0d1.30	1.30	3.0	4	38
103-0d1.35	1.35	3.0	4	38
103-0d1.40	1.40	3.0	4	38
103-0d1.45	1.45	3.0	4	38
103-0d1.50	1.50	3.0	4	38
103-0d1.55	1.55	3.0	4	38
103-0d1.60	1.60	3.0	4	38
103-0d1.65	1.65	3.0	4	38
103-0d1.70	1.70	3.0	4	38
103-0d1.75	1.75	3.0	4	38
103-0d1.80	1.80	3.0	4	38
103-0d1.85	1.85	3.0	4	38
103-0d1.90	1.90	3.0	4	38
103-0d1.95	1.95	3.0	4	38
103-0d2.00	2.00	3.0	4	38
103-0d2.05	2.05	3.0	4	38
103-0d2.10	2.10	3.0	4	38
103-0d2.15	2.15	3.0	4	38
103-0d2.20	2.20	3.0	4	38
103-0d2.25	2.25	3.0	4	38
103-0d2.30	2.30	3.0	4	38
103-0d2.35	2.35	3.0	4	38
103-0d2.40	2.40	3.0	4	38

Art. n°	d_1	l_1	D	L
103-0d2.45	2.45	3.0	4	38
103-0d2.50	2.50	3.0	4	38
103-0d2.55	2.55	4.0	4	38
103-0d2.60	2.60	4.0	4	38
103-0d2.65	2.65	4.0	4	38
103-0d2.70	2.70	4.0	4	38
103-0d2.75	2.75	4.0	4	38
103-0d2.80	2.80	4.0	4	38
103-0d2.85	2.85	4.0	4	38
103-0d2.90	2.90	4.0	4	38
103-0d2.95	2.95	4.0	4	38
103-0d3.00	3.00	4.0	4	38
103-0d3.50	3.50	4.0	4	38
103-0d4.00	4.00	4.0	6	51
103-0d4.50	4.50	4.0	6	51
103-0d5.00	5.00	6.0	6	51
103-0d5.50	5.50	6.0	6	51
103-0d6.00	6.00	8.0	6	51
103-0d7.00	7.00	8.0	7	61
103-0d8.00	8.00	10.0	8	61
103-0d9.00	9.00	12.0	9	61
103-0d10.00	10.00	15.0	10	72

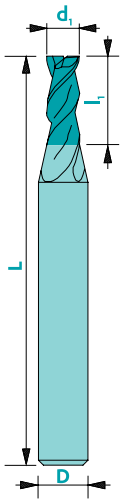
Finishing end mill Z2

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
104d0.30	0.30	1.0	3	38
104d0.35	0.35	1.0	3	38
104d0.40	0.40	1.5	3	38
104d0.45	0.45	1.5	3	38
104d0.50	0.50	2.0	3	38
104d0.55	0.55	2.0	3	38
104d0.60	0.60	2.0	3	38
104d0.65	0.65	2.0	3	38
104d0.70	0.70	3.0	3	38
104d0.75	0.75	3.0	3	38
104d0.80	0.80	3.0	3	38
104d0.85	0.85	3.0	3	38
104d0.90	0.90	3.0	3	38
104d0.95	0.95	3.0	3	38
104d1.00	1.00	3.0	3	38
104d1.10	1.10	4.0	3	38
104d1.20	1.20	4.0	3	38
104d1.30	1.30	4.0	3	38
104d1.40	1.40	5.0	3	38
104d1.50	1.50	5.0	3	38
104d1.60	1.60	5.0	3	38
104d1.70	1.70	6.0	3	38
104d1.80	1.80	6.0	3	38
104d1.90	1.90	6.0	3	38
104d2.00	2.00	6.0	3	38
104d2.50	2.50	8.0	3	38
104d3.00	3.00	8.0	3	38
104d3.50	3.50	8.0	6	51
104d4.00	4.00	12.0	6	51
104d4.50	4.50	12.0	6	51

Art. n°	d_1	l_1	D	L
104d5.00	5.00	15.0	6	51
104d5.50	5.50	15.0	6	51
104d6.00	6.00	18.0	6	51
104d7.00	7.00	20.0	8	61
104d8.00	8.00	20.0	8	61
104d9.00	9.00	20.0	10	72
104d10.00	10.00	22.0	10	72

Z2

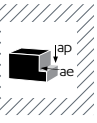
λ 45°

γ 8-10°

MG10

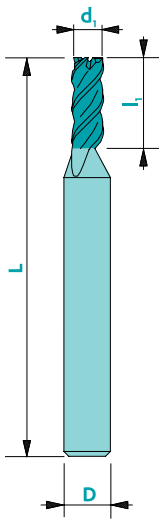
N

ap=0.25xd1



ae=0.5xd1
ap=0.5xd1

Finishing end mill Z3



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

Z3

λ 45°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
104-0d0.30	0.30	1.5	3	38
104-0d0.35	0.35	1.5	3	38
104-0d0.40	0.40	2.0	3	38
104-0d0.45	0.45	2.0	3	38
104-0d0.50	0.50	2.0	3	38
104-0d0.55	0.55	2.0	3	38
104-0d0.60	0.60	2.0	3	38
104-0d0.65	0.65	2.0	3	38
104-0d0.70	0.70	2.0	3	38
104-0d0.75	0.75	2.0	3	38
104-0d0.80	0.80	3.0	3	38
104-0d0.85	0.85	3.0	3	38
104-0d0.90	0.90	3.0	3	38
104-0d0.95	0.95	3.0	3	38
104-0d1.00	1.00	3.0	3	38
104-0d1.10	1.10	4.0	3	38
104-0d1.20	1.20	5.0	3	38
104-0d1.30	1.30	5.0	3	38
104-0d1.40	1.40	5.0	3	38
104-0d1.50	1.50	5.0	3	38
104-0d1.60	1.60	5.0	3	38
104-0d1.70	1.70	5.0	3	38
104-0d1.80	1.80	6.0	3	38
104-0d1.90	1.90	6.0	3	38
104-0d2.00	2.00	6.0	3	38
104-0d2.50	2.50	6.0	3	38
104-0d3.00	3.00	9.0	3	38

Art. n°	d_1	l_1	D	L
104-0d3.50	3.50	9.0	6	51
104-0d4.00	4.00	12.0	6	51
104-0d4.50	4.50	12.0	6	51
104-0d5.00	5.00	15.0	6	51
104-0d5.50	5.50	15.0	6	51
104-0d6.00	6.00	18.0	6	51
104-0d7.00	7.00	20.0	8	61
104-0d8.00	8.00	20.0	8	61
104-0d9.00	9.00	20.0	10	72
104-0d10.00	10.00	22.0	10	72
104-0d12.00	12.00	22.0	12	83

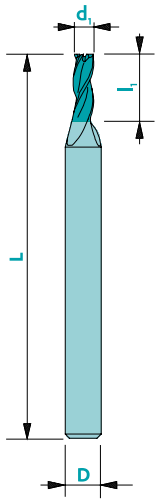
End mill Z3 - shank Ø 6.0

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

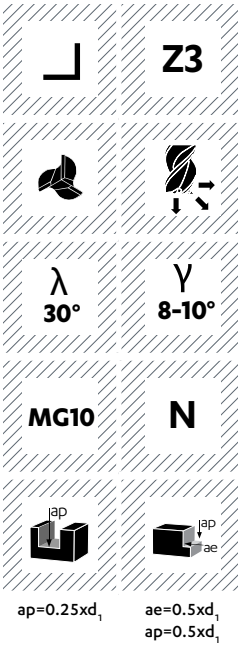
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
105d1.00	1.0	3	6	51
105d1.10	1.1	3	6	51
105d1.20	1.2	3	6	51
105d1.30	1.3	4	6	51
105d1.40	1.4	4	6	51
105d1.50	1.5	6	6	51
105d1.60	1.6	6	6	51
105d1.70	1.7	6	6	51
105d1.80	1.8	6	6	51
105d1.90	1.9	6	6	51
105d2.00	2.0	8	6	51
105d2.10	2.1	8	6	51
105d2.20	2.2	8	6	51
105d2.30	2.3	8	6	51
105d2.40	2.4	8	6	51
105d2.50	2.5	10	6	51
105d2.60	2.6	10	6	51
105d2.70	2.7	10	6	51
105d2.80	2.8	10	6	51
105d2.90	2.9	10	6	51
105d3.00	3.0	10	6	51
105d3.10	3.1	10	6	51
105d3.20	3.2	10	6	51
105d3.30	3.3	10	6	51
105d3.40	3.4	10	6	51
105d3.50	3.5	10	6	51
105d3.60	3.6	10	6	51
105d3.70	3.7	10	6	51
105d3.80	3.8	10	6	51
105d3.90	3.9	10	6	51

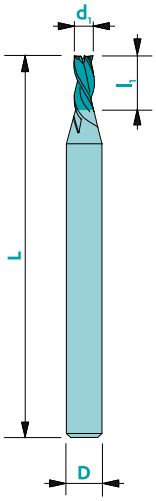
Art. n°	d_1	l_1	D	L
105d4.00	4.0	10	6	51
105d4.10	4.1	10	6	51
105d4.20	4.2	10	6	51
105d4.30	4.3	10	6	51
105d4.40	4.4	10	6	51
105d4.50	4.5	10	6	51
105d4.60	4.6	10	6	51
105d4.70	4.7	10	6	51
105d4.80	4.8	10	6	51
105d4.90	4.9	10	6	51
105d5.00	5.0	10	6	51
105d5.10	5.1	10	6	51
105d5.20	5.2	10	6	51
105d5.30	5.3	10	6	51
105d5.40	5.4	10	6	51
105d5.50	5.5	10	6	51
105d5.60	5.6	10	6	51
105d5.70	5.7	10	6	51
105d5.80	5.8	10	6	51
105d5.90	5.9	10	6	51
105d6.00	6.0	10	6	51



105-G

End mill Z3 - left hand helix & left cut

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1 <> D ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
105-Gd1.50	1.5	5	6	51
105-Gd1.60	1.6	5	6	51
105-Gd1.70	1.7	5	6	51
105-Gd1.80	1.8	5	6	51
105-Gd1.90	1.9	5	6	51
105-Gd2.00	2.0	8	6	51
105-Gd2.10	2.1	8	6	51
105-Gd2.20	2.2	8	6	51
105-Gd2.30	2.3	8	6	51
105-Gd2.40	2.4	8	6	51
105-Gd2.50	2.5	10	6	51
105-Gd2.60	2.6	10	6	51
105-Gd2.70	2.7	10	6	51
105-Gd2.80	2.8	10	6	51
105-Gd2.90	2.9	10	6	51
105-Gd3.00	3.0	10	6	51
105-Gd3.10	3.1	10	6	51
105-Gd3.20	3.2	10	6	51
105-Gd3.30	3.3	10	6	51
105-Gd3.40	3.4	10	6	51
105-Gd3.50	3.5	10	6	51
105-Gd3.60	3.6	10	6	51
105-Gd3.70	3.7	10	6	51
105-Gd3.80	3.8	10	6	51
105-Gd3.90	3.9	10	6	51
105-Gd4.00	4.0	10	6	51
105-Gd4.10	4.1	10	6	51
105-Gd4.20	4.2	10	6	51
105-Gd4.30	4.3	10	6	51
105-Gd4.40	4.4	10	6	51

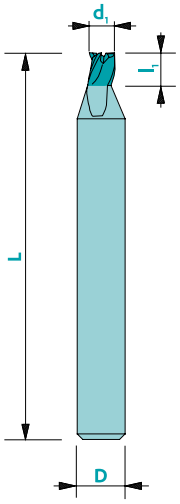
Art. n°	d_1	l_1	D	L
105-Gd4.50	4.5	10	6	51
105-Gd5.00	5.0	10	6	51
105-Gd5.50	5.5	10	6	51
105-Gd6.00	6.0	10	6	51
105-Gd7.00	7.0	15	7	61
105-Gd8.00	8.0	16	8	61
105-Gd9.00	9.0	18	10	72
105-Gd10.00	10.0	20	10	72
105-Gd11.00	11.0	25	12	83
105-Gd12.00	12.0	25	12	83

Short end mill Z3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ d_1:+0/-0.02 D: h5
d_1=D ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
109d1.50	1.5	3	6	51
109d2.00	2.0	3	6	51
109d2.50	2.5	3	6	51
109d3.00	3.0	4	6	51
109d3.50	3.5	4	6	51
109d4.00	4.0	5	6	51
109d4.50	4.5	5	6	51
109d5.00	5.0	6	6	51
109d5.50	5.5	7	6	51
109d6.00	6.0	7	6	51
109d7.00	7.0	8	8	61
109d8.00	8.0	9	8	61
109d9.00	9.0	10	10	72
109d10.00	10.0	11	10	72
109d12.00	12.0	12	12	83

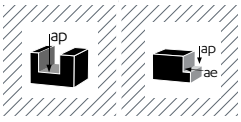
Z3

λ 30°

γ 8-10°

MG10

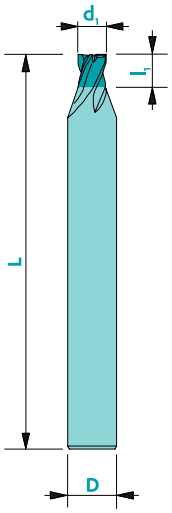
N



ap=0.25xd_1 ae=0.5xd_1
ap=0.5xd_1

Short end mill Z4

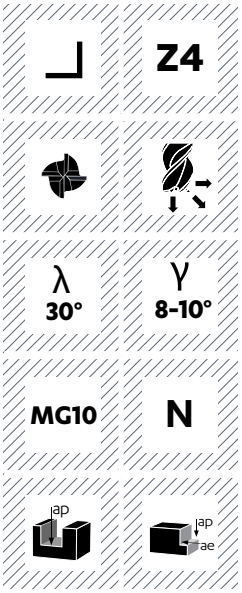
Available
uncoated or coated
(see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances
$d_1 < D$ ▶ d_1: +0/-0.02 D: h5
$d_1 = D$ ▶ d_1: e8



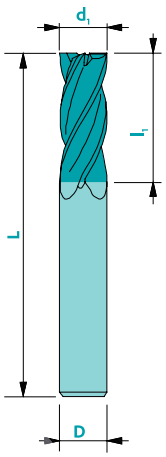
ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
110-1d2.00	2.0	3	6	51
110-1d2.50	2.5	3	6	51
110-1d3.00	3.0	4	6	51
110-1d3.50	3.5	4	6	51
110-1d4.00	4.0	5	6	51
110-1d4.50	4.5	5	6	51
110-1d5.00	5.0	6	6	51
110-1d5.50	5.5	7	6	51
110-1d6.00	6.0	7	6	51
110-1d7.00	7.0	8	8	61
110-1d8.00	8.0	9	8	61
110-1d9.00	9.0	10	10	72
110-1d10.00	10.0	11	10	72
110-1d12.00	12.0	12	12	83
110-1d14.00	14.0	14	14	83
110-1d16.00	16.0	16	16	92
110-1d18.00	18.0	18	18	92
110-1d20.00	20.0	20	20	104

End mill Z4 - variable helix & pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

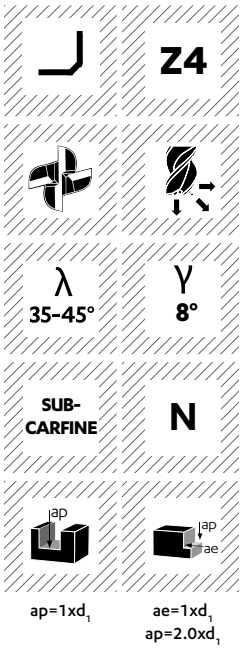


Available uncoated or coated (see page 61)

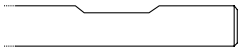
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Art. n°	d_1	l_1	⌟	D	L
1620d1.00	1.0	2	0.02	6	51
1620d1.50	1.5	3	0.02	6	51
1620d2.00	2.0	4	0.02	6	51
1620d2.50	2.5	5	0.02	6	51
1620d3.00	3.0	6	0.02	6	51
1620d3.50	3.5	7	0.03	6	51
1620d4.00	4.0	8	0.03	6	51
1620d5.00	5.0	10	0.04	6	51
1620d6.00	6.0	12	0.05	6	51
1620d8.00	8.0	16	0.05	8	61
1620d10.00	10.0	20	0.05	10	72
1620d12.00	12.0	24	0.05	12	83
1620d14.00	14.0	28	0.06	14	83
1620d16.00	16.0	32	0.06	16	92



Option: Weldon flat

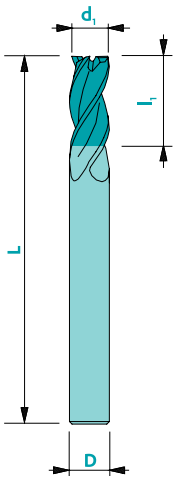


Upon request : Z6

1621

End mill Z3 - variable helix & pitch

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5

Z3

λ 35-45°

γ 8°

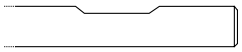
SUB-CARFINE

N

ap=1xd_1

ae=1xd_1
ap=2.0xd_1

Option: Weldon flat



Art. n°	d_1	l_1	⌟	D	L
1621d1.00	1.0	2	0.02	6	51
1621d1.50	1.5	3	0.02	6	51
1621d2.00	2.0	4	0.02	6	51
1621d2.50	2.5	5	0.02	6	51
1621d3.00	3.0	6	0.02	6	51
1621d3.50	3.5	7	0.03	6	51
1621d4.00	4.0	8	0.03	6	51
1621d5.00	5.0	10	0.04	6	51
1621d6.00	6.0	12	0.05	6	51
1621d8.00	8.0	16	0.05	8	61
1621d10.00	10.0	20	0.05	10	72
1621d12.00	12.0	24	0.05	12	83
1621d14.00	14.0	28	0.06	14	83
1621d16.00	16.0	32	0.06	16	92

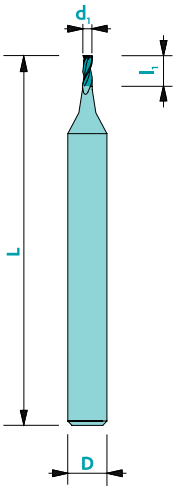
EXPERT end mill for brass - spiral toothing

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	140	190	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerance

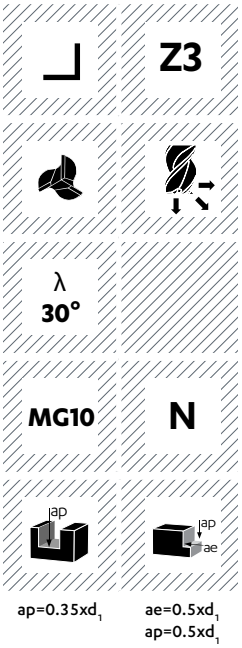
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
1820d0.50	**0.50**	**1.00**	4	38
1820d0.80	**0.80**	**1.60**	4	38
1820d1.00	**1.00**	**2.00**	4	38
1820d1.50	**1.50**	**3.00**	4	38
1820d2.00	**2.00**	**4.00**	4	38
1820d3.00	**3.00**	**5.00**	4	38

Other dimensions available upon request

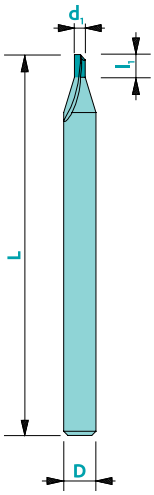


ap=0.35xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Straight cut end mill Z1 - reinforced

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z1

λ 0°

γ 0°

MG10

N

ap=0.5xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
111-1d0.20	0.2	0.9	3.0	38
111-1d0.30	0.3	1.5	3.0	38
111-1d0.40	0.4	1.5	3.0	38
111-1d0.50	0.5	1.5	3.0	38
111-1d0.60	0.6	1.5	3.0	38
111-1d0.70	0.7	1.5	3.0	38
111-1d0.80	0.8	1.5	3.0	38
111-1d0.90	0.9	1.5	3.0	38
111-1d1.00	1.0	2.0	3.0	38
111-1d1.10	1.1	2.0	3.0	38
111-1d1.20	1.2	2.0	3.0	38
111-1d1.30	1.3	2.0	3.0	38
111-1d1.40	1.4	2.0	3.0	38
111-1d1.50	1.5	2.0	3.0	38
111-1d1.60	1.6	2.5	3.0	38
111-1d1.70	1.7	2.5	3.0	38
111-1d1.80	1.8	2.5	3.0	38
111-1d1.90	1.9	2.5	3.0	38
111-1d2.00	2.0	2.5	3.0	38
111-1d2.10	2.1	3.0	3.0	38
111-1d2.20	2.2	3.0	3.0	38
111-1d2.30	2.3	3.0	3.0	38
111-1d2.40	2.4	3.0	3.0	38
111-1d2.50	2.5	3.5	3.0	38
111-1d2.60	2.6	3.5	3.0	38
111-1d2.70	2.7	3.5	3.0	38
111-1d2.80	2.8	3.5	3.0	38
111-1d2.90	2.9	3.5	3.0	38
111-1d3.00	3.0	4.0	3.0	38
111-1d3.50	3.5	4.0	4.0	38

Art. n°	d_1	l_1	D	L
111-1d4.00	4.0	5.0	4.0	38
111-1d4.50	4.5	5.0	6.0	51
111-1d5.00	5.0	6.0	6.0	51
111-1d5.50	5.5	6.0	6.0	51
111-1d6.00	6.0	7.0	6.0	51
111-1d6.50	6.5	7.0	6.5	51
111-1d7.00	7.0	8.0	7.0	51
111-1d8.00	8.0	9.0	8.0	51

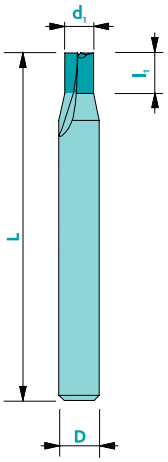
Straight cut end mill Z2 - reinforced

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

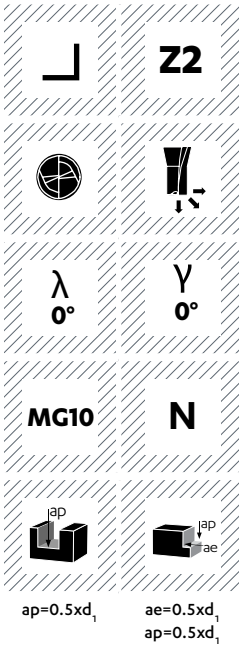
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
111-2d0.80	0.8	3.0	3	38
111-2d0.90	0.9	3.0	3	38
111-2d1.00	1.0	3.0	3	38
111-2d1.10	1.1	3.0	3	38
111-2d1.20	1.2	3.0	3	38
111-2d1.30	1.3	3.0	3	38
111-2d1.40	1.4	3.0	3	38
111-2d1.50	1.5	4.0	3	38
111-2d1.60	1.6	4.0	3	38
111-2d1.70	1.7	4.0	3	38
111-2d1.80	1.8	4.0	3	38
111-2d1.90	1.9	4.0	3	38
111-2d2.00	2.0	5.0	3	38
111-2d2.10	2.1	5.0	3	38
111-2d2.20	2.2	5.0	3	38
111-2d2.30	2.3	5.0	3	38
111-2d2.40	2.4	5.0	3	38
111-2d2.50	2.5	6.0	3	38
111-2d2.60	2.6	6.0	3	38
111-2d2.70	2.7	6.0	3	38
111-2d2.80	2.8	6.0	3	38
111-2d2.90	2.9	6.0	3	38
111-2d3.00	3.0	6.0	3	38
111-2d3.10	3.1	6.0	4	38
111-2d3.20	3.2	6.0	4	38
111-2d3.30	3.3	6.0	4	38
111-2d3.40	3.4	6.0	4	38

Art. n°	d_1	l_1	D	L
111-2d3.50	3.5	6.0	4	38
111-2d3.60	3.6	6.0	4	38
111-2d3.70	3.7	6.0	4	38
111-2d3.80	3.8	6.0	4	38
111-2d3.90	3.9	6.0	4	38
111-2d4.00	4.0	6.0	4	38
111-2d5.00	5.0	8.0	6	51
111-2d6.00	6.0	8.0	6	51
111-2d7.00	7.0	9.0	7	51
111-2d8.00	8.0	9.0	8	51
111-2d9.00	9.0	12.0	10	51
111-2d10.00	10.0	12.0	10	51

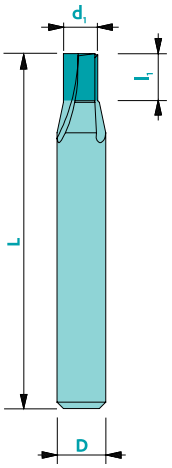


ap=0.5xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Straight cut end mill Z3 - reinforced

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z3

λ 0°

γ 0°

MG10

N

ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
111-3d1.00	1.0	3	3	38
111-3d1.10	1.1	3	3	38
111-3d1.20	1.2	3	3	38
111-3d1.30	1.3	3	3	38
111-3d1.40	1.4	3	3	38
111-3d1.50	1.5	4	3	38
111-3d1.60	1.6	4	3	38
111-3d1.70	1.7	4	3	38
111-3d1.80	1.8	4	3	38
111-3d1.90	1.9	4	3	38
111-3d2.00	2.0	5	3	38
111-3d2.10	2.1	5	3	38
111-3d2.20	2.2	5	3	38
111-3d2.30	2.3	5	3	38
111-3d2.40	2.4	5	3	38
111-3d2.50	2.5	6	3	38
111-3d2.60	2.6	6	3	38
111-3d2.70	2.7	6	3	38
111-3d2.80	2.8	6	3	38
111-3d2.90	2.9	6	3	38
111-3d3.00	3.0	6	4	38
111-3d3.10	3.1	6	4	38
111-3d3.20	3.2	6	4	38
111-3d3.30	3.3	6	4	38
111-3d3.40	3.4	6	4	38
111-3d3.50	3.5	6	4	38
111-3d3.60	3.6	6	4	38
111-3d3.70	3.7	6	4	38
111-3d3.80	3.8	6	4	38
111-3d3.90	3.9	6	4	38

Art. n°	d_1	l_1	D	L
111-3d4.00	4.0	6	4	38
111-3d5.00	5.0	8	6	51
111-3d6.00	6.0	8	6	51
111-3d7.00	7.0	9	7	51
111-3d8.00	8.0	9	8	51
111-3d9.00	9.0	12	10	51
111-3d10.00	10.0	12	10	51

Straight cut end mill Z1-3 - reinforced

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ l_1 : _____ D : _____

Tolerances d_1 : _____ L : _____ Z: _____

Coating :

☐ Coated * : ☐ Uncoated

_____

Order No :

_____

Quantity :

_____

Contact person :

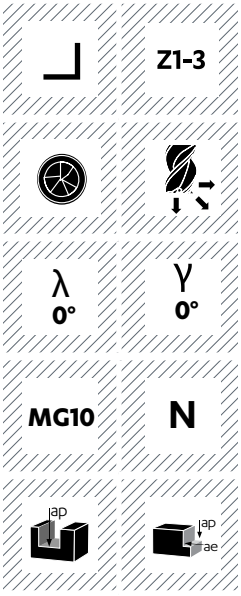
_____

Company's stamp & date :

_____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

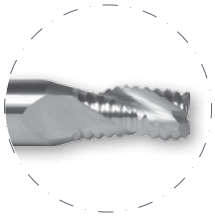
* Without information, the most suitable coating will be applied.

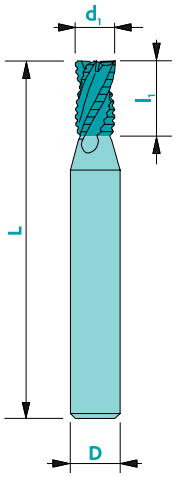


ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Roughing end mill - medium pitch



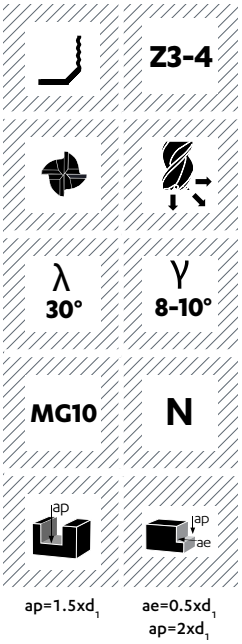


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +0/-0.1
D: h5

Available uncoated or coated (see page 61)



ap=1.5xd_1 ae=0.5xd_1
ap=2xd_1

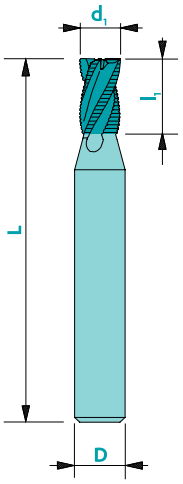
Art. n°	d_1	l_1	D	L	Z
115d6.00	6.0	13	6	51	3
115d7.00	7.0	16	8	61	3
115d8.00	8.0	16	10	72	4
115d10.00	10.0	22	10	72	4
115d12.00	12.0	25	12	83	4
115d14.00	14.0	28	14	83	4
115d16.00	16.0	36	16	92	4

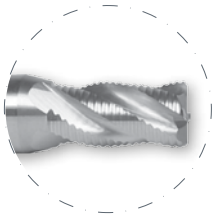
Roughing end mill - fine pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

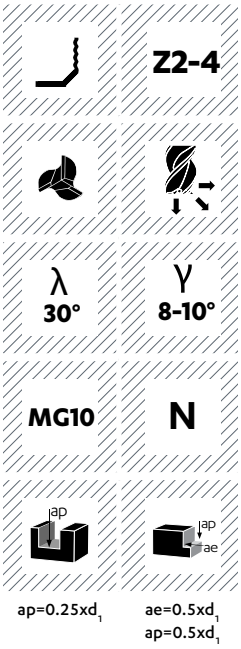
Tolerances d_1: +0/-0.1
D: h5





Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	Z
115-1d1.50	1.5	3	6	51	2
115-1d2.00	2.0	4	6	51	2
115-1d2.50	2.5	5	6	51	2
115-1d3.00	3.0	6	6	51	3
115-1d3.50	3.5	7	6	51	3
115-1d4.00	4.0	8	6	51	3
115-1d4.50	4.5	9	6	51	3
115-1d5.00	5.0	10	6	51	3
115-1d5.50	5.5	11	6	51	3
115-1d6.00	6.0	12	6	51	3
115-1d7.00	7.0	14	8	61	3
115-1d8.00	8.0	16	10	72	4
115-1d9.00	9.0	18	10	72	4
115-1d10.00	10.0	20	10	72	4
115-1d12.00	12.0	24	12	83	4
115-1d14.00	14.0	28	14	83	4
115-1d16.00	16.0	32	16	92	4
115-1d20.00	20.0	40	20	104	4

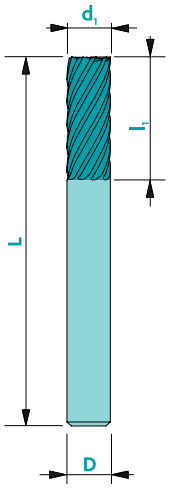


ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Finishing end mill multiflutes - helix angle 30°

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D_1 mm ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8

Z6-12

λ 30°

γ 8°

MG10

N

ap
ae

ae=0.05xd$_1$
ap=1xd$_1$

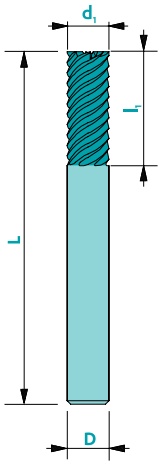
Art. n°	d_1	l_1	D	L	Z
113d2.00	2.0	8	6	51	6
113d2.50	2.5	8	6	51	6
113d3.00	3.0	12	6	51	6
113d3.50	3.5	12	6	51	6
113d4.00	4.0	12	6	51	6
113d4.50	4.5	14	6	51	6
113d5.00	5.0	14	6	51	6
113d5.50	5.5	16	6	51	6
113d6.00	6.0	16	6	51	8
113d7.00	7.0	20	7	61	8
113d8.00	8.0	20	8	61	8
113d10.00	10.0	22	10	72	8
113d12.00	12.0	22	12	83	10
113d14.00	14.0	25	14	83	10
113d16.00	16.0	25	16	92	12

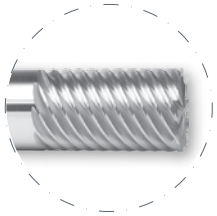
Finishing end mill - helix angle 60°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8





Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	Z
113-0d2.00	**2.0**	**8**	6	51	**5**
113-0d2.50	**2.5**	**8**	6	51	**5**
113-0d3.00	**3.0**	**12**	6	51	**5**
113-0d3.50	**3.5**	**12**	6	51	**5**
113-0d4.00	**4.0**	**12**	6	51	**6**
113-0d4.50	**4.5**	**14**	6	51	**6**
113-0d5.00	**5.0**	**14**	6	51	**6**
113-0d5.50	**5.5**	**16**	6	51	**6**
113-0d6.00	**6.0**	**16**	6	51	**8**
113-0d7.00	**7.0**	**20**	7	61	**8**
113-0d8.00	**8.0**	**20**	8	61	**8**
113-0d10.00	**10.0**	**22**	10	72	**8**
113-0d12.00	**12.0**	**22**	12	83	**10**
113-0d14.00	**14.0**	**25**	14	83	**10**
113-0d16.00	**16.0**	**25**	16	92	**12**

Z5-12

λ 60°

γ 8°

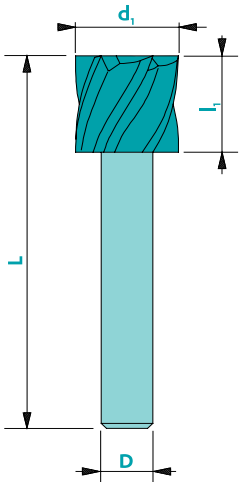
MG10

N

ap ae

ae=0.05xd$_1$
ap=1xd$_1$

Facemill - 2 cuts

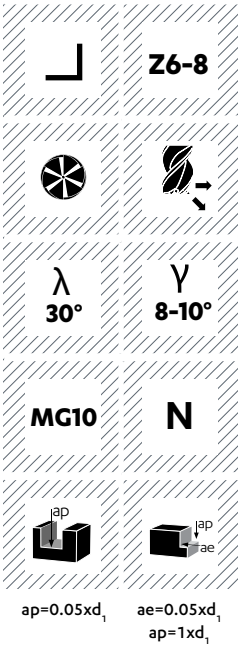


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/-0.02 D: h5

Available uncoated or coated (see page 61)



ap=0.05xd$_1$ ae=0.05xd$_1$
ap=1xd$_1$

Art. n°	d_1	l_1	D	L	Z
113-1d15.00	15	15	10	61	6
113-1d16.00	16	15	10	61	6
113-1d18.00	18	15	10	61	6
113-1d20.00	20	20	10	61	6
113-1d25.00	25	25	10	61	8
113-1d28.00	28	25	10	61	8
113-1d30.00	30	30	10	61	8

End mill with ball end Z2

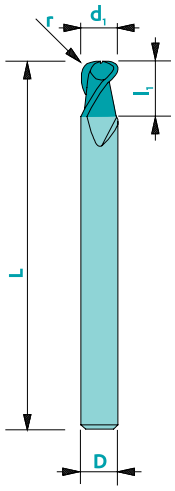
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
d_1: e8

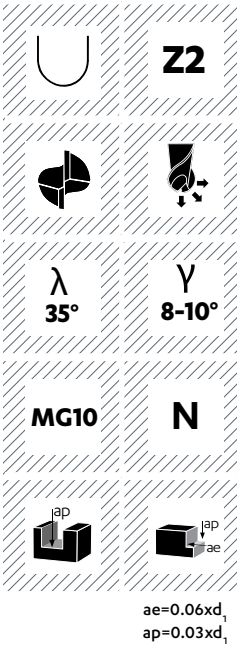
⌒ +0/-0.01
D: h5



Available uncoated or coated (see page 61)

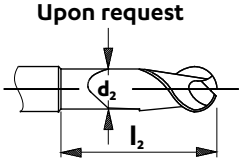
Art. n°	d_1	l_1	D	L	r
114-2d0.10	0.10	0.20	3	38	0.050
114-2d0.15	0.15	0.30	3	38	0.075
114-2d0.20	0.20	0.40	3	38	0.100
114-2d0.25	0.25	0.50	3	38	0.120
114-2d0.30	0.30	0.60	3	38	0.150
114-2d0.40	0.40	0.80	3	38	0.200
114-2d0.50	0.50	1.00	3	38	0.250
114-2d0.60	0.60	1.20	3	38	0.300
114-2d0.70	0.70	1.40	3	38	0.350
114-2d0.80	0.80	1.60	3	38	0.400
114-2d0.90	0.90	1.80	3	38	0.450
114-2d1.00	1.00	2.00	3	38	0.500
114-2d1.10	1.10	2.10	3	38	0.550
114-2d1.20	1.20	2.20	3	38	0.600
114-2d1.30	1.30	2.30	3	38	0.650
114-2d1.40	1.40	2.40	3	38	0.700
114-2d1.50	1.50	2.50	3	38	0.750
114-2d1.60	1.60	2.50	3	38	0.800
114-2d1.70	1.70	2.60	3	38	0.850
114-2d1.80	1.80	2.60	3	38	0.900
114-2d1.90	1.90	3.00	3	38	0.950
114-2d2.00	2.00	3.00	3	38	1.000
114-2d2.10	2.10	3.00	3	38	1.050
114-2d2.20	2.20	3.50	3	38	1.100
114-2d2.30	2.30	3.50	3	38	1.150
114-2d2.40	2.40	3.50	3	38	1.200
114-2d2.50	2.50	4.00	3	38	1.250
114-2d3.00	3.00	4.50	3	38	1.500
114-2d3.50	3.50	5.00	6	51	1.750
114-2d4.00	4.00	6.00	6	51	2.000

Art. n°	d_1	l_1	D	L	r
114-2d4.50	4.50	7.00	6	51	2.250
114-2d5.00	5.00	8.00	6	51	2.500
114-2d5.50	5.50	8.00	6	51	2.750
114-2d6.00	6.00	9.00	6	51	3.000
114-2d6.50	6.50	10.00	8	61	3.250
114-2d7.00	7.00	10.00	8	61	3.500
114-2d7.50	7.50	12.00	8	61	3.750
114-2d8.00	8.00	12.00	8	61	4.000
114-2d8.50	8.50	13.00	10	72	4.250
114-2d9.00	9.00	13.00	10	72	4.500
114-2d10.00	10.00	15.00	10	72	5.000
114-2d12.00	12.00	18.00	12	83	6.000
114-2d14.00	14.00	21.00	14	83	7.000
114-2d16.00	16.00	24.00	16	92	8.000



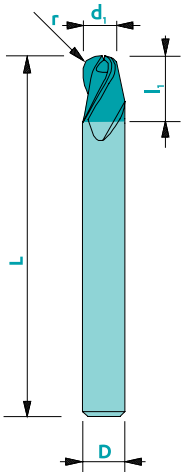
ae=0.06xd_1
ap=0.03xd_1

Upon request



End mill with ball end Z3

Available uncoated or coated (see page 61)



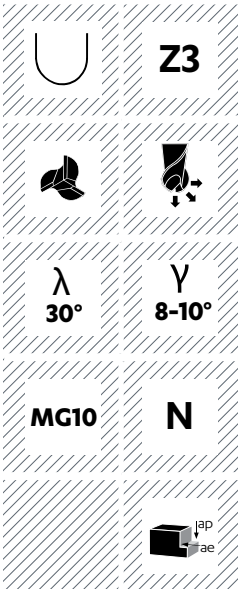
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

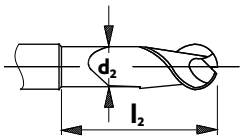
$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 \leq 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5
⌒ +0/-0.01



$ae = 0.06 \times d_1$
$ap = 0.03 \times d_1$

Upon request

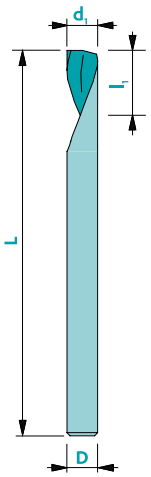


Art. n°	d_1	l_1	D	L	r
114-3d1.00	1.0	2.0	3	38	0.50
114-3d1.50	1.5	2.5	3	38	0.75
114-3d2.00	2.0	3.0	3	38	1.00
114-3d2.50	2.5	4.0	3	38	1.25
114-3d3.00	3.0	4.5	3	38	1.50
114-3d3.50	3.5	5.0	6	51	1.75
114-3d4.00	4.0	6.0	6	51	2.00
114-3d4.50	4.5	7.0	6	51	2.25
114-3d5.00	5.0	8.0	6	51	2.50
114-3d5.50	5.5	8.0	6	51	2.75
114-3d6.00	6.0	9.0	6	51	3.00
114-3d6.50	6.5	10.0	8	61	3.25
114-3d7.00	7.0	10.0	8	61	3.50
114-3d7.50	7.5	12.0	8	61	3.75
114-3d8.00	8.0	12.0	8	61	4.00
114-3d8.50	8.5	13.0	10	72	4.25
114-3d9.00	9.0	13.0	10	72	4.50
114-3d10.00	10.0	15.0	10	72	5.00
114-3d11.00	11.0	16.0	12	83	5.50
114-3d12.00	12.0	18.0	12	83	6.00
114-3d14.00	14.0	21.0	14	83	7.00
114-3d16.00	16.0	24.0	16	92	8.00
114-3d18.00	18.0	27.0	18	92	9.00
114-3d20.00	20.0	30.0	20	104	10.00

Universal end mill Z1

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	150	180	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Rico/Solo
Gold - Silver	140	180	■	□	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-
Composite	200	250	■	■	Solo

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances $d_1 < D$ ▶ +0/-0.02 D: h5
$d_1 = D$ ▶ d_1 : e8

Art. n°	d_1	l_1	D	L
107-1d1.50	1.5	5	3.0	38
107-1d2.00	2.0	6	3.0	38
107-1d3.00	3.0	9	3.0	38
107-1d4.00	4.0	12	4.0	51
107-1d5.00	5.0	15	6.0	51
107-1d6.00	6.0	18	6.0	51
107-1d8.00	8.0	24	8.0	61
107-1d10.00	10.0	30	10.0	72

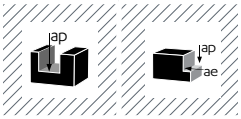
Z1

λ 30°

γ 8-10°

MG10

N

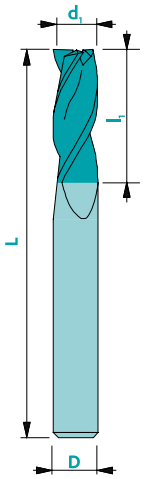


ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

107-3 Universal end mill Z3

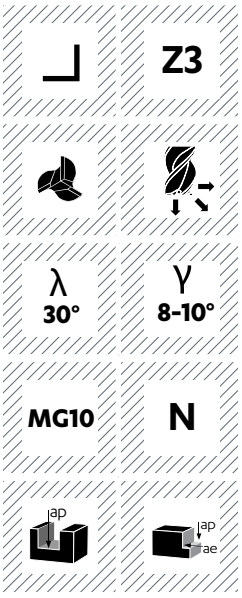
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: e8
D: h5



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

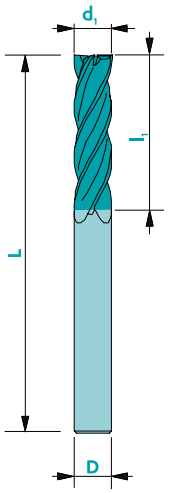
Art. n°	d_1	l_1	D	L
107-3d2.00	2.0	10	2.0	38
107-3d2.50	2.5	10	2.5	38
107-3d3.00	3.0	15	3.0	38
107-3d3.50	3.5	15	3.5	38
107-3d4.00	4.0	18	4.0	51
107-3d4.50	4.5	18	4.5	51
107-3d5.00	5.0	18	5.0	51
107-3d5.50	5.5	18	5.5	51
107-3d6.00	6.0	18	6.0	51
107-3d6.50	6.5	22	6.5	51
107-3d7.00	7.0	22	7.0	61
107-3d7.50	7.5	22	7.5	61
107-3d8.00	8.0	22	8.0	61
107-3d8.50	8.5	22	8.5	61
107-3d9.00	9.0	25	9.0	61
107-3d9.50	9.5	25	9.5	61
107-3d10.00	10.0	25	10.0	72
107-3d10.50	10.5	25	10.5	72
107-3d11.00	11.0	30	11.0	72
107-3d11.50	11.5	30	11.5	72
107-3d12.00	12.0	30	12.0	83
107-3d12.50	12.5	30	12.5	83
107-3d13.00	13.0	35	13.0	83
107-3d14.00	14.0	35	14.0	83
107-3d15.00	15.0	35	15.0	83
107-3d16.00	16.0	35	16.0	92
107-3d18.00	18.0	45	18.0	92
107-3d20.00	20.0	45	20.0	104

Universal end mill Z4

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

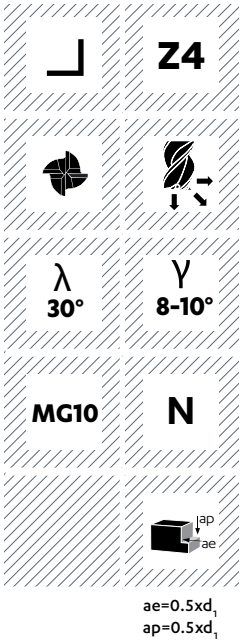
not adapted - adapted □ highly adapted ■

Tolerances d_1: e8
D: h5



Available uncoated or coated (see page 61)

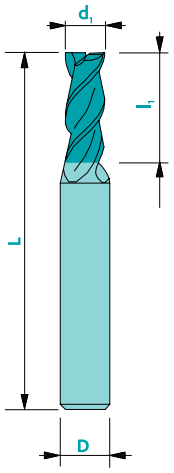
Art. n°	d_1	l_1	D	L
107-4d2.00	2.0	10	2.0	38
107-4d2.50	2.5	10	2.5	38
107-4d3.00	3.0	15	3.0	38
107-4d3.50	3.5	15	3.5	38
107-4d4.00	4.0	18	4.0	51
107-4d4.50	4.5	18	4.5	51
107-4d5.00	5.0	18	5.0	51
107-4d5.50	5.5	18	5.5	51
107-4d6.00	6.0	18	6.0	51
107-4d6.50	6.5	22	6.5	51
107-4d7.00	7.0	22	7.0	61
107-4d7.50	7.5	22	7.5	61
107-4d8.00	8.0	22	8.0	61
107-4d8.50	8.5	22	8.5	61
107-4d9.00	9.0	25	9.0	61
107-4d9.50	9.5	25	9.5	61
107-4d10.00	10.0	25	10.0	72
107-4d10.50	10.5	25	10.5	72
107-4d11.00	11.0	30	11.0	72
107-4d11.50	11.5	30	11.5	72
107-4d12.00	12.0	30	12.0	83
107-4d12.50	12.5	30	12.5	83
107-4d13.00	13.0	35	13.0	83
107-4d14.00	14.0	35	14.0	83
107-4d15.00	15.0	35	15.0	83
107-4d16.00	16.0	35	16.0	92
107-4d18.00	18.0	45	18.0	92
107-4d20.00	20.0	45	20.0	104



ae=0.5xd_1
ap=0.5xd_1

HSC end mill for stainless steel - sharp edge

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z2-3

λ 42°

γ 14°

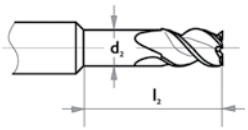
SUB-CARFINE

N HSC

ap=0.8xd1

ae=0.04xd1
ap=1xd1

Upon request



Art. n°	d_1	l_1	D	L	Z
3000d0.30	0.3	0.6	6	57	2
3000d0.40	0.4	0.8	6	57	2
3000d0.50	0.5	1.0	6	57	2
3000d0.60	0.6	1.2	6	57	2
3000d0.70	0.7	1.4	6	57	2
3000d0.80	0.8	1.6	6	57	2
3000d0.90	0.9	1.8	6	57	2
3000d1.00	1.0	2.0	6	57	2
3000d1.10	1.1	2.2	6	57	2
3000d1.20	1.2	2.4	6	57	2
3000d1.30	1.3	2.6	6	57	2
3000d1.40	1.4	2.8	6	57	2
3000d1.50	1.5	3.0	6	57	2
3000d1.60	1.6	3.2	6	57	2
3000d1.70	1.7	3.4	6	57	2
3000d1.80	1.8	3.6	6	57	2
3000d1.90	1.9	3.8	6	57	2
3000d2.00	2.0	4.0	6	57	3
3000d2.10	2.1	4.2	6	57	3
3000d2.20	2.2	4.4	6	57	3
3000d2.30	2.3	4.6	6	57	3
3000d2.40	2.4	4.8	6	57	3
3000d2.50	2.5	5.0	6	57	3
3000d3.00	3.0	6.0	6	57	3
3000d3.50	3.5	7.0	6	57	3
3000d4.00	4.0	8.0	6	57	3

Art. n°	d_1	l_1	D	L	Z
3000d5.00	5.0	10.0	6	57	3
3000d6.00	6.0	12.0	8	63	3
3000d8.00	8.0	16.0	10	72	3
3000d10.00	10.0	20.0	10	72	3

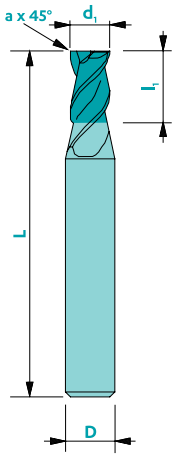
HSC end mill for stainless steel - corner angle

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

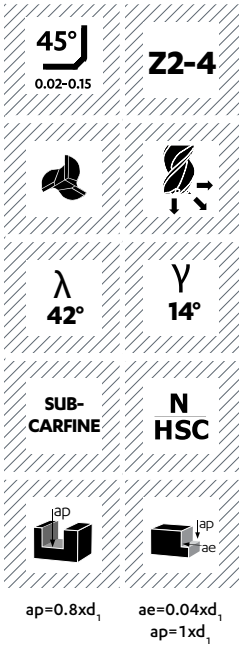
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



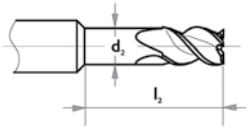
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	a	Z
3010d0.50	0.5	0.75	6	57	0.02	2
3010d0.60	0.6	0.90	6	57	0.02	2
3010d0.70	0.7	1.05	6	57	0.02	2
3010d0.80	0.8	1.20	6	57	0.03	2
3010d0.90	0.9	1.35	6	57	0.03	2
3010d1.00	1.0	1.50	6	57	0.03	2
3010d1.50	1.5	2.30	6	57	0.03	2
3010d2.00	2.0	3.00	6	57	0.03	3
3010d2.50	2.5	3.80	6	57	0.05	3
3010d3.00	3.0	4.50	6	57	0.06	3
3010d4.00	4.0	6.00	6	57	0.06	3
3010d5.00	5.0	8.00	6	57	0.08	3
3010d6.00	6.0	9.00	8	63	0.08	3
3010d8.00	8.0	12.00	10	72	0.10	3
3010d10.00	10.0	15.00	10	72	0.10	4
3010d12.00	12.0	18.00	12	83	0.15	4



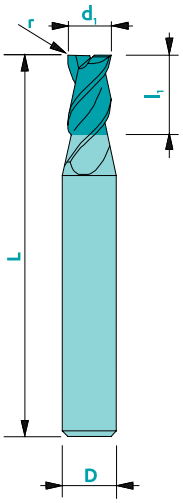
ap=0.8xd$_1$ ae=0.04xd$_1$
ap=1xd$_1$

Upon request



3020 HSC end mill for stainless steel - toric

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02 ⌒ +0/-0.01
$d_1 = D$ ▶ d_1: e8

r 0.10-0.30 | Z3-5

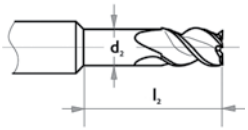
λ 42° | γ 14°

SUB-CARFINE | N HSC

ap=0.8xd_1

ae=0.04xd_1
ap=1xd_1

Upon request



Art. n°	d_1	l_1	D	L	r	Z
3020d1.00	1.0	1.5	6	57	0.10	3
3020d1.50	1.5	2.3	6	57	0.10	3
3020d2.00	2.0	3.0	6	57	0.15	3
3020d2.50	2.5	3.8	6	57	0.15	3
3020d2.80	2.8	4.2	6	57	0.15	3
3020d3.00	3.0	4.5	6	57	0.15	3
3020d3.50	3.5	5.3	6	57	0.20	3
3020d4.00	4.0	6.0	6	57	0.20	3
3020d4.50	4.5	7.0	6	57	0.20	3
3020d5.00	5.0	8.0	6	57	0.20	3
3020d6.00	6.0	9.0	8	63	0.20	3
3020d8.00	8.0	12.0	10	72	0.30	3
3020d10.00	10.0	15.0	10	72	0.30	4
3020d12.00	12.0	18.0	12	83	0.30	4
3020d16.00	16.0	24.0	16	92	0.30	5

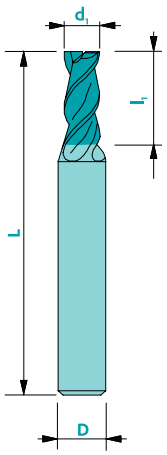
HSC end mill for titanium - sharp edge

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	Z
3100d0.50	0.5	1.0	6	57	3
3100d0.60	0.6	1.2	6	57	3
3100d0.70	0.7	1.4	6	57	3
3100d0.80	0.8	1.6	6	57	3
3100d0.90	0.9	1.8	6	57	3
3100d1.00	1.0	2.0	6	57	3
3100d1.10	1.1	2.2	6	57	3
3100d1.20	1.2	2.4	6	57	3
3100d1.30	1.3	2.6	6	57	3
3100d1.40	1.4	2.8	6	57	3
3100d1.50	1.5	3.0	6	57	3
3100d1.60	1.6	3.2	6	57	3
3100d1.70	1.7	3.4	6	57	3
3100d1.80	1.8	3.6	6	57	3
3100d1.90	1.9	3.8	6	57	3
3100d2.00	2.0	4.0	6	57	3
3100d2.10	2.1	4.2	6	57	3
3100d2.20	2.2	4.4	6	57	3
3100d2.30	2.3	4.6	6	57	3
3100d2.40	2.4	4.8	6	57	3
3100d2.50	2.5	5.0	6	57	3
3100d2.60	2.6	5.2	6	57	3
3100d2.70	2.7	5.4	6	57	3
3100d2.80	2.8	5.6	6	57	3
3100d2.90	2.9	5.8	6	57	3
3100d3.00	3.0	6.0	6	57	3

Art. n°	d_1	l_1	D	L	Z
3100d3.50	3.5	7.0	6	57	3
3100d4.00	4.0	8.0	6	57	3
3100d5.00	5.0	10.0	6	57	3
3100d6.00	6.0	12.0	8	63	3
3100d8.00	8.0	16.0	8	63	3
3100d10.00	10.0	20.0	10	72	4
3100d12.00	12.0	24.0	12	83	4

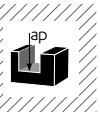
Z3-4

λ 45°

γ 14°

SUB-CARFINE

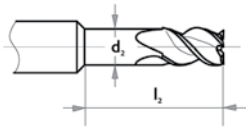
N HSC



ap=1xd1

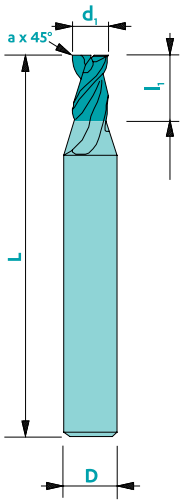
ae=0.10xd1
ap=1xd1

Upon request



3200

HSC end mill for copper, alloys and precious metals - corner angle



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	170	500	◻	■	Solo
Brass - Bronze	160	500	◻	■	Solo
Aluminium	280	600	◻	■	Solo
Gold - Silver	160	300	◻	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	300	800	◻	■	Trio
Titanium	-	-	-	-	-

not adapted - adapted ◻ highly adapted ■

Available uncoated or coated (see page 61)

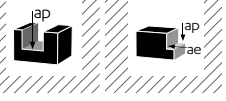
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

0.03-0.15 | Z2

λ 40° | γ 25°

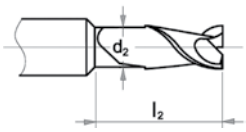
SUB-CARFINE | N HSC



ap=0.5xd$_1$ ae=0.15xd$_1$ ap=1.5xd$_1$

Art. n°	d_1	l_1	D	L	a
3200d0.50	0.5	1.0	6	57	0.03
3200d1.00	1.0	2.0	6	57	0.03
3200d1.50	1.5	3.0	6	57	0.04
3200d2.00	2.0	4.0	6	57	0.04
3200d2.50	2.5	5.0	6	57	0.04
3200d3.00	3.0	6.0	6	57	0.04
3200d3.50	3.5	7.0	6	57	0.05
3200d4.00	4.0	8.0	6	57	0.05
3200d5.00	5.0	10.0	6	57	0.05
3200d6.00	6.0	12.0	6	57	0.07
3200d8.00	8.0	16.0	8	63	0.07
3200d10.00	10.0	20.0	10	72	0.10
3200d12.00	12.0	24.0	12	83	0.15

Upon request



HSC end mill for copper, alloys and precious metals - toric

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	170	500	□	■	Solo
Brass - Bronze	160	500	□	■	Solo
Aluminium	280	600	□	■	Solo
Gold - Silver	160	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	300	800	□	■	Trio
Titanium	-	-	-	-	-

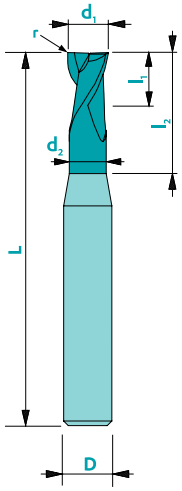
not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

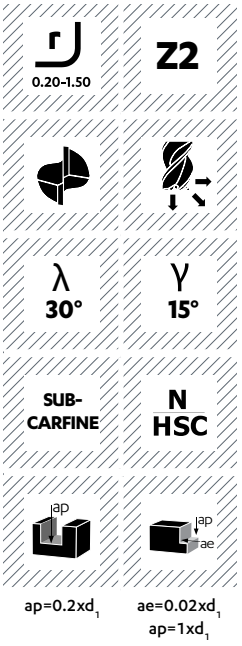
d_2: +0/-0.2
l_2: +/- 0.2

D: h5
0.01



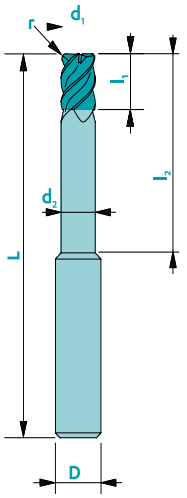
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	d_2	l_2	D	L	r
3210d1.00	1.0	1.0	0.95	3.0	6	57	0.20
3210d1.50	1.5	1.5	1.45	5.0	6	57	0.25
3210d2.00	2.0	3.0	1.95	6.0	6	57	0.30
3210d2.50	2.5	3.0	2.45	7.0	6	57	0.30
3210d3.00	3.0	4.0	2.80	9.0	6	57	0.50
3210d3.50	3.5	4.0	3.30	12.0	6	57	0.50
3210d4.00	4.0	5.0	3.70	13.5	6	57	0.50
3210d5.00	5.0	6.0	4.60	15.0	6	57	0.50
3210d6.00	6.0	7.0	5.50	20.0	6	57	1.00
3210d8.00	8.0	9.0	7.40	26.0	8	63	1.00
3210d10.00	10.0	11.0	9.20	31.0	10	72	1.50
3210d12.00	12.0	13.0	11.00	37.0	12	83	1.50



3310 HSC end mill for steel ≤ 65 HRC - toric

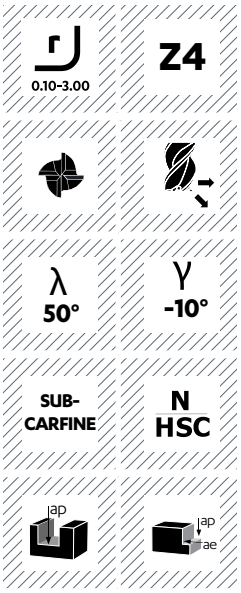
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	50	170	□	■	Trio
Tempered steel	50	170	□	■	Trio
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02 ◠ 0.01
$d_1 = D$ ▶ d_1: e8



Art. n°	d_1	l_1	d_2	l_2	D	L	r
3310d1.00r0.10	1.0	1.5	0.95	6.0	6	57	0.10
3310d1.50r0.10	1.5	2.2	1.45	8.0	6	57	0.10
3310d2.00r0.10	2.0	3.0	1.95	10.0	6	57	0.10
3310d3.00r0.15	3.0	4.5	2.90	16.0	6	57	0.15
3310d3.50r0.15	3.5	5.2	3.30	18.0	6	57	0.15
3310d4.00r0.25	4.0	6.0	3.70	20.0	6	57	0.25
3310d4.50r0.25	4.5	6.7	4.20	20.0	6	57	0.25
3310d5.00r0.25	5.0	7.5	4.60	26.0	6	57	0.25
3310d6.00r0.50	6.0	9.0	5.50	32.0	8	63	0.50
3310d6.00r0.80	6.0	9.0	5.50	32.0	8	63	0.80
3310d6.00r1.00	6.0	9.0	5.50	32.0	8	63	1.00
3310d6.00r1.50	6.0	9.0	5.50	32.0	8	63	1.50
3310d8.00r0.50	8.0	12.0	7.40	32.0	8	63	0.50
3310d8.00r1.00	8.0	12.0	7.40	32.0	8	63	1.00
3310d8.00r1.50	8.0	12.0	7.40	32.0	8	63	1.50
3310d8.00r2.00	8.0	12.0	7.40	32.0	8	63	2.00
3310d10.00r1.00	10.0	15.0	9.20	40.0	10	72	1.00
3310d10.00r1.50	10.0	15.0	9.20	40.0	10	72	1.50
3310d10.00r2.00	10.0	15.0	9.20	40.0	10	72	2.00
3310d10.00r2.50	10.0	15.0	9.20	40.0	10	72	2.50
3310d12.00r1.00	12.0	18.0	11.00	40.0	12	83	1.00
3310d12.00r1.50	12.0	18.0	11.00	40.0	12	83	1.50
3310d12.00r2.00	12.0	18.0	11.00	40.0	12	83	2.00
3310d12.00r3.00	12.0	18.0	11.00	40.0	12	83	3.00

HSC end mill for structural steel with ball end

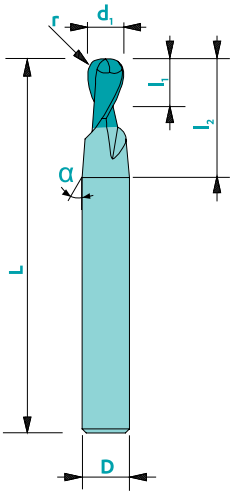
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	140	200	□	■	Trio
Steel > 700 N/mm²	120	190	□	■	Trio
Stainless steel	-	-	-	-	-
Cast iron	50	170	□	■	Trio
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

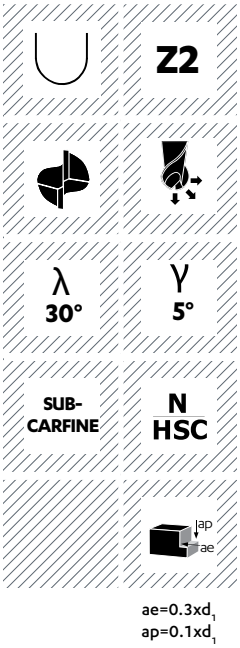
$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5
0.01



Available uncoated or coated (see page 61)

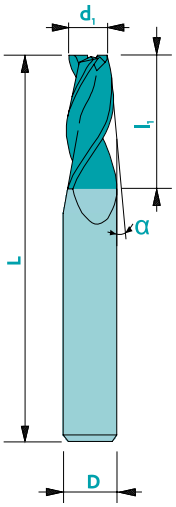
Art. n°	d_1	l_1	l_2	D	L	r	α
3320d1.00	1.0	1.5	6.0	6	57	0.50	13°
3320d1.50	1.5	2.2	6.0	6	57	0.75	13°
3320d2.00	2.0	3.0	6.5	6	57	1.00	13°
3320d2.50	2.5	3.7	6.5	6	57	1.25	13°
3320d3.00	3.0	4.5	7.0	6	57	1.50	13°
3320d3.50	3.5	5.2	10.5	6	57	1.75	13°
3320d4.00	4.0	6.0	10.5	6	57	2.00	13°
3320d4.50	4.5	6.7	14.0	6	57	2.25	13°
3320d5.00	5.0	7.5	14.0	6	57	2.50	13°
3320d6.00	6.0	9.0	20.0	8	63	3.00	5°
3320d8.00	8.0	12.0	-	8	63	4.00	-
3320d10.00	10.0	15.0	-	10	72	5.00	-
3320d12.00	12.0	18.0	-	12	83	6.00	-



ae=0.3xd_1
ap=0.1xd_1

Conical end mill

Available uncoated or coated (see page 61)

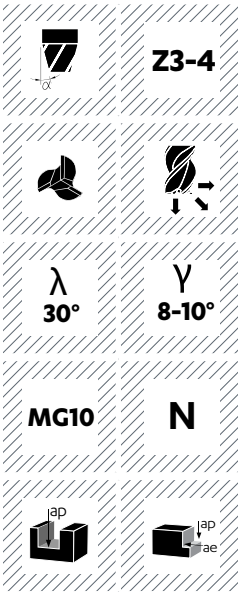


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/-0.01
D: h5

Art. n°	d_1 min	l_1 max	D	L
112d6.00Z#	5.0	18.0	6	51
112d8.00Z#	6.0	22.0	8	61
112d10.00Z#	8.0	25.0	10	72
112d12.00Z#	10.0	30.0	12	83
112d14.00Z#	11.0	30.0	14	83
112d15.00Z#	12.0	35.0	15	83
112d16.00Z#	13.0	35.0	16	92



ap=0.25xd$_1$ ae=0.5xd$_1$
ap=0.5xd$_1$

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ D : _____
l_1 : _____ L : _____

Angle (α) :
☐ 1/2° ☐ 1° ☐ 2° ☐ 5°
☐ Others: _____

Cut :
☐ right cut
☐ left cut

Coating :
☐ Uncoated
☐ Coated*: _____

Machined material :

Quantity :

Order No :

Company's stamp & date :

Contact person :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

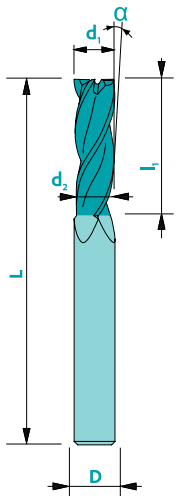
* Without information, the most suitable Coating will be applied.

Conical end mill

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

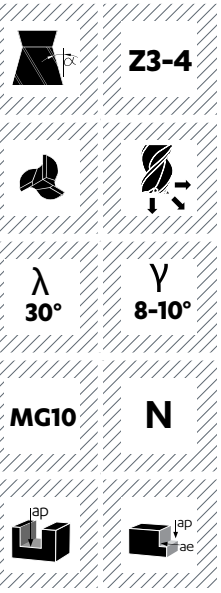
not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.05/-0.10
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	$l_{1\,max}$	$d_{2\,min}$	D	L
112-1d6.00Z#	6.0	18.0	5.0	6	51
112-1d8.00Z#	8.0	22.0	6.0	8	61
112-1d10.00Z#	10.0	25.0	8.0	10	72
112-1d12.00Z#	12.0	30.0	10.0	12	83
112-1d14.00Z#	14.0	30.0	11.0	14	83
112-1d16.00Z#	16.0	35.0	13.0	16	92



ap=0.25xd$_1$ ae=0.5xd$_1$ ap=0.5xd$_1$

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ D : _____
l_1 : _____ L : _____

Angle (α) :
☐ 1/2° ☐ 1° ☐ 2° ☐ 5°
☐ Others: _____

Cut :
☐ right cut
☐ left cut

Coating :
☐ Uncoated
☐ Coated*: _____

Machined material :

Quantity :

Order No :

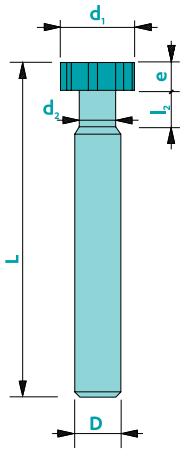
Company's stamp & date :

Contact person :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

* Without information, the most suitable Coating will be applied.

T-slot cutters straight toothing - 2 cuts



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ d_1: +0/-0.02 d_2: +0/-0.5 D: h5
d_1=D ▶ d_1:e8 e: +0.01/-0.01
l_2: +0.2/-0

Available uncoated or coated (see page 61)

Z3-36

λ 0°

γ 6-15°

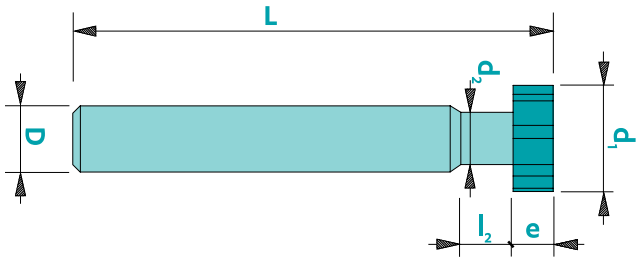
MG10

N

Art. n°	d_1	e*	d_2	l_2	D	L	Z gold	Z stainless	Z brass
117d1.00e#.##Z#	1.0	0.2 - 0.6	0.5	1	3	38	3	5	5
117d2.00e#.##Z#	2.0	0.2 - 1.0	1.0	2	4	38	3	5	6
117d3.00e#.##Z#	3.0	0.2 - 1.5	1.5	2	4	38	3	5	6
117d4.00e#.##Z#	4.0	0.2 - 1.5	2.5	3	4	38	3	5	6
117d5.00e#.##Z#	5.0	0.5 - 1.5	3.0	3	5	38	3	5	6
117d6.00e#.##Z#	6.0	0.5 - 2.5	3.5	4	6	38	4	6	8
117d8.00e#.##Z#	8.0	0.5 - 3.0	4.0	5	8	51	4 - 5	8	10
117d10.00e#.##Z#	10.0	0.5 - 4.0	5.0	5	10	51	4 - 5	10	12
117d12.00e#.##Z#	12.0	0.5 - 4.0	6.0	6	10	51	5 - 6	12 - 14	16
117d15.00e#.##Z#	15.0	0.5 - 5.0	8.0	8	10	61	5 - 8	14 - 16	18
117d16.00e#.##Z#	16.0	0.5 - 2.9	8.0	8	10	61	5 - 8	16 - 18	20
117d16.00e#.##Z#	16.0	3.0 - 6.0	8.0	8	10	61	5 - 8	16 - 18	20
117d18.00e#.##Z#	18.0	0.5 - 2.9	8.0	8	10	61	6 - 10	18 - 20	24
117d18.00e#.##Z#	18.0	3.0 - 6.0	8.0	8	10	61	6 - 10	18 - 20	24
117d20.00e#.##Z#	20.0	0.5 - 2.9	8.0	8	10	61	6 - 12	20 - 22	24
117d20.00e#.##Z#	20.0	3.0 - 6.0	8.0	8	10	61	6 - 12	20 - 22	24
117d25.00e#.##Z#	25.0	0.5 - 3.9	8.0	8	10	61	8 - 16	24 - 28	32
117d25.00e#.##Z#	25.0	4.0 - 8.0	8.0	8	10	61	8 - 16	24 - 28	32
117d30.00e#.##Z#	30.0	0.5 - 3.9	8.0	8	10	61	10 - 20	30 - 34	36
117d30.00e#.##Z#	30.0	4.0 - 8.0	8.0	8	10	61	10 - 20	30 - 34	36

* e : available thickness: every 0.1 mm
** Z: even number only

T-slot cutters straight toothing - 2 cuts



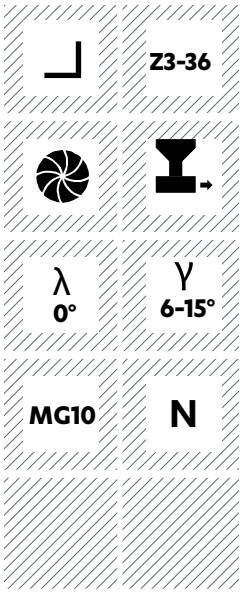
☐ **Order** ☐ **Quotation request**

Dimensions :	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____ D : _____ L : _____ Z : _____	☐ Uncoated ☐ Coated* : _____

Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut ☐ left cut	_____	_____	_____

Company's stamp & date :	**Contact person :**
_____	_____

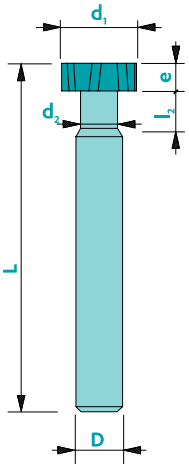
* Without information, the most suitable coating will be applied.



117-1

T-slot cutters staggered teeth - 2 cuts

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

d_1<D ▶ d_1: +0/-0.02
d_1=D ▶ d_1:e8
l_2: +0.2/-0
d_2: +0/-0.5
e: +0.01/-0.01
D: h5

Z4-28

λ ALT

γ 6-15°

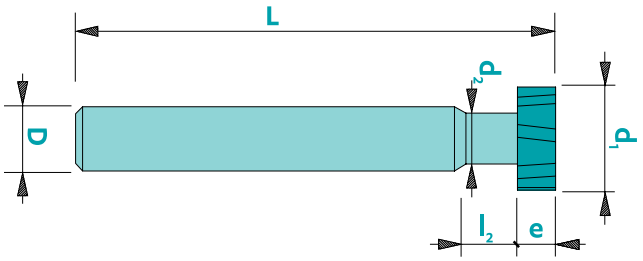
MG10

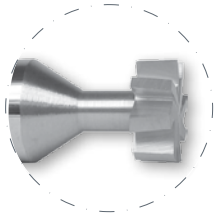
N

Art. n°	d_1	e*	d_2	l_2	D	L	Z** gold	Z** stainless	Z** Brass
117-1d2.00e#.##Z#	2.0	0.2 - 1.0	1.0	2.0	3	38	4	4	4
117-1d3.00e#.##Z#	3.0	0.2 - 2.0	1.5	3.0	3	38	4	6	6/8
117-1d3.50e#.##Z#	3.5	0.2 - 2.0	1.5	3.0	3	38	4	6	6/8
117-1d4.00e#.##Z#	4.0	0.5 - 3.0	2.5	3.0	4	38	4	6	6/8
117-1d4.50e#.##Z#	4.5	0.5 - 3.0	2.5	3.0	5	38	4	6	6/8
117-1d5.00e#.##Z#	5.0	0.5 - 3.0	3.0	3.0	5	38	4	6	6/8
117-1d6.00e#.##Z#	6.0	0.5 - 3.0	3.5	4.0	6	38	4	6	6/8
117-1d8.00e#.##Z#	8.0	1.0 - 4.0	4.0	5.0	8	51	4	6/8	8/10
117-1d10.00e#.##Z#	10.0	1.0 - 4.0	5.0	5.0	10	51	4/6	8/10	10/12
117-1d12.00e#.##Z#	12.0	1.0 - 5.0	6.0	6.0	10	51	4/6	8/10	12
117-1d15.00e#.##Z#	15.0	1.5 - 6.0	8.0	8.0	10	61	6/8	12/14	16
117-1d16.00e#.##Z#	16.0	1.5 - 3.9	8.0	8.0	10	61	6/8	12/14	16
117-1d16.00e#.##Z#	16.0	4.0 - 6.0	8.0	8.0	10	61	6/8	12/14	16
117-1d18.00e#.##Z#	18.0	1.5 - 3.9	8.0	8.0	10	61	6/8/10	14/16	18
117-1d18.00e#.##Z#	18.0	4.0 - 6.0	8.0	8.0	10	61	6/8/10	14/16	18
117-1d20.00e#.##Z#	20.0	1.5 - 3.9	8.0	8.0	10	61	6/8/10/12	16/18/20	22
117-1d20.00e#.##Z#	20.0	4.0 - 6.0	8.0	8.0	10	61	6/8/10/12	16/18/20	22
117-1d25.00e#.##Z#	25.0	1.5 - 4.9	8.0	8.0	10	61	8/10/12/14	20/22/24	28
117-1d25.00e#.##Z#	25.0	5.0 - 10.0	8.0	8.0	10	61	8/10/12/14	20/22/24	28

* e : available thickness: every 0.1 mm
** Z: even number only

T-slot cutters staggered teeth - 2 cuts





☐ **Order** ☐ **Quotation request**

Dimensions :	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____ D : _____ L : _____ Z : _____	☐ Uncoated ☐ Coated* : _____

Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut ☐ left cut	_____	_____	_____

Company's stamp & date :	**Contact person :**
_____	_____

* Without information, the most suitable coating will be applied.

Z4-32

λ ALT

γ 6-15°

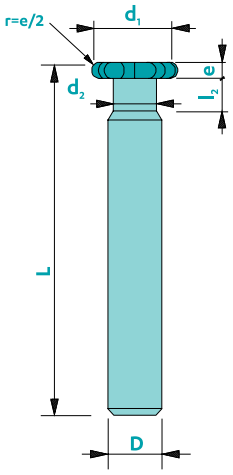
MG10

N

117-2

T-slot cutter with convex radius

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

d_1 <D ▶ d_1: +0/-0.03
d_1 =D ▶ d_1: -0.05/-0.10
l_2: +0.2/-0
d_2: +0/-0.5

e: ±0.01
⌒ +0.01/-0.01
D: h5

Z4-12

λ 0°

γ 6-15°

MG10

N

Art. n°	d_1	r*	e**	d_2	l_2	D	L	Z
117-2d4.00e#.##	4.0	0.20 - 0.75	0.4 - 1.5	1.5	3.0	4	38	4
117-2d6.00e#.##	6.0	0.25 - 1.00	0.5 - 2.0	3.0	3.5	6	38	6
117-2d8.00e#.##	8.0	0.50 - 1.50	1.0 - 3.0	4.0	4.0	8	51	6
117-2d10.00e#.##	10.0	0.50 - 2.00	1.0 - 4.0	5.0	5.0	10	51	8
117-2d12.00e#.##	12.0	0.50 - 2.50	1.0 - 5.0	6.0	5.0	10	51	8
117-2d16.00e#.##	16.0	0.50 - 3.00	1.0 - 6.0	8.0	6.0	10	61	12

** e : available thickness: every 0.1 mm
* r : available radius : every 0.05 mm

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ e : _____ d_2 : _____ l_2 : _____

D : _____ L : _____ Z : _____ r : _____

Coating :

☐ Uncoated

☐ Coated* : _____

Cut :

☐ right cut

☐ left cut

Machined material : _____

Quantity : _____

Order No : _____

Company's stamp & date :

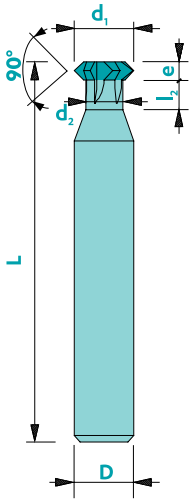
Contact person :

* Without information, the most suitable coating will be applied.

Double angle cutter 90° - T shape

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances d_1=D ▶ 0.05/-0.10 d_2 ▶ +0/-0.5 D: h5
d_1>D ▶ +0/-0.02 e ▶ +0.01/-0.01
l_2: +0.2/-0

Art. n°	d_1	e*	d_2	l_2	D	L	Z
117-3d3.00e#.##	3.0	0.5 - 1.0	1.5	3	3	38	5
117-3d4.00e#.##	4.0	0.5 - 1.2	2.5	3	4	38	5
117-3d5.00e#.##	5.0	0.5 - 1.4	3.5	3	5	38	5
117-3d6.00e#.##	6.0	1.0 - 1.9	4.0	3	6	38	6
117-3d8.00e#.##	8.0	1.5 - 2.4	5.5	4	8	51	6
117-3d10.00e#.##	10.0	2.0 - 3.9	6.5	4	10	51	8
117-3d12.00e#.##	12.0	2.5 - 4.0	8.0	4	10	51	10
117-3d16.00e#.##	16.0	3.0 - 5.0	-	-	10	61	12

* e : available thickness: every 0.1 mm

Z5-12

λ 0°

γ 6-15°

MG10

N

☐ **Order** ☐ **Quotation request**

Dimensions :	**Angle :**	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____	☐ 90°	☐ Uncoated
D : _____ L : _____ Z : _____	☐ Others: _____	☐ Coated* : _____

Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut	_____	_____	_____
☐ left cut			

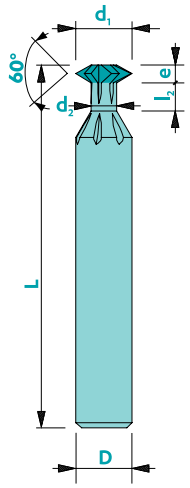
Company's stamp & date :	**Contact person :**
_____	_____

* Without information, the most suitable coating will be applied.

117-4

Double angle cutter 60° - T shape

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1=D ▶ 0.05/-0.10 d_1>D ▶ +0/-0.02 l_2: +0.2/-0 | d_2 +0/-0.5 | e +0.01/-0.01 | D: h5

Z5-12

λ 0°

γ 6-15°

MG10

N

Art. n°	d_1	e*	d_2	l_2	D	L	Z
117-4d5.00e#.##	5.0	0.5 - 1.4	2.1	3	5	38	5
117-4d6.00e#.##	6.0	1.0 - 1.9	2.5	3	6	38	6
117-4d8.00e#.##	8.0	1.5 - 2.4	3.6	4	8	51	6
117-4d10.00e#.##	10.0	2.0 - 3.4	4.0	4	10	51	6
117-4d12.00e#.##	12.0	2.5 - 3.9	4.7	4	10	51	8
117-4d16.00e#.##	16.0	3.0 - 5.0	7.0	4	10	61	12

*e : available thickness: every 0.1 mm

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ e : _____ d_2 : _____ l_2 : _____

D : _____ L : _____ Z : _____

Coating :

☐ Uncoated

☐ Coated* : _____

Cut :

☐ right cut

☐ left cut

Machined material : _____

Quantity : _____

Order No : _____

Company's stamp & date :

Contact person :

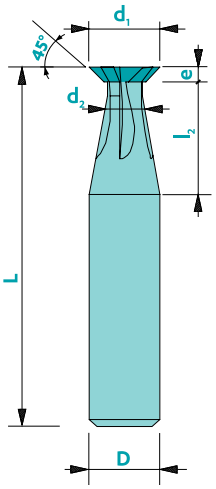
* Without information, the most suitable coating will be applied.

Dovetail cutter 45°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1=D ▶ d_1: -0.05/-0.10 D: h5
d_1<>D ▶ d_1: +/- 0.03



Available uncoated or coated (see page 61)

Art. n°	d_1	e*	D	L	Z
118-1d1.00e#.##	1.0	0.15-0.30	3	38	3
118-1d1.50e#.##	1.5	0.25-0.40	3	38	3
118-1d2.00e#.##	2.0	0.30-0.50	3	38	5
118-1d3.00e#.##	3.0	0.50-0.75	3	38	5
118-1d4.00e#.##	4.0	0.75-1.25	4	38	5
118-1d5.00e#.##	5.0	1.00-1.50	5	38	5
118-1d6.00e#.##	6.0	1.00-2.00	6	38	5
118-1d8.00e#.##	8.0	1.50-2.50	8	51	5
118-1d10.00e#.##	10.0	2.00-3.50	10	51	5
118-1d12.00e#.##	12.0	2.50-4.00	12	51	5
118-1d15.00e#.##	15.0	3.00-5.00	10	61	5
118-1d20.00e#.##	20.0	4.00-7.00	10	61	6

* e : available thickness: every 0.05 mm

Z3-6

λ 0°

MG10

N

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ e: _____ D : _____
d_2 : _____ l_2: _____ L : _____
Z: _____

Angle :
☐ 45°
☐ Other : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material :
_____

Quantity :
_____

Cut :
☐ right cut ☐ left cut

Company's stamp & date :
_____

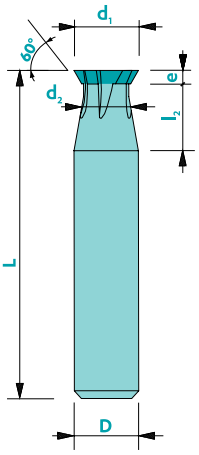
Order No :
_____

Contact person :
_____

* Without information, the most suitable coating will be applied.

118-2 Dovetail cutter 60°

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1=D ▶ d_1: -0.05/-0.10 D: h5
d_1 <> D ▶ d_1: +/- 0.03

Z3-6

λ 0°

MG10 N

Art. n°	d_1	e*	D	L	Z
118-2d1.00e#.##	1.0	0.10-0.30	3	38	3
118-2d1.50e#.##	1.5	0.15-0.50	3	38	3
118-2d2.00e#.##	2.0	0.40-0.75	3	38	5
118-2d3.00e#.##	3.0	0.50-1.00	3	38	5
118-2d4.00e#.##	4.0	0.75-2.00	4	38	5
118-2d5.00e#.##	5.0	1.00-2.50	5	38	5
118-2d6.00e#.##	6.0	1.00-3.00	6	38	5
118-2d8.00e#.##	8.0	1.50-4.00	8	51	5
118-2d10.00e#.##	10.0	2.00-5.00	10	51	5
118-2d12.00e#.##	12.0	2.50-6.00	12	51	5
118-2d15.00e#.##	15.0	3.00-7.00	10	61	5
118-2d20.00e#.##	20.0	4.00-8.00	10	61	6

* e : available thickness: every 0.05 mm

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ e: _____ D: _____
d_2 : _____ l_2 : _____ L: _____
Z: _____

Angle :
☐ 60°
☐ Other : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Quantity : _____

Cut :
☐ right cut ☐ left cut

Company's stamp & date :

Order No :

Contact person :

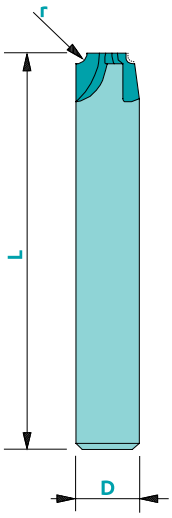
* Without information, the most suitable coating will be applied.

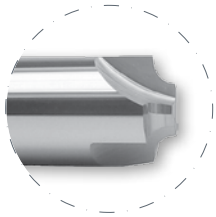
Quarter circle cutter concave radius

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1 <> D ▶ +0/-0.02 D: h5
d_1 = D ▶ d_1 :e8 +0.01/-0.01





Available uncoated or coated (see page 61)

Art. n°	r*	D	L	Z
118d2.00r#.##Z#	0.10-0.30	2	33	3/4/5
118d3.00r#.##Z#	0.10-0.50	3	38	3/4/5
118d4.00r#.##Z#	0.20-1.00	4	38	3/4/5
118d5.00r#.##Z#	0.50-1.50	5	38	3/4/5
118d6.00r#.##Z#	0.75-2.00	6	38	3/4/5
118d8.00r#.##Z#	1.00-2.50	8	51	3/4/5
118d10.00r#.##Z#	1.50-3.50	10	51	3/4/5
118d12.00r#.##Z#	2.00-4.50	12	51	3/4/5
118d14.00r#.##Z#	3.00-5.50	14	61	3/4/5
118d16.00r#.##Z#	4.00-6.00	16	61	3/4/5

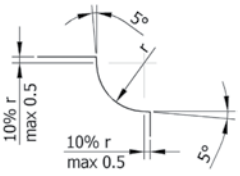
* r : available radius: every 0.05 mm

Z3-5

λ 0°

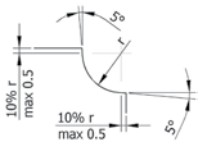
MG10

N

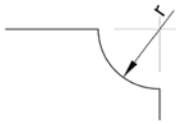


☐ **Order** ☐ **Quotation request**

☐ With exit angle



☐ Without exit angle



Dimensions :
D : _____ r : _____
L : _____ Z : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Cut:
☐ right cut
☐ left cut

Quantity : _____

Order No : _____

Contact person : _____

Company's stamp & date : _____

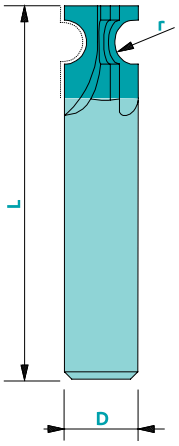
Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

* Without information, the most suitable coating will be applied.

118-0

Form cutter with concave radius

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: e8 D: h5 ⌒ +0.01/-0.01

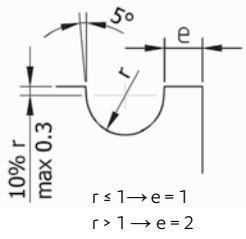
Z3-5

λ 0°

MG10 N

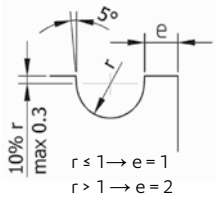
Art. n°	D	L	r*	Z
118-0d4.00r#.##Z#	4	38	0.50-0.75	3/4/5
118-0d6.00r#.##Z#	6	38	0.75-1.25	3/4/5
118-0d8.00r#.##Z#	8	51	1.00-2.00	3/4/5
118-0d10.00r#.##Z#	10	51	2.00-3.00	3/4/5
118-0d12.00r#.##Z#	12	51	2.50-3.50	3/4/5
118-0d14.00r#.##Z#	14	61	3.00-4.50	3/4/5

* r : available radius: every 0.05 mm

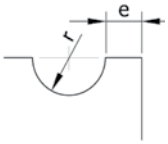


☐ **Order** ☐ **Quotation request**

☐ With exit angle



☐ Without exit angle



Dimensions :
D : _____ r : _____
L : _____ Z: _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Cut:
☐ right cut
☐ left cut

Quantity : _____

Order No : _____

Contact person : _____

Company's stamp & date :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

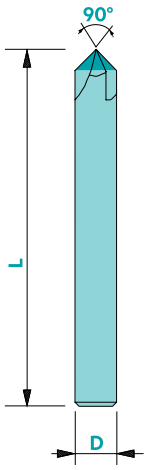
* Without information, the most suitable coating will be applied.

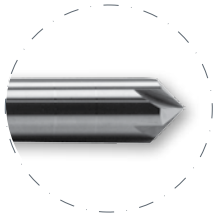
Countersink 90°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - □ adapted ■ highly adapted

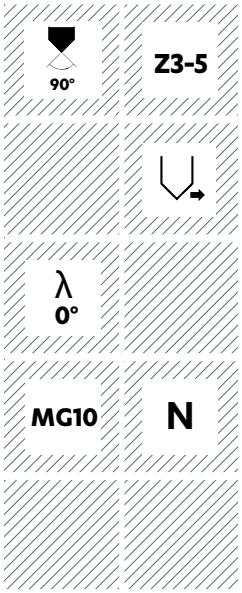
Tolerances D: h5





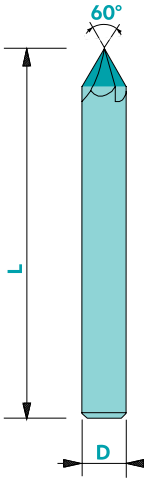
Available uncoated or coated (see page 61)

Art. n°	D	L	Z
120d1.50Z3	1.5	38	3
120d1.50Z5	1.5	38	5
120d2.00Z3	2.0	38	3
120d2.00Z5	2.0	38	5
120d3.00Z3	3.0	38	3
120d3.00Z5	3.0	38	5
120d4.00Z3	4.0	51	3
120d4.00Z5	4.0	51	5
120d5.00Z3	5.0	51	3
120d5.00Z5	5.0	51	5
120d6.00Z3	6.0	51	3
120d6.00Z5	6.0	51	5
120d8.00Z3	8.0	61	3
120d8.00Z5	8.0	61	5
120d10.00Z3	10.0	72	3
120d10.00Z5	10.0	72	5
120d12.00Z3	12.0	83	3
120d12.00Z5	12.0	83	5
120d14.00Z3	14.0	83	3
120d14.00Z5	14.0	83	5
120d15.00Z3	15.0	83	3
120d15.00Z5	15.0	83	5
120d16.00Z3	16.0	92	3
120d16.00Z5	16.0	92	5



120-1 Countersink 60°

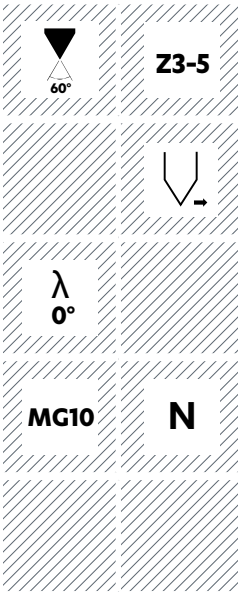
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5



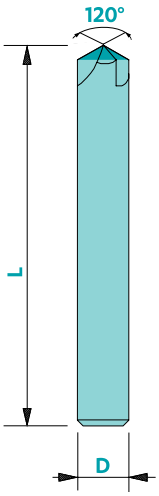
Art. n°	D	L	Z
120-1d1.50Z3	1.5	38	3
120-1d1.50Z5	1.5	38	5
120-1d2.00Z3	2.0	38	3
120-1d2.00Z5	2.0	38	5
120-1d3.00Z3	3.0	38	3
120-1d3.00Z5	3.0	38	5
120-1d4.00Z3	4.0	50	3
120-1d4.00Z5	4.0	50	5
120-1d5.00Z3	5.0	50	3
120-1d5.00Z5	5.0	50	5
120-1d6.00Z3	6.0	50	3
120-1d6.00Z5	6.0	50	5
120-1d8.00Z3	8.0	61	3
120-1d8.00Z5	8.0	61	5
120-1d10.00Z3	10.0	72	3
120-1d10.00Z5	10.0	72	5
120-1d12.00Z3	12.0	83	3
120-1d12.00Z5	12.0	83	5
120-1d14.00Z3	14.0	83	3
120-1d14.00Z5	14.0	83	5
120-1d15.00Z3	15.0	83	3
120-1d15.00Z5	15.0	83	5
120-1d16.00Z3	16.0	92	3
120-1d16.00Z5	16.0	92	5

Countersink 120°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5



Available uncoated or coated (see page 61)

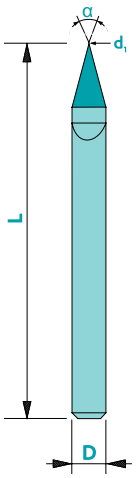
Art. n°	D	L	Z
120-2d1.50Z3	1.5	38	3
120-2d1.50Z5	1.5	38	5
120-2d2.00Z3	2.0	38	3
120-2d2.00Z5	2.0	38	5
120-2d3.00Z3	3.0	38	3
120-2d3.00Z5	3.0	38	5
120-2d4.00Z3	4.0	50	3
120-2d4.00Z5	4.0	50	5
120-2d5.00Z3	5.0	50	3
120-2d5.00Z5	5.0	50	5
120-2d6.00Z3	6.0	50	3
120-2d6.00Z5	6.0	50	5
120-2d8.00Z3	8.0	61	3
120-2d8.00Z5	8.0	61	5
120-2d10.00Z3	10.0	72	3
120-2d10.00Z5	10.0	72	5
120-2d12.00Z3	12.0	83	3
120-2d12.00Z5	12.0	83	5
120-2d14.00Z3	14.0	83	3
120-2d14.00Z5	14.0	83	5
120-2d15.00Z3	15.0	83	3
120-2d15.00Z5	15.0	83	5
120-2d16.00Z3	16.0	92	3
120-2d16.00Z5	16.0	92	5

120° Z3-5

λ 0°

MG10 N

Engraving mill V-shape - flat tip



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 -0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	-	-	□	■	-
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

Available uncoated or coated (see page 61)

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number: 119a##d#.##
Example: End mill ref. 119 with 25° angle and tip diameter 0.05 mm: 119a25d0.05

α*	d_1**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

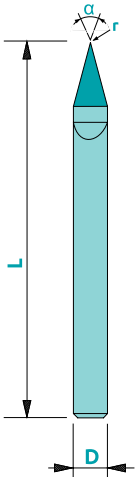
* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, tip diameter, shank) upon request

Engraving mill V-shape - radius on tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances r: +/- 0.005
D: h5

Article number : 119-Ra##r#.##
Example: End mill ref. 119-R with 25° angle and radius 0.05 mm: 119-Ra25r0.05

α*	r**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

*Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
**Available radius: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, radius, shank) upon request

r
0.02-0.20

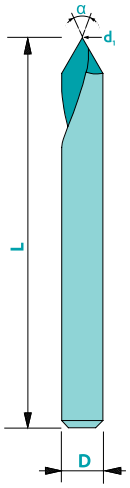
λ
0°

SUB-CARFINE

N

119-2 Helical engraving mill - flat tip

Available uncoated or coated (see page 61)



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

0.02-0.20

λ 24°

SUB-CARFINE

N

Article number : 119-2a##d#.##
Example: End mill ref. 119-2 with 25° angle and tip diameter 0.05 mm: 119-2a25d0.05

α*	d_1**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

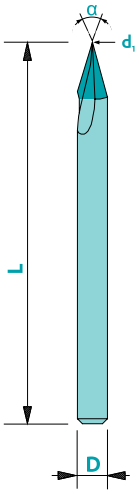
* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, tip diameter, shank) upon request

Engraving mill- ¾ - flat tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances d_1: +/- 0.01
D: h5

Article number : 119-3a##d#.##
Example: End mill ref. 119-3 with 25° angle and tip diameter 0.05 mm: 119-3a25d0.05

α**	d_1**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, tip diameter, shank) upon request

0.02-0.20

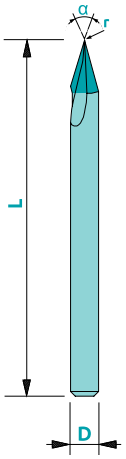
λ 0°

SUB-CARFINE

N

119-3R

Engraving mill - ¾ - radius on tip



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances r: +/- 0.005 D: h5 +0.01/-0.01

Available uncoated or coated (see page 61)

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number : 119-3Ra##r#.##
Example: End mill ref. 119-3R with 25° angle and radius 0.05 mm: 119-3Ra25r0.05

α*	r**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available radius: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

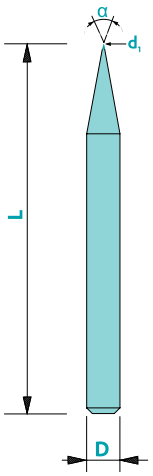
Other dimensions (angle, radius, shank) upon request

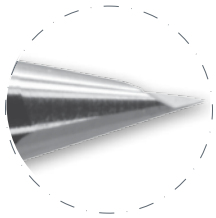
Engraving mill V-shape - reinforced

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5





Available uncoated or coated (see page 61)

Article number : 119-4a##d#.##
Example: End mill ref. 119-4 with 25° angle and tip diameter 0.05 mm: 119-4a25d0.05

α*	d_1**	D	L
15-45°	0.02-0.09	3	33
15-45°	0.10-0.30	3	33
50-140°	0.02-0.09	3	33
50-140°	0.10-0.30	3	33

* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, tip diameter, shank) upon request

0.02-0.20

λ 0°

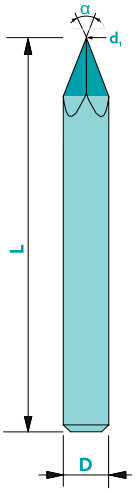
SUB-CARFINE

N

119-5

Engraving mill 4 facets - with flat tip

Available uncoated or coated (see page 61)



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 -0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	-	-	□	■	-
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number : 119-5a##d#.##
Example: End mill ref. 119-5 with 25° angle and tip diameter 0.05 mm: 119-5a25d0.05

α*	d_1**	D	L
30-50°	0.04-0.09	3	33
30-50°	0.10-0.30	3	33
60-140°	0.02-0.09	3	33
60-140°	0.10-0.30	3	33

* Available angles: every 5° between 30° and 50°; every 10° between 60° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

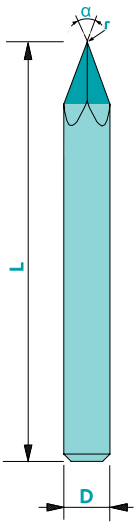
Other dimensions (angle, tip diameter, shank) upon request

Engraving mill 4 facets - radius on tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances r: +/- 0.005
D: h5



Available uncoated or coated (see page 61)

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number. : 119-5Ra###r#.##
Example: End mill ref. 119-5R with 25° angle and radius 0.05 mm: 119-5Ra25d0.05

α*	r**	D	L
30-50°	0.05-0.09	3	33
30-50°	0.10-0.30	3	33
60-140°	0.02-0.09	3	33
60-140°	0.10-0.30	3	33

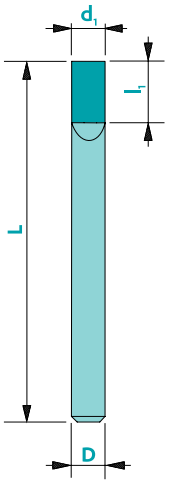
* Available angles: every 5° between 30° and 50°; every 10° between 60° and 140°
** Available radius: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle,radius, shank) upon request

119E

Engraving mill 180° - rough version

Available uncoated only



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

λ
0°

SUB-CARFINE

N

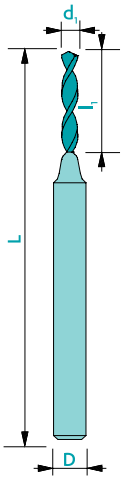
Art. n°	d_1	l_1	D	L
119Ed3.0	3.0	2.5	3	38
119Ed4.0	4.0	2.5	4	38
119Ed5.0	5.0	6.0	5	38
119Ed6.0	6.0	6.0	6	51
119Ed7.0	7.0	8.0	7	51
119Ed8.0	8.0	9.0	8	51
119Ed9.0	9.0	9.0	9	51
119Ed10.0	10.0	9.0	10	51

Index - Drills

EXPERT drill for composite materials

Material	Vc [m/min]
Composite materials	200
Steel < 700 N/mm²	-
Steel > 700 N/mm²	-
Stainless steel	-
Cast iron	-
Copper	-
Brass - Bronze	-
Aluminium	-
Gold - Silver	-
Platinum - Palladium	-
Superalloys	-
Titanium	-

Tolerances d_1: +0/-0.004
D : h5



Available coated only

Art. n°	d_1	l_1	D	L
300d0.50	0.50	8	3	38
300d1.00	1.00	10	3	38
300d1.50	1.50	10	3	38
300d2.00	2.00	10	3	38
300d3.00	3.00	12	3	38
300d6.00	6.00	18	6	51

Other dimensions available upon request

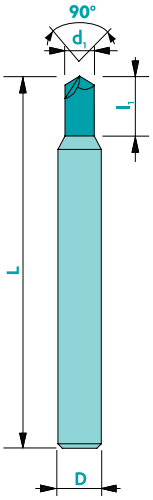
Z2

MG

N
HSC

330-90

Centering & Chamfering tool 90°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 3$ ▶ +/-0.01 l_1: +0.2/-0
$d_1 = 3$ ▶ h5 D: h5

Available uncoated or coated (see page 61)

90° **Z2**

γ **0°**

MG10 **N**

Art. n°	d_1	l_1	D	L
330-90d0.40	0.40	2.0	3.0	38
330-90d0.50	0.50	2.0	3.0	38
330-90d0.60	0.60	2.0	3.0	38
330-90d0.70	0.70	2.0	3.0	38
330-90d0.80	0.80	2.0	3.0	38
330-90d0.90	0.90	2.0	3.0	38
330-90d1.00	1.00	2.0	3.0	38
330-90d1.10	1.10	2.0	3.0	38
330-90d1.20	1.20	2.0	3.0	38
330-90d1.30	1.30	2.5	3.0	38
330-90d1.40	1.40	2.5	3.0	38
330-90d1.50	1.50	3.0	3.0	38
330-90d1.60	1.60	3.0	3.0	38
330-90d1.70	1.70	3.0	3.0	38
330-90d1.80	1.80	3.0	3.0	38
330-90d1.90	1.90	3.0	3.0	38
330-90d2.00	2.00	4.0	3.0	38
330-90d2.50	2.50	4.5	3.0	38
330-90d3.00	3.00	-	3.0	38

Centering

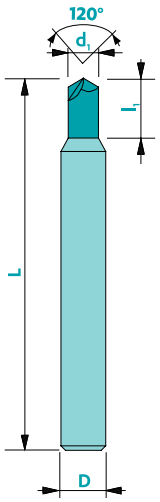
Chamfering

Centering & Chamfering tool 120°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

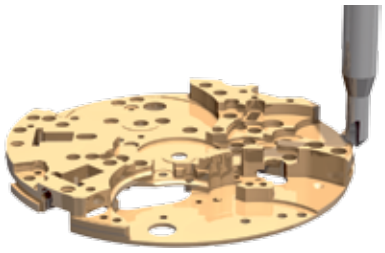
Tolerances $d_1 \leq 3$ ▶ +/-0.01 l_1: +0.2/-0
$d_1 = 3$ ▶ h5 D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
330-120d0.60	0.60	2.0	3.0	38
330-120d0.70	0.70	2.0	3.0	38
330-120d0.80	0.80	2.0	3.0	38
330-120d0.90	0.90	2.0	3.0	38
330-120d1.00	1.00	2.0	3.0	38
330-120d1.10	1.10	2.0	3.0	38
330-120d1.20	1.20	2.0	3.0	38
330-120d1.30	1.30	2.5	3.0	38
330-120d1.40	1.40	2.5	3.0	38
330-120d1.50	1.50	3.0	3.0	38
330-120d1.60	1.60	3.0	3.0	38
330-120d1.70	1.70	3.0	3.0	38
330-120d1.80	1.80	3.0	3.0	38
330-120d1.90	1.90	3.0	3.0	38
330-120d2.00	2.00	4.0	3.0	38
330-120d2.50	2.50	4.5	3.0	38
330-120d3.00	3.00	-	3.0	38

Centering



Chamfering

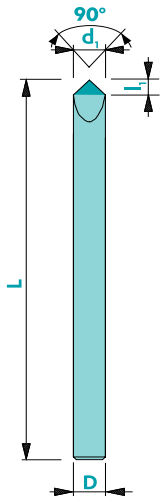
120° | Z2

γ 0°

MG10 | N

331-90

Pyramid center drill



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	60	70	□	■	Nemo
Cast iron	30	35	□	■	Nemo
Copper	-	-	-	-	-
Brass - Bronze	80	120	■	■	Solo
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	25	-	■	Trio
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

90° Z2

γ 0°

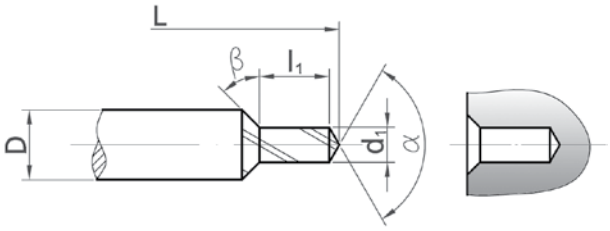
MG10 N

Tolerances $d_1 \leq 3$ ▶ +/-0.01 $d_1 = 3$ ▶ h5 l_1: +0.2/-0 D: h5

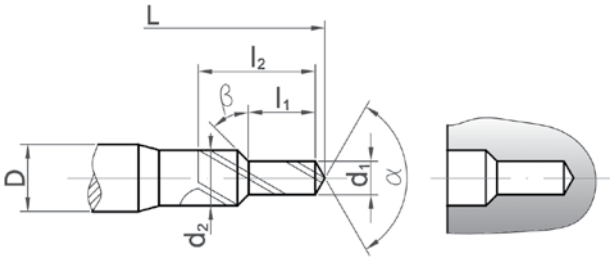
Art. n°	d_1	l_1	D	L
331-90d0.40	0.40	2.0	3.0	38
331-90d0.50	0.50	2.0	3.0	38
331-90d0.60	0.60	2.0	3.0	38
331-90d0.70	0.70	2.0	3.0	38
331-90d0.80	0.80	2.0	3.0	38
331-90d0.90	0.90	2.0	3.0	38
331-90d1.00	1.00	2.0	3.0	38
331-90d1.10	1.10	2.0	3.0	38
331-90d1.20	1.20	2.0	3.0	38
331-90d1.30	1.30	2.5	3.0	38
331-90d1.40	1.40	2.5	3.0	38
331-90d1.50	1.50	3.0	3.0	38
331-90d1.60	1.60	3.0	3.0	38
331-90d1.70	1.70	3.0	3.0	38
331-90d1.80	1.80	3.0	3.0	38
331-90d1.90	1.90	3.0	3.0	38
331-90d2.00	2.00	4.0	3.0	38
331-90d2.50	2.50	4.5	3.0	38
331-90d3.00	3.00	-	3.0	38

Step drill in solid carbide

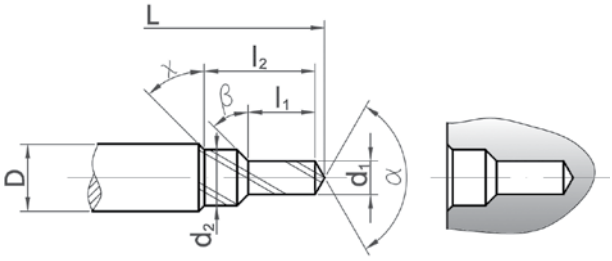
Type A



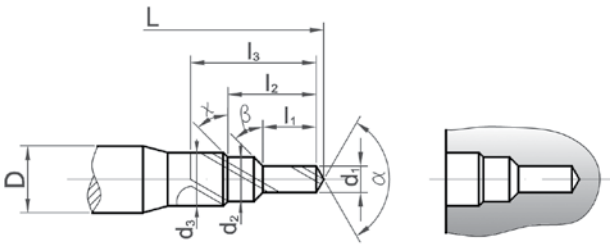
Type B



Type C



Type D



☐ **Order** ☐ **Quotation request**

☐ **Type A** ☐ **Type B** ☐ **Type C** ☐ **Type D**

Dimensions :

D : _____ L : _____ α : _____

d_1 : _____ l_1 : _____ β : _____

d_2 : _____ l_2 : _____ χ : _____

d_3 : _____ l_3 : _____ Z : ☐ 1 ☐ 2 ☐ 3

Helix angle :

☐ 24° for brass and steel

☐ 34° for stainless steel, synthetic and aluminium

Quantity :

_____

Coolant holes ?

☐ Yes

☐ No

Coating :

☐ Uncoated

☐ Coated * :

_____

Machined material :

_____

Order No :

_____

Company's stamp & date :

_____

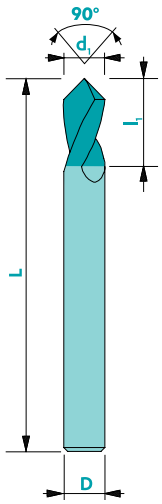
Contact person :

_____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

* Without information, the most suitable Coating will be applied.

NC Center drill 90°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

90° | Z2 | λ 24° | MG10 | N

Art. n°	d_1	l_1	D	L
337d0.40	0.40	2.0	2.0	38
337d0.50	0.50	2.0	2.0	38
337d0.55	0.55	2.0	2.0	38
337d0.60	0.60	2.0	2.0	38
337d0.65	0.65	2.0	2.0	38
337d0.70	0.70	2.0	2.0	38
337d0.75	0.75	2.0	2.0	38
337d0.80	0.80	3.0	2.0	38
337d0.85	0.85	3.0	2.0	38
337d0.90	0.90	3.0	2.0	38
337d0.95	0.95	3.0	2.0	38
337d1.00	1.00	3.0	2.0	38
337d1.05	1.05	3.0	2.0	38
337d1.10	1.10	3.0	2.0	38
337d1.15	1.15	3.0	2.0	38
337d1.20	1.20	3.0	2.0	38
337d1.25	1.25	3.0	2.0	38
337d1.30	1.30	3.0	2.0	38
337d1.35	1.35	3.0	2.0	38
337d1.40	1.40	3.0	2.0	38
337d1.45	1.45	3.0	2.0	38
337d1.50	1.50	5.0	2.0	38
337d1.60	1.60	5.0	2.0	38
337d1.70	1.70	5.0	2.0	38
337d1.80	1.80	5.0	2.0	38
337d1.90	1.90	5.0	2.0	38
337d2.00	2.00	8.0	2.0	38

Art. n°	d_1	l_1	D	L
337d2.50	2.50	8.0	2.5	38
337d3.00	3.00	10.0	3.0	44
337d4.00	4.00	12.0	4.0	50
337d5.00	5.00	12.0	5.0	50
337d6.00	6.00	15.0	6.0	61
337d8.00	8.00	20.0	8.0	72
337d10.00	10.00	20.0	10.0	72
337d12.00	12.00	25.0	12.0	83
337d16.00	16.00	25.0	16.0	83
337d20.00	20.00	35.0	20.0	104

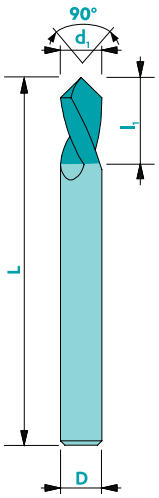
NC Center drill 90° - left-hand cut

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

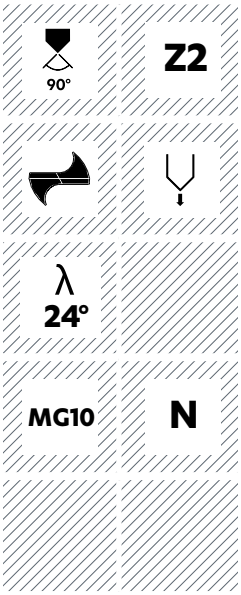
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



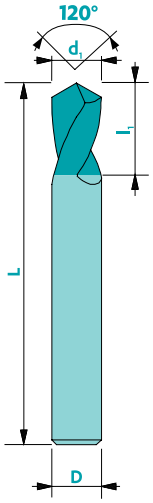
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
337-1d0.80	0.80	3.0	2.0	38
337-1d0.90	0.90	3.0	2.0	38
337-1d1.00	1.00	3.0	2.0	38
337-1d1.10	1.10	3.0	2.0	38
337-1d1.20	1.20	3.0	2.0	38
337-1d1.30	1.30	3.0	2.0	38
337-1d1.40	1.40	3.0	2.0	38
337-1d1.50	1.50	5.0	2.0	38
337-1d1.60	1.60	5.0	2.0	38
337-1d1.70	1.70	5.0	2.0	38
337-1d1.80	1.80	5.0	2.0	38
337-1d1.90	1.90	5.0	2.0	38
337-1d2.00	2.00	8.0	2.0	38
337-1d2.50	2.50	8.0	2.5	38
337-1d3.00	3.00	10.0	3.0	44
337-1d4.00	4.00	12.0	4.0	50
337-1d5.00	5.00	12.0	5.0	50
337-1d6.00	6.00	15.0	6.0	61
337-1d8.00	8.00	20.0	8.0	72
337-1d10.00	10.00	20.0	10.0	72



337-2

NC Center drill 120°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

120° | Z2

λ 24° | MG10 | N

Art. n°	d_1	l_1	D	L
337-2d0.50	0.50	2.0	2.0	38
337-2d0.55	0.55	2.0	2.0	38
337-2d0.60	0.60	2.0	2.0	38
337-2d0.65	0.65	2.0	2.0	38
337-2d0.70	0.70	2.0	2.0	38
337-2d0.75	0.75	2.0	2.0	38
337-2d0.80	0.80	3.0	2.0	38
337-2d0.85	0.85	3.0	2.0	38
337-2d0.90	0.90	3.0	2.0	38
337-2d0.95	0.95	3.0	2.0	38
337-2d1.00	1.00	3.0	2.0	38
337-2d1.05	1.05	3.0	2.0	38
337-2d1.10	1.10	3.0	2.0	38
337-2d1.15	1.15	3.0	2.0	38
337-2d1.20	1.20	3.0	2.0	38
337-2d1.25	1.25	3.0	2.0	38
337-2d1.30	1.30	3.0	2.0	38
337-2d1.35	1.35	3.0	2.0	38
337-2d1.40	1.40	3.0	2.0	38
337-2d1.45	1.45	3.0	2.0	38
337-2d1.50	1.50	5.0	2.0	38
337-2d1.60	1.60	5.0	2.0	38
337-2d1.70	1.70	5.0	2.0	38
337-2d1.80	1.80	5.0	2.0	38
337-2d1.90	1.90	5.0	2.0	38
337-2d2.00	2.00	8.0	2.0	38
337-2d2.50	2.50	8.0	2.5	38

Art. n°	d_1	l_1	D	L
337-2d3.00	3.00	10.0	3.0	44
337-2d4.00	4.00	12.0	4.0	50
337-2d5.00	5.00	12.0	5.0	50
337-2d6.00	6.00	15.0	6.0	61
337-2d8.00	8.00	20.0	8.0	72
337-2d10.00	10.00	20.0	10.0	72
337-2d12.00	12.00	25.0	12.0	83
337-2d16.00	16.00	25.0	16.0	83
337-2d20.00	20.00	35.0	20.0	104

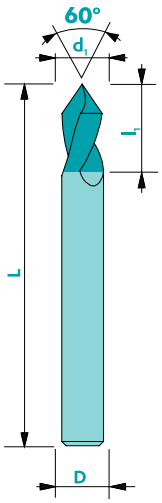
NC Center drill 60°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

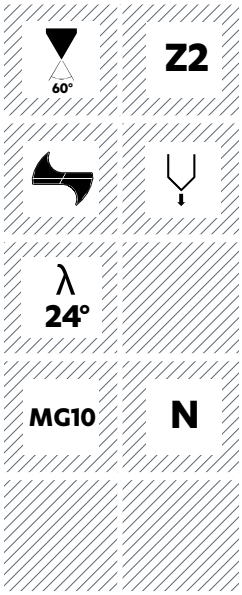
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

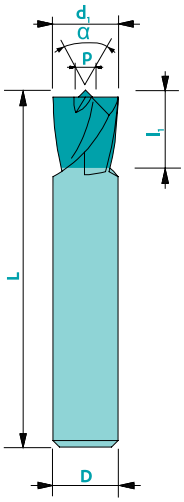


Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
337-3d0.50	0.50	3.0	2.0	38
337-3d0.60	0.60	3.0	2.0	38
337-3d0.70	0.70	3.0	2.0	38
337-3d0.80	0.80	3.0	2.0	38
337-3d0.90	0.90	3.0	2.0	38
337-3d1.00	1.00	3.0	2.0	38
337-3d1.10	1.10	3.0	2.0	38
337-3d1.20	1.20	3.0	2.0	38
337-3d1.30	1.30	3.0	2.0	38
337-3d1.40	1.40	3.0	2.0	38
337-3d1.50	1.50	5.0	2.0	38
337-3d1.60	1.60	5.0	2.0	38
337-3d1.70	1.70	5.0	2.0	38
337-3d1.80	1.80	5.0	2.0	38
337-3d1.90	1.90	5.0	2.0	38
337-3d2.00	2.00	8.0	2.0	38
337-3d2.50	2.50	8.0	2.5	38
337-3d3.00	3.00	10.0	3.0	44
337-3d4.00	4.00	12.0	4.0	50
337-3d5.00	5.00	12.0	5.0	50
337-3d6.00	6.00	15.0	6.0	61
337-3d8.00	8.00	20.0	8.0	72
337-3d10.00	10.00	20.0	10.0	72
337-3d12.00	12.00	25.0	12.0	83
337-3d16.00	16.00	25.0	16.0	83
337-3d20.00	20.00	35.0	20.0	104



Twist drill with centering tip



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

Z2

λ 24°

MG10 N

Art. n°	d_1	l_1	D	L
338d2.00	2.00	8.0	3	33
338d2.10	2.10	8.0	3	33
338d2.20	2.20	8.0	3	33
338d2.30	2.30	8.0	3	33
338d2.40	2.40	8.0	3	33
338d2.50	2.50	8.0	3	33
338d2.60	2.60	8.0	3	33
338d2.70	2.70	8.0	3	33
338d2.80	2.80	8.0	3	33
338d2.90	2.90	8.0	3	33
338d3.00	3.00	8.0	3	33
338d3.10	3.10	8.0	4	33
338d3.20	3.20	8.0	4	33
338d3.30	3.30	8.0	4	33
338d3.40	3.40	8.0	4	33
338d3.50	3.50	8.0	4	33
338d3.60	3.60	8.0	4	33
338d3.70	3.70	8.0	4	33
338d3.80	3.80	8.0	4	33
338d3.90	3.90	8.0	4	33
338d4.00	4.00	8.0	4	33
338d4.10	4.10	8.0	5	33
338d4.20	4.20	8.0	5	33
338d4.30	4.30	8.0	5	33
338d4.40	4.40	8.0	5	33
338d4.50	4.50	8.0	5	33
338d4.60	4.60	8.0	5	33
338d4.70	4.70	8.0	5	33
338d4.80	4.80	8.0	5	33

Art. n°	d_1	l_1	D	L
338d4.90	4.90	8.0	5	33
338d5.00	5.00	8.0	5	33
338d5.10	5.10	8.0	6	33
338d5.20	5.20	8.0	6	33
338d5.30	5.30	8.0	6	33
338d5.40	5.40	8.0	6	33
338d5.50	5.50	8.0	6	33
338d5.60	5.60	8.0	6	33
338d5.70	5.70	8.0	6	33
338d5.80	5.80	8.0	6	33
338d5.90	5.90	8.0	6	33
338d6.00	6.00	8.0	6	33
338d6.50	6.50	8.0	7	33
338d7.00	7.00	8.0	7	33
338d7.50	7.50	8.0	8	33
338d8.00	8.00	8.0	8	33

Centering tip diameter*:

Ø P : _____

Centering tip angle (α)*:

☐ 90° ☐ 120° ☐ Other : _____

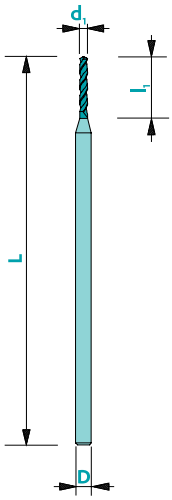
* Unless you specify otherwise, the diameter of the centering tip will be ⅓ of d_1 and the point angle will be 120°

Micro twist drill - helix 24°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.002/-0.004
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
339d0.05	0.05	0.35	1	30
339d0.06	0.06	0.40	1	30
339d0.07	0.07	0.50	1	30
339d0.08	0.08	0.60	1	30
339d0.09	0.09	0.65	1	30
339d0.10	0.10	0.70	1	30
339d0.11	0.11	0.70	1	30
339d0.12	0.12	0.70	1	30
339d0.13	0.13	0.70	1	30
339d0.14	0.14	0.70	1	30
339d0.15	0.15	1.00	1	30
339d0.16	0.16	1.00	1	30
339d0.17	0.17	1.00	1	30
339d0.18	0.18	1.00	1	30
339d0.19	0.19	1.00	1	30
339d0.20	0.20	1.00	1	30
339d0.21	0.21	1.00	1	30
339d0.22	0.22	1.00	1	30
339d0.23	0.23	1.00	1	30
339d0.24	0.24	1.00	1	30
339d0.25	0.25	1.00	1	30
339d0.26	0.26	1.00	1	30
339d0.27	0.27	1.00	1	30
339d0.28	0.28	1.00	1	30
339d0.29	0.29	1.00	1	30
339d0.30	0.30	1.50	1	30

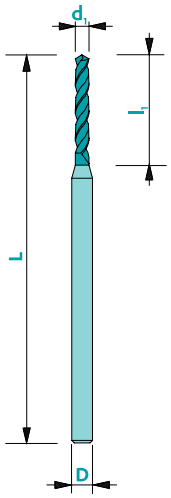
Art. n°	d_1	l_1	D	L
339d0.31	0.31	1.50	1	30
339d0.32	0.32	1.50	1	30
339d0.33	0.33	1.50	1	30
339d0.34	0.34	1.50	1	30
339d0.35	0.35	1.50	1	30
339d0.36	0.36	1.50	1	30
339d0.37	0.37	1.50	1	30
339d0.38	0.38	1.50	1	30
339d0.39	0.39	1.50	1	30
339d0.40	0.40	2.00	1	30
339d0.41	0.41	2.00	1	30
339d0.42	0.42	2.00	1	30
339d0.43	0.43	2.00	1	30
339d0.44	0.44	2.00	1	30
339d0.45	0.45	3.50	1	30
339d0.46	0.46	3.50	1	30
339d0.47	0.47	3.50	1	30
339d0.48	0.48	3.50	1	30
339d0.49	0.49	4.00	1	30
339d0.50	0.50	4.00	1	30

118° Z2

λ 24°

MG10 N

Micro twist drill - helix 34°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.002/-0.004
D: h5

Available uncoated or coated (see page 61)

118° | Z2 | λ 34° | MG10 | N

Art. n°	d_1	l_1	D	L
340d0.50	0.50	4.0	1.5	30
340d0.51	0.51	4.0	1.5	30
340d0.52	0.52	4.0	1.5	30
340d0.53	0.53	4.0	1.5	30
340d0.54	0.54	4.0	1.5	30
340d0.55	0.55	4.0	1.5	30
340d0.56	0.56	4.0	1.5	30
340d0.57	0.57	4.0	1.5	30
340d0.58	0.58	4.0	1.5	30
340d0.59	0.59	4.0	1.5	30
340d0.60	0.60	5.0	1.5	30
340d0.61	0.61	5.0	1.5	30
340d0.62	0.62	5.0	1.5	30
340d0.63	0.63	5.0	1.5	30
340d0.64	0.64	5.0	1.5	30
340d0.65	0.65	5.0	1.5	30
340d0.66	0.66	5.0	1.5	30
340d0.67	0.67	5.0	1.5	30
340d0.68	0.68	5.0	1.5	30
340d0.69	0.69	5.0	1.5	30
340d0.70	0.70	5.0	1.5	30
340d0.71	0.71	5.0	1.5	30
340d0.72	0.72	5.0	1.5	30
340d0.73	0.73	5.0	1.5	30
340d0.74	0.74	5.0	1.5	30
340d0.75	0.75	5.0	1.5	30
340d0.76	0.76	5.0	1.5	30
340d0.77	0.77	5.0	1.5	30
340d0.78	0.78	5.0	1.5	30
340d0.79	0.79	5.0	1.5	30
340d0.80	0.80	6.0	1.5	30

Art. n°	d_1	l_1	D	L
340d0.81	0.81	6.0	1.5	30
340d0.82	0.82	6.0	1.5	30
340d0.83	0.83	6.0	1.5	30
340d0.84	0.84	6.0	1.5	30
340d0.85	0.85	6.0	1.5	30
340d0.86	0.86	6.0	1.5	30
340d0.87	0.87	6.0	1.5	30
340d0.88	0.88	6.0	1.5	30
340d0.89	0.89	6.0	1.5	30
340d0.90	0.90	7.0	1.5	30
340d0.91	0.91	7.0	1.5	30
340d0.92	0.92	7.0	1.5	30
340d0.93	0.93	7.0	1.5	30
340d0.94	0.94	7.0	1.5	30
340d0.95	0.95	7.0	1.5	30
340d0.96	0.96	7.0	1.5	30
340d0.97	0.97	7.0	1.5	30
340d0.98	0.98	7.0	1.5	30
340d0.99	0.99	7.0	1.5	30
340d1.00	1.00	8.0	1.5	30
340d1.01	1.01	8.0	1.5	30
340d1.02	1.02	8.0	1.5	30
340d1.03	1.03	8.0	1.5	30
340d1.04	1.04	8.0	1.5	30
340d1.05	1.05	8.0	1.5	30
340d1.06	1.06	8.0	1.5	30
340d1.07	1.07	8.0	1.5	30
340d1.08	1.08	8.0	1.5	30

Micro twist drill - helix 34°

Art. n°	d_1	l_1	D	L
340d1.09	1.09	8.0	1.5	30
340d1.10	1.10	9.0	1.5	30
340d1.11	1.11	9.0	1.5	30
340d1.12	1.12	9.0	1.5	30
340d1.13	1.13	9.0	1.5	30
340d1.14	1.14	9.0	1.5	30
340d1.15	1.15	9.0	1.5	30
340d1.16	1.16	9.0	1.5	30
340d1.17	1.17	9.0	1.5	30
340d1.18	1.18	9.0	1.5	30
340d1.19	1.19	9.0	1.5	30
340d1.20	1.20	10.0	1.5	30
340d1.21	1.21	10.0	1.5	30
340d1.22	1.22	10.0	1.5	30
340d1.23	1.23	10.0	1.5	30
340d1.24	1.24	10.0	1.5	30
340d1.25	1.25	10.0	1.5	30
340d1.26	1.26	10.0	1.5	30
340d1.27	1.27	10.0	1.5	30
340d1.28	1.28	10.0	1.5	30
340d1.29	1.29	10.0	1.5	30
340d1.30	1.30	10.0	1.5	30
340d1.31	1.31	10.0	1.5	30
340d1.32	1.32	10.0	1.5	30
340d1.33	1.33	10.0	1.5	30
340d1.34	1.34	10.0	1.5	30
340d1.35	1.35	11.0	1.5	30
340d1.36	1.36	11.0	1.5	30
340d1.37	1.37	11.0	1.5	30
340d1.38	1.38	11.0	1.5	30
340d1.39	1.39	11.0	1.5	30
340d1.40	1.40	11.0	1.5	30
340d1.41	1.41	11.0	1.5	30
340d1.42	1.42	11.0	1.5	30
340d1.43	1.43	11.0	1.5	30
340d1.44	1.44	11.0	1.5	30
340d1.45	1.45	11.0	1.5	30
340d1.46	1.46	11.0	1.5	30
340d1.47	1.47	11.0	1.5	30
340d1.48	1.48	11.0	1.5	30
340d1.49	1.49	11.0	1.5	30

Available uncoated or coated (see page 61)

118°

Z2

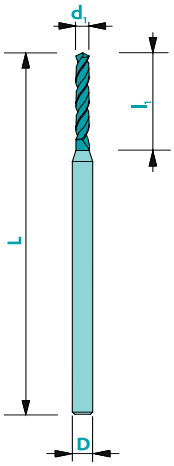
λ 34°

MG10

N

340-1

Twist drill - helix 24°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.002/-0.004
D: h5

Available uncoated or coated (see page 61)

118° | Z2 | λ 24° | MG10 | N

Art. n°	d_1	l_1	D	L
340-1d0.40	0.40	3.0	1.5	30
340-1d0.41	0.41	3.0	1.5	30
340-1d0.42	0.42	3.0	1.5	30
340-1d0.43	0.43	3.0	1.5	30
340-1d0.44	0.44	3.0	1.5	30
340-1d0.45	0.45	3.0	1.5	30
340-1d0.46	0.46	3.0	1.5	30
340-1d0.47	0.47	3.0	1.5	30
340-1d0.48	0.48	3.0	1.5	30
340-1d0.49	0.49	3.0	1.5	30
340-1d0.50	0.50	4.0	1.5	30
340-1d0.51	0.51	4.0	1.5	30
340-1d0.52	0.52	4.0	1.5	30
340-1d0.53	0.53	4.0	1.5	30
340-1d0.54	0.54	4.0	1.5	30
340-1d0.55	0.55	4.0	1.5	30
340-1d0.56	0.56	4.0	1.5	30
340-1d0.57	0.57	4.0	1.5	30
340-1d0.58	0.58	4.0	1.5	30
340-1d0.59	0.59	4.0	1.5	30
340-1d0.60	0.60	5.0	1.5	30
340-1d0.61	0.61	5.0	1.5	30
340-1d0.62	0.62	5.0	1.5	30
340-1d0.63	0.63	5.0	1.5	30
340-1d0.64	0.64	5.0	1.5	30
340-1d0.65	0.65	5.0	1.5	30
340-1d0.66	0.66	5.0	1.5	30
340-1d0.67	0.67	5.0	1.5	30
340-1d0.68	0.68	5.0	1.5	30
340-1d0.69	0.69	5.0	1.5	30
340-1d0.70	0.70	5.0	1.5	30

Art. n°	d_1	l_1	D	L
340-1d0.71	0.71	5.0	1.5	30
340-1d0.72	0.72	5.0	1.5	30
340-1d0.73	0.73	5.0	1.5	30
340-1d0.74	0.74	5.0	1.5	30
340-1d0.75	0.75	5.0	1.5	30
340-1d0.76	0.76	5.0	1.5	30
340-1d0.77	0.77	5.0	1.5	30
340-1d0.78	0.78	5.0	1.5	30
340-1d0.79	0.79	5.0	1.5	30
340-1d0.80	0.80	6.0	1.5	30
340-1d0.81	0.81	6.0	1.5	30
340-1d0.82	0.82	6.0	1.5	30
340-1d0.83	0.83	6.0	1.5	30
340-1d0.84	0.84	6.0	1.5	30
340-1d0.85	0.85	6.0	1.5	30
340-1d0.86	0.86	6.0	1.5	30
340-1d0.87	0.87	6.0	1.5	30
340-1d0.88	0.88	6.0	1.5	30
340-1d0.89	0.89	6.0	1.5	30
340-1d0.90	0.90	7.0	1.5	30
340-1d0.91	0.91	7.0	1.5	30
340-1d0.92	0.92	7.0	1.5	30
340-1d0.93	0.93	7.0	1.5	30
340-1d0.94	0.94	7.0	1.5	30
340-1d0.95	0.95	7.0	1.5	30
340-1d0.96	0.96	7.0	1.5	30
340-1d0.97	0.97	7.0	1.5	30
340-1d0.98	0.98	7.0	1.5	30
340-1d0.99	0.99	7.0	1.5	30

Twist drill - helix 24°

Art. n°	d_1	l_1	D	L
340-1d1.00	1.00	8.0	1.5	30
340-1d1.01	1.01	8.0	1.5	30
340-1d1.02	1.02	8.0	1.5	30
340-1d1.03	1.03	8.0	1.5	30
340-1d1.04	1.04	8.0	1.5	30
340-1d1.05	1.05	8.0	1.5	30
340-1d1.06	1.06	8.0	1.5	30
340-1d1.07	1.07	8.0	1.5	30
340-1d1.08	1.08	8.0	1.5	30
340-1d1.09	1.09	8.0	1.5	30
340-1d1.10	1.10	9.0	1.5	30
340-1d1.11	1.11	9.0	1.5	30
340-1d1.12	1.12	9.0	1.5	30
340-1d1.13	1.13	9.0	1.5	30
340-1d1.14	1.14	9.0	1.5	30
340-1d1.15	1.15	9.0	1.5	30
340-1d1.16	1.16	9.0	1.5	30
340-1d1.17	1.17	9.0	1.5	30
340-1d1.18	1.18	9.0	1.5	30
340-1d1.19	1.19	9.0	1.5	30
340-1d1.20	1.20	10.0	1.5	30
340-1d1.21	1.21	10.0	1.5	30
340-1d1.22	1.22	10.0	1.5	30
340-1d1.23	1.23	10.0	1.5	30
340-1d1.24	1.24	10.0	1.5	30
340-1d1.25	1.25	10.0	1.5	30
340-1d1.26	1.26	10.0	1.5	30
340-1d1.27	1.27	10.0	1.5	30
340-1d1.28	1.28	10.0	1.5	30
340-1d1.29	1.29	10.0	1.5	30
340-1d1.30	1.30	10.0	1.5	30
340-1d1.31	1.31	10.0	1.5	30
340-1d1.32	1.32	10.0	1.5	30
340-1d1.33	1.33	10.0	1.5	30
340-1d1.34	1.34	10.0	1.5	30
340-1d1.35	1.35	11.0	1.5	30
340-1d1.36	1.36	11.0	1.5	30
340-1d1.37	1.37	11.0	1.5	30
340-1d1.38	1.38	11.0	1.5	30
340-1d1.39	1.39	11.0	1.5	30
340-1d1.40	1.40	11.0	1.5	30
340-1d1.41	1.41	11.0	1.5	30
340-1d1.42	1.42	11.0	1.5	30
340-1d1.43	1.43	11.0	1.5	30

Art. n°	d_1	l_1	D	L
340-1d1.44	1.44	11.0	1.5	30
340-1d1.45	1.45	11.0	1.5	30
340-1d1.46	1.46	11.0	1.5	30
340-1d1.47	1.47	11.0	1.5	30
340-1d1.48	1.48	11.0	1.5	30
340-1d1.49	1.49	11.0	1.5	30
340-1d1.50	1.50	12.0	2.0	38
340-1d1.51	1.51	12.0	2.0	38
340-1d1.52	1.52	12.0	2.0	38
340-1d1.53	1.53	12.0	2.0	38
340-1d1.54	1.54	12.0	2.0	38
340-1d1.55	1.55	12.0	2.0	38
340-1d1.56	1.56	12.0	2.0	38
340-1d1.57	1.57	12.0	2.0	38
340-1d1.58	1.58	12.0	2.0	38
340-1d1.59	1.59	12.0	2.0	38
340-1d1.60	1.60	12.0	2.0	38
340-1d1.61	1.61	12.0	2.0	38
340-1d1.62	1.62	12.0	2.0	38
340-1d1.63	1.63	12.0	2.0	38
340-1d1.64	1.64	12.0	2.0	38
340-1d1.65	1.65	12.0	2.0	38
340-1d1.66	1.66	12.0	2.0	38
340-1d1.67	1.67	12.0	2.0	38
340-1d1.68	1.68	12.0	2.0	38
340-1d1.69	1.69	12.0	2.0	38
340-1d1.70	1.70	12.0	2.0	38
340-1d1.71	1.71	12.0	2.0	38
340-1d1.72	1.72	12.0	2.0	38
340-1d1.73	1.73	12.0	2.0	38
340-1d1.74	1.74	12.0	2.0	38
340-1d1.75	1.75	12.0	2.0	38
340-1d1.76	1.76	12.0	2.0	38
340-1d1.77	1.77	12.0	2.0	38
340-1d1.78	1.78	12.0	2.0	38
340-1d1.79	1.79	12.0	2.0	38
340-1d1.80	1.80	12.0	2.0	38
340-1d1.81	1.81	12.0	2.0	38
340-1d1.82	1.82	12.0	2.0	38
340-1d1.83	1.83	12.0	2.0	38
340-1d1.84	1.84	12.0	2.0	38
340-1d1.85	1.85	12.0	2.0	38
340-1d1.86	1.86	12.0	2.0	38
340-1d1.87	1.87	12.0	2.0	38

Available uncoated or coated (see page 61)

118°

Z2

λ 24°

MG10

N

Twist drill - helix 24°

Available uncoated or coated (see page 61)

118°

Z2

λ 24°

MG10

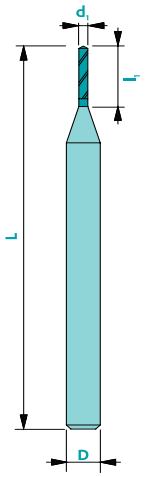
N

Art. n°	d_1	l_1	D	L
340-1d1.88	**1.88**	**12.0**	2.0	38
340-1d1.89	**1.89**	**12.0**	2.0	38
340-1d1.90	**1.90**	**12.0**	2.0	38
340-1d1.91	**1.91**	**12.0**	2.0	38
340-1d1.92	**1.92**	**12.0**	2.0	38
340-1d1.93	**1.93**	**12.0**	2.0	38
340-1d1.94	**1.94**	**12.0**	2.0	38
340-1d1.95	**1.95**	**12.0**	2.0	38
340-1d1.96	**1.96**	**12.0**	2.0	38
340-1d1.97	**1.97**	**12.0**	2.0	38
340-1d1.98	**1.98**	**12.0**	2.0	38
340-1d1.99	**1.99**	**12.0**	2.0	38

Micro twist drill - helix 34° - shank Ø3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■



Tolerances d_1: -0.002/-0.004
D: h5

Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
342d0.05	0.05	0.30	3	38
342d0.06	0.06	0.40	3	38
342d0.07	0.07	0.40	3	38
342d0.08	0.08	0.50	3	38
342d0.09	0.09	0.50	3	38
342d0.10	0.10	0.50	3	38
342d0.11	0.11	0.50	3	38
342d0.12	0.12	0.50	3	38
342d0.13	0.13	0.50	3	38
342d0.14	0.14	0.50	3	38
342d0.15	0.15	0.80	3	38
342d0.16	0.16	0.80	3	38
342d0.17	0.17	0.80	3	38
342d0.18	0.18	0.80	3	38
342d0.19	0.19	0.80	3	38
342d0.20	0.20	0.80	3	38
342d0.21	0.21	1.00	3	38
342d0.22	0.22	1.00	3	38
342d0.23	0.23	1.00	3	38
342d0.24	0.24	1.00	3	38
342d0.25	0.25	1.00	3	38
342d0.26	0.26	1.50	3	38
342d0.27	0.27	1.50	3	38
342d0.28	0.28	1.50	3	38
342d0.29	0.29	1.50	3	38
342d0.30	0.30	1.50	3	38
342d0.31	0.31	2.00	3	38
342d0.32	0.32	2.00	3	38
342d0.33	0.33	2.00	3	38

Art. n°	d_1	l_1	D	L
342d0.34	0.34	2.00	3	38
342d0.35	0.35	2.00	3	38
342d0.36	0.36	3.00	3	38
342d0.37	0.37	3.00	3	38
342d0.38	0.38	3.00	3	38
342d0.39	0.39	3.00	3	38
342d0.40	0.40	3.00	3	38
342d0.41	0.41	3.00	3	38
342d0.42	0.42	3.00	3	38
342d0.43	0.43	3.00	3	38
342d0.44	0.44	3.00	3	38
342d0.45	0.45	3.00	3	38
342d0.46	0.46	3.00	3	38
342d0.47	0.47	4.00	3	38
342d0.48	0.48	4.00	3	38
342d0.49	0.49	4.00	3	38
342d0.50	0.50	4.00	3	38
342d0.51	0.51	4.00	3	38
342d0.52	0.52	4.00	3	38
342d0.53	0.53	4.00	3	38
342d0.54	0.54	4.00	3	38
342d0.55	0.55	4.00	3	38
342d0.56	0.56	4.00	3	38
342d0.57	0.57	4.00	3	38
342d0.58	0.58	4.00	3	38
342d0.59	0.59	4.00	3	38
342d0.60	0.60	4.00	3	38
342d0.61	0.61	5.00	3	38
342d0.62	0.62	5.00	3	38

118° Z2

λ 34°

MG10 N

Micro twist drill - helix 34° - shank Ø3

Available uncoated or coated (see page 61)

118°

Z2

λ 34°

MG10

N

Art. n°	d_1	l_1	D	L
342d0.63	0.63	5.00	3	38
342d0.64	0.64	5.00	3	38
342d0.65	0.65	5.00	3	38
342d0.66	0.66	5.00	3	38
342d0.67	0.67	5.00	3	38
342d0.68	0.68	5.00	3	38
342d0.69	0.69	5.00	3	38
342d0.70	0.70	5.00	3	38
342d0.71	0.71	5.00	3	38
342d0.72	0.72	5.00	3	38
342d0.73	0.73	5.00	3	38
342d0.74	0.74	5.00	3	38
342d0.75	0.75	5.00	3	38
342d0.76	0.76	5.00	3	38
342d0.77	0.77	5.00	3	38
342d0.78	0.78	5.00	3	38
342d0.79	0.79	5.00	3	38
342d0.80	0.80	5.00	3	38
342d0.81	0.81	6.00	3	38
342d0.82	0.82	6.00	3	38
342d0.83	0.83	6.00	3	38
342d0.84	0.84	6.00	3	38
342d0.85	0.85	6.00	3	38
342d0.86	0.86	6.00	3	38
342d0.87	0.87	6.00	3	38
342d0.88	0.88	6.00	3	38
342d0.89	0.89	6.00	3	38
342d0.90	0.90	6.00	3	38
342d0.91	0.91	6.00	3	38
342d0.92	0.92	6.00	3	38
342d0.93	0.93	6.00	3	38
342d0.94	0.94	6.00	3	38
342d0.95	0.95	6.00	3	38
342d0.96	0.96	6.00	3	38
342d0.97	0.97	6.00	3	38
342d0.98	0.98	6.00	3	38
342d0.99	0.99	6.00	3	38
342d1.00	1.00	6.00	3	38
342d1.01	1.01	6.00	3	38
342d1.02	1.02	6.00	3	38
342d1.03	1.03	6.00	3	38
342d1.04	1.04	6.00	3	38
342d1.05	1.05	6.00	3	38

Art. n°	d_1	l_1	D	L
342d1.06	1.06	6.00	3	38
342d1.07	1.07	6.00	3	38
342d1.08	1.08	6.00	3	38
342d1.09	1.09	6.00	3	38
342d1.10	1.10	6.00	3	38
342d1.12	1.12	6.00	3	38
342d1.13	1.13	6.00	3	38
342d1.14	1.14	6.00	3	38
342d1.15	1.15	6.00	3	38
342d1.16	1.16	6.00	3	38
342d1.17	1.17	6.00	3	38
342d1.18	1.18	6.00	3	38
342d1.19	1.19	6.00	3	38
342d1.20	1.20	6.00	3	38
342d1.21	1.21	8.00	3	38
342d1.22	1.22	8.00	3	38
342d1.23	1.23	8.00	3	38
342d1.24	1.24	8.00	3	38
342d1.25	1.25	8.00	3	38
342d1.26	1.26	8.00	3	38
342d1.27	1.27	8.00	3	38
342d1.28	1.28	8.00	3	38
342d1.29	1.29	8.00	3	38
342d1.30	1.30	8.00	3	38
342d1.31	1.31	8.00	3	38
342d1.32	1.32	8.00	3	38
342d1.33	1.33	8.00	3	38
342d1.34	1.34	8.00	3	38
342d1.35	1.35	8.00	3	38
342d1.36	1.36	8.00	3	38
342d1.37	1.37	8.00	3	38
342d1.38	1.38	8.00	3	38
342d1.39	1.39	8.00	3	38
342d1.40	1.40	8.00	3	38
342d1.41	1.41	8.00	3	38
342d1.42	1.42	8.00	3	38
342d1.43	1.43	8.00	3	38
342d1.44	1.44	8.00	3	38
342d1.45	1.45	8.00	3	38
342d1.46	1.46	8.00	3	38
342d1.47	1.47	8.00	3	38
342d1.48	1.48	8.00	3	38
342d1.49	1.49	8.00	3	38

Micro twist drill - helix 34° - shank Ø3

Art. n°	d_1	l_1	D	L
342d1.50	1.50	8.00	3	38
342d1.51	1.51	8.00	3	38
342d1.52	1.52	8.00	3	38
342d1.53	1.53	8.00	3	38
342d1.54	1.54	8.00	3	38
342d1.55	1.55	8.00	3	38
342d1.56	1.56	8.00	3	38
342d1.57	1.57	8.00	3	38
342d1.58	1.58	8.00	3	38
342d1.59	1.59	8.00	3	38
342d1.60	1.60	8.00	3	38
342d1.61	1.61	8.00	3	38
342d1.62	1.62	8.00	3	38
342d1.63	1.63	8.00	3	38
342d1.64	1.64	8.00	3	38
342d1.65	1.65	8.00	3	38
342d1.66	1.66	8.00	3	38
342d1.67	1.67	8.00	3	38
342d1.68	1.68	8.00	3	38
342d1.69	1.69	8.00	3	38
342d1.70	1.70	8.00	3	38
342d1.71	1.71	12.00	3	38
342d1.72	1.72	12.00	3	38
342d1.73	1.73	12.00	3	38
342d1.74	1.74	12.00	3	38
342d1.75	1.75	12.00	3	38
342d1.76	1.76	12.00	3	38
342d1.77	1.77	12.00	3	38
342d1.78	1.78	12.00	3	38
342d1.79	1.79	12.00	3	38
342d1.80	1.80	12.00	3	38
342d1.81	1.81	12.00	3	38
342d1.82	1.82	12.00	3	38
342d1.83	1.83	12.00	3	38
342d1.84	1.84	12.00	3	38
342d1.85	1.85	12.00	3	38
342d1.86	1.86	12.00	3	38
342d1.87	1.87	12.00	3	38
342d1.88	1.88	12.00	3	38
342d1.89	1.89	12.00	3	38
342d1.90	1.90	12.00	3	38
342d1.91	1.91	12.00	3	38
342d1.92	1.92	12.00	3	38
342d1.93	1.93	12.00	3	38
342d1.94	1.94	12.00	3	38
342d1.95	1.95	12.00	3	38
342d1.96	1.96	12.00	3	38
342d1.97	1.97	12.00	3	38
342d1.98	1.98	12.00	3	38
342d1.99	1.99	12.00	3	38
342d2.00	2.00	12.00	3	38
342d2.05	2.05	12.00	3	38
342d2.10	2.10	12.00	3	38
342d2.15	2.15	12.00	3	38
342d2.20	2.20	12.00	3	38
342d2.25	2.25	12.00	3	38
342d2.30	2.30	12.00	3	38
342d2.35	2.35	12.00	3	38
342d2.40	2.40	12.00	3	38
342d2.45	2.45	12.00	3	38
342d2.50	2.50	12.00	3	38

Available uncoated or coated (see page 61)

118°

Z2

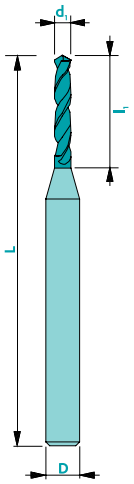
λ 34°

MG10

N

343-6

Drill - helix 34° - l_1=6 mm



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.002/-0.004
D: h5

Available uncoated or coated (see page 61)

118° | Z2

λ 34° | MG10 | N

Art. n°	d_1	l_1	D	L
343-6d0.60	0.60	6.0	2.0	38
343-6d0.61	0.61	6.0	2.0	38
343-6d0.62	0.62	6.0	2.0	38
343-6d0.63	0.63	6.0	2.0	38
343-6d0.64	0.64	6.0	2.0	38
343-6d0.65	0.65	6.0	2.0	38
343-6d0.66	0.66	6.0	2.0	38
343-6d0.67	0.67	6.0	2.0	38
343-6d0.68	0.68	6.0	2.0	38
343-6d0.69	0.69	6.0	2.0	38
343-6d0.70	0.70	6.0	2.0	38
343-6d0.71	0.71	6.0	2.0	38
343-6d0.72	0.72	6.0	2.0	38
343-6d0.73	0.73	6.0	2.0	38
343-6d0.74	0.74	6.0	2.0	38
343-6d0.75	0.75	6.0	2.0	38
343-6d0.76	0.76	6.0	2.0	38
343-6d0.77	0.77	6.0	2.0	38
343-6d0.78	0.78	6.0	2.0	38
343-6d0.79	0.79	6.0	2.0	38
343-6d0.80	0.80	6.0	2.0	38
343-6d0.81	0.81	6.0	2.0	38
343-6d0.82	0.82	6.0	2.0	38
343-6d0.83	0.83	6.0	2.0	38
343-6d0.84	0.84	6.0	2.0	38
343-6d0.85	0.85	6.0	2.0	38
343-6d0.86	0.86	6.0	2.0	38
343-6d0.87	0.87	6.0	2.0	38
343-6d0.88	0.88	6.0	2.0	38

Art. n°	d_1	l_1	D	L
343-6d0.89	0.89	6.0	2.0	38
343-6d0.90	0.90	6.0	2.0	38
343-6d0.91	0.91	6.0	2.0	38
343-6d0.92	0.92	6.0	2.0	38
343-6d0.93	0.93	6.0	2.0	38
343-6d0.94	0.94	6.0	2.0	38
343-6d0.95	0.95	6.0	2.0	38
343-6d0.96	0.96	6.0	2.0	38
343-6d0.97	0.97	6.0	2.0	38
343-6d0.98	0.98	6.0	2.0	38
343-6d0.99	0.99	6.0	2.0	38
343-6d1.00	1.00	6.0	2.0	38
343-6d1.01	1.01	6.0	2.0	38
343-6d1.02	1.02	6.0	2.0	38
343-6d1.03	1.03	6.0	2.0	38
343-6d1.04	1.04	6.0	2.0	38
343-6d1.05	1.05	6.0	2.0	38
343-6d1.06	1.06	6.0	2.0	38
343-6d1.07	1.07	6.0	2.0	38
343-6d1.08	1.08	6.0	2.0	38
343-6d1.09	1.09	6.0	2.0	38
343-6d1.09	1.09	6.0	2.0	38
343-6d1.10	1.10	6.0	2.0	38
343-6d1.11	1.11	6.0	2.0	38
343-6d1.12	1.12	6.0	2.0	38
343-6d1.13	1.13	6.0	2.0	38
343-6d1.14	1.14	6.0	2.0	38
343-6d1.15	1.15	6.0	2.0	38
343-6d1.16	1.16	6.0	2.0	38

Drill - helix 34° - l_1=6 mm

Art. n°	d_1	l_1	D	L
343-6d1.17	1.17	6.0	2.0	38
343-6d1.18	1.18	6.0	2.0	38
343-6d1.19	1.19	6.0	2.0	38
343-6d1.20	1.20	6.0	2.0	38
343-6d1.21	1.21	6.0	2.0	38
343-6d1.22	1.22	6.0	2.0	38
343-6d1.23	1.23	6.0	2.0	38
343-6d1.24	1.24	6.0	2.0	38
343-6d1.25	1.25	6.0	2.0	38
343-6d1.26	1.26	6.0	2.0	38
343-6d1.27	1.27	6.0	2.0	38
343-6d1.28	1.28	6.0	2.0	38
343-6d1.29	1.29	6.0	2.0	38
343-6d1.30	1.30	6.0	2.0	38
343-6d1.31	1.31	6.0	2.0	38
343-6d1.32	1.32	6.0	2.0	38
343-6d1.33	1.33	6.0	2.0	38
343-6d1.34	1.34	6.0	2.0	38
343-6d1.35	1.35	6.0	2.0	38
343-6d1.36	1.36	6.0	2.0	38
343-6d1.37	1.37	6.0	2.0	38
343-6d1.38	1.38	6.0	2.0	38
343-6d1.39	1.39	6.0	2.0	38
343-6d1.40	1.40	6.0	2.0	38
343-6d1.41	1.41	6.0	2.0	38
343-6d1.42	1.42	6.0	2.0	38
343-6d1.43	1.43	6.0	2.0	38
343-6d1.44	1.44	6.0	2.0	38
343-6d1.45	1.45	6.0	2.0	38
343-6d1.46	1.46	6.0	2.0	38
343-6d1.47	1.47	6.0	2.0	38
343-6d1.48	1.48	6.0	2.0	38
343-6d1.49	1.49	6.0	2.0	38
343-6d1.50	1.50	6.0	2.0	38
343-6d1.51	1.51	6.0	2.0	38
343-6d1.52	1.52	6.0	2.0	38
343-6d1.53	1.53	6.0	2.0	38
343-6d1.54	1.54	6.0	2.0	38
343-6d1.55	1.55	6.0	2.0	38
343-6d1.56	1.56	6.0	2.0	38
343-6d1.57	1.57	6.0	2.0	38
343-6d1.58	1.58	6.0	2.0	38
343-6d1.59	1.59	6.0	2.0	38
343-6d1.60	1.60	6.0	2.0	38
343-6d1.61	1.61	6.0	2.0	38

Art. n°	d_1	l_1	D	L
343-6d1.62	1.62	6.0	2.0	38
343-6d1.63	1.63	6.0	2.0	38
343-6d1.64	1.64	6.0	2.0	38
343-6d1.65	1.65	6.0	2.0	38
343-6d1.66	1.66	6.0	2.0	38
343-6d1.67	1.67	6.0	2.0	38
343-6d1.68	1.68	6.0	2.0	38
343-6d1.69	1.69	6.0	2.0	38
343-6d1.70	1.70	6.0	2.0	38
343-6d1.71	1.71	6.0	2.0	38
343-6d1.72	1.72	6.0	2.0	38
343-6d1.73	1.73	6.0	2.0	38
343-6d1.74	1.74	6.0	2.0	38
343-6d1.75	1.75	6.0	2.0	38
343-6d1.76	1.76	6.0	2.0	38
343-6d1.77	1.77	6.0	2.0	38
343-6d1.78	1.78	6.0	2.0	38
343-6d1.79	1.79	6.0	2.0	38
343-6d1.80	1.80	6.0	2.0	38
343-6d1.81	1.81	6.0	2.0	38
343-6d1.82	1.82	6.0	2.0	38
343-6d1.83	1.83	6.0	2.0	38
343-6d1.84	1.84	6.0	2.0	38
343-6d1.85	1.85	6.0	2.0	38
343-6d1.86	1.86	6.0	2.0	38
343-6d1.87	1.87	6.0	2.0	38
343-6d1.88	1.88	6.0	2.0	38
343-6d1.89	1.89	6.0	2.0	38
343-6d1.90	1.90	6.0	2.0	38
343-6d1.91	1.91	6.0	2.0	38
343-6d1.92	1.92	6.0	2.0	38
343-6d1.93	1.93	6.0	2.0	38
343-6d1.94	1.94	6.0	2.0	38
343-6d1.95	1.95	6.0	2.0	38
343-6d1.96	1.96	6.0	2.0	38
343-6d1.97	1.97	6.0	2.0	38
343-6d1.98	1.98	6.0	2.0	38
343-6d1.99	1.99	6.0	2.0	38
343-6d2.00	2.00	6.0	2.0	38

Available uncoated or coated (see page 61)

118°

Z2

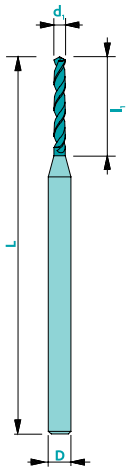
λ 34°

MG10

N

343-8

Drill - helix 34° - l_1=8 mm



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances d_1: -0.002/-0.004
D: h5

118° | Z2 | λ 34° | MG10 | N

Art. n°	d_1	l_1	D	L
343-8d0.80	0.80	8.0	2.0	38
343-8d0.81	0.81	8.0	2.0	38
343-8d0.82	0.82	8.0	2.0	38
343-8d0.83	0.83	8.0	2.0	38
343-8d0.84	0.84	8.0	2.0	38
343-8d0.85	0.85	8.0	2.0	38
343-8d0.86	0.86	8.0	2.0	38
343-8d0.87	0.87	8.0	2.0	38
343-8d0.88	0.88	8.0	2.0	38
343-8d0.89	0.89	8.0	2.0	38
343-8d0.90	0.90	8.0	2.0	38
343-8d0.91	0.91	8.0	2.0	38
343-8d0.92	0.92	8.0	2.0	38
343-8d0.93	0.93	8.0	2.0	38
343-8d0.94	0.94	8.0	2.0	38
343-8d0.95	0.95	8.0	2.0	38
343-8d0.96	0.96	8.0	2.0	38
343-8d0.97	0.97	8.0	2.0	38
343-8d0.98	0.98	8.0	2.0	38
343-8d0.99	0.99	8.0	2.0	38
343-8d1.00	1.00	8.0	2.0	38
343-8d1.01	1.01	8.0	2.0	38
343-8d1.02	1.02	8.0	2.0	38
343-8d1.03	1.03	8.0	2.0	38
343-8d1.04	1.04	8.0	2.0	38
343-8d1.05	1.05	8.0	2.0	38
343-8d1.06	1.06	8.0	2.0	38
343-8d1.07	1.07	8.0	2.0	38
343-8d1.08	1.08	8.0	2.0	38
343-8d1.09	1.09	8.0	2.0	38

Art. n°	d_1	l_1	D	L
343-8d1.10	1.10	8.0	2.0	38
343-8d1.11	1.11	8.0	2.0	38
343-8d1.12	1.12	8.0	2.0	38
343-8d1.13	1.13	8.0	2.0	38
343-8d1.14	1.14	8.0	2.0	38
343-8d1.15	1.15	8.0	2.0	38
343-8d1.16	1.16	8.0	2.0	38
343-8d1.17	1.17	8.0	2.0	38
343-8d1.18	1.18	8.0	2.0	38
343-8d1.19	1.19	8.0	2.0	38
343-8d1.20	1.20	8.0	2.0	38
343-8d1.21	1.21	8.0	2.0	38
343-8d1.22	1.22	8.0	2.0	38
343-8d1.23	1.23	8.0	2.0	38
343-8d1.24	1.24	8.0	2.0	38
343-8d1.25	1.25	8.0	2.0	38
343-8d1.26	1.26	8.0	2.0	38
343-8d1.27	1.27	8.0	2.0	38
343-8d1.28	1.28	8.0	2.0	38
343-8d1.29	1.29	8.0	2.0	38
343-8d1.30	1.30	8.0	2.0	38
343-8d1.31	1.31	8.0	2.0	38
343-8d1.32	1.32	8.0	2.0	38
343-8d1.33	1.33	8.0	2.0	38
343-8d1.34	1.34	8.0	2.0	38
343-8d1.35	1.35	8.0	2.0	38
343-8d1.36	1.36	8.0	2.0	38
343-8d1.37	1.37	8.0	2.0	38
343-8d1.38	1.38	8.0	2.0	38
343-8d1.39	1.39	8.0	2.0	38

Drill - helix 34° - l_1=8 mm

Art. n°	d_1	l_1	D	L
343-8d1.40	1.40	8.0	2.0	38
343-8d1.41	1.41	8.0	2.0	38
343-8d1.42	1.42	8.0	2.0	38
343-8d1.43	1.43	8.0	2.0	38
343-8d1.44	1.44	8.0	2.0	38
343-8d1.45	1.45	8.0	2.0	38
343-8d1.46	1.46	8.0	2.0	38
343-8d1.47	1.47	8.0	2.0	38
343-8d1.48	1.48	8.0	2.0	38
343-8d1.49	1.49	8.0	2.0	38
343-8d1.50	1.50	8.0	2.0	38
343-8d1.51	1.51	8.0	2.0	38
343-8d1.52	1.52	8.0	2.0	38
343-8d1.53	1.53	8.0	2.0	38
343-8d1.54	1.54	8.0	2.0	38
343-8d1.55	1.55	8.0	2.0	38
343-8d1.56	1.56	8.0	2.0	38
343-8d1.57	1.57	8.0	2.0	38
343-8d1.58	1.58	8.0	2.0	38
343-8d1.59	1.59	8.0	2.0	38
343-8d1.60	1.60	8.0	2.0	38
343-8d1.61	1.61	8.0	2.0	38
343-8d1.62	1.62	8.0	2.0	38
343-8d1.63	1.63	8.0	2.0	38
343-8d1.64	1.64	8.0	2.0	38
343-8d1.65	1.65	8.0	2.0	38
343-8d1.66	1.66	8.0	2.0	38
343-8d1.67	1.67	8.0	2.0	38
343-8d1.68	1.68	8.0	2.0	38
343-8d1.69	1.69	8.0	2.0	38
343-8d1.70	1.70	8.0	2.0	38
343-8d1.71	1.71	8.0	2.0	38
343-8d1.72	1.72	8.0	2.0	38
343-8d1.73	1.73	8.0	2.0	38
343-8d1.74	1.74	8.0	2.0	38
343-8d1.75	1.75	8.0	2.0	38
343-8d1.76	1.76	8.0	2.0	38
343-8d1.77	1.77	8.0	2.0	38
343-8d1.78	1.78	8.0	2.0	38
343-8d1.79	1.79	8.0	2.0	38
343-8d1.80	1.80	8.0	2.0	38
343-8d1.81	1.81	8.0	2.0	38
343-8d1.82	1.82	8.0	2.0	38
343-8d1.83	1.83	8.0	2.0	38
343-8d1.84	1.84	8.0	2.0	38

Art. n°	d_1	l_1	D	L
343-8d1.85	1.85	8.0	2.0	38
343-8d1.86	1.86	8.0	2.0	38
343-8d1.87	1.87	8.0	2.0	38
343-8d1.88	1.88	8.0	2.0	38
343-8d1.89	1.89	8.0	2.0	38
343-8d1.90	1.90	8.0	2.0	38
343-8d1.91	1.91	8.0	2.0	38
343-8d1.92	1.92	8.0	2.0	38
343-8d1.93	1.93	8.0	2.0	38
343-8d1.94	1.94	8.0	2.0	38
343-8d1.95	1.95	8.0	2.0	38
343-8d1.96	1.96	8.0	2.0	38
343-8d1.97	1.97	8.0	2.0	38
343-8d1.98	1.98	8.0	2.0	38
343-8d1.99	1.99	8.0	2.0	38
343-8d2.00	2.00	8.0	2.0	38
343-8d2.01	2.01	8.0	2.0	38
343-8d2.02	2.02	8.0	2.0	38
343-8d2.03	2.03	8.0	2.0	38
343-8d2.04	2.04	8.0	2.0	38
343-8d2.05	2.05	8.0	2.0	38
343-8d2.06	2.06	8.0	2.0	38
343-8d2.07	2.07	8.0	2.0	38
343-8d2.08	2.08	8.0	2.0	38
343-8d2.09	2.09	8.0	2.0	38
343-8d2.10	2.10	8.0	2.0	38
343-8d2.11	2.11	8.0	2.0	38
343-8d2.12	2.12	8.0	2.0	38
343-8d2.13	2.13	8.0	2.0	38
343-8d2.14	2.14	8.0	2.0	38
343-8d2.15	2.15	8.0	2.0	38
343-8d2.16	2.16	8.0	2.0	38
343-8d2.17	2.17	8.0	2.0	38
343-8d2.18	2.18	8.0	2.0	38
343-8d2.19	2.19	8.0	2.0	38
343-8d2.20	2.20	8.0	2.0	38
343-8d2.21	2.21	8.0	2.0	38
343-8d2.22	2.22	8.0	2.0	38
343-8d2.23	2.23	8.0	2.0	38
343-8d2.24	2.24	8.0	2.0	38
343-8d2.25	2.25	8.0	2.0	38
343-8d2.26	2.26	8.0	2.0	38
343-8d2.27	2.27	8.0	2.0	38
343-8d2.28	2.28	8.0	2.0	38
343-8d2.29	2.29	8.0	2.0	38

Available uncoated or coated (see page 61)

118°

Z2

λ 34°

MG10

N

343-8

Continuation

Drill - helix 34° - l_1=8 mm

Available uncoated or coated (see page 61)

118°

Z2

λ 34°

MG10

N

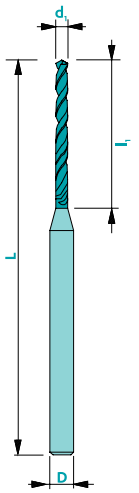
Art. n°	d_1	l_1	D	L
343-8d2.30	2.30	8.0	2.0	38
343-8d2.31	2.31	8.0	2.0	38
343-8d2.32	2.32	8.0	2.0	38
343-8d2.33	2.33	8.0	2.0	38
343-8d2.34	2.34	8.0	2.0	38
343-8d2.35	2.35	8.0	2.0	38
343-8d2.36	2.36	8.0	2.0	38
343-8d2.37	2.37	8.0	2.0	38
343-8d2.38	2.38	8.0	2.0	38
343-8d2.39	2.39	8.0	2.0	38
343-8d2.40	2.40	8.0	2.0	38
343-8d2.41	2.41	8.0	2.0	38
343-8d2.42	2.42	8.0	2.0	38
343-8d2.43	2.43	8.0	2.0	38
343-8d2.44	2.44	8.0	2.0	38
343-8d2.45	2.45	8.0	2.0	38
343-8d2.46	2.46	8.0	2.0	38
343-8d2.47	2.47	8.0	2.0	38
343-8d2.48	2.48	8.0	2.0	38
343-8d2.49	2.49	8.0	2.0	38
343-8d2.50	2.50	8.0	2.0	38
343-8d2.51	2.51	8.0	2.0	38
343-8d2.52	2.52	8.0	2.0	38
343-8d2.53	2.53	8.0	2.0	38
343-8d2.54	2.54	8.0	2.0	38
343-8d2.55	2.55	8.0	2.0	38
343-8d2.56	2.56	8.0	2.0	38
343-8d2.57	2.57	8.0	2.0	38
343-8d2.58	2.58	8.0	2.0	38
343-8d2.59	2.59	8.0	2.0	38
343-8d2.60	2.60	8.0	2.0	38
343-8d2.61	2.61	8.0	2.0	38
343-8d2.62	2.62	8.0	2.0	38
343-8d2.63	2.63	8.0	2.0	38
343-8d2.64	2.64	8.0	2.0	38
343-8d2.65	2.65	8.0	2.0	38
343-8d2.66	2.66	8.0	2.0	38
343-8d2.67	2.67	8.0	2.0	38
343-8d2.68	2.68	8.0	2.0	38
343-8d2.69	2.69	8.0	2.0	38
343-8d2.70	2.70	8.0	2.0	38
343-8d2.71	2.71	8.0	2.0	38
343-8d2.72	2.72	8.0	2.0	38
343-8d2.73	2.73	8.0	2.0	38
343-8d2.74	2.74	8.0	2.0	38

Art. n°	d_1	l_1	D	L
343-8d2.75	2.75	8.0	2.0	38
343-8d2.76	2.76	8.0	2.0	38
343-8d2.77	2.77	8.0	2.0	38
343-8d2.78	2.78	8.0	2.0	38
343-8d2.79	2.79	8.0	2.0	38
343-8d2.80	2.80	8.0	2.0	38
343-8d2.81	2.81	8.0	2.0	38
343-8d2.82	2.82	8.0	2.0	38
343-8d2.83	2.83	8.0	2.0	38
343-8d2.84	2.84	8.0	2.0	38
343-8d2.85	2.85	8.0	2.0	38
343-8d2.86	2.86	8.0	2.0	38
343-8d2.87	2.87	8.0	2.0	38
343-8d2.88	2.88	8.0	2.0	38
343-8d2.89	2.89	8.0	2.0	38
343-8d2.90	2.90	8.0	2.0	38
343-8d2.91	2.91	8.0	2.0	38
343-8d2.92	2.92	8.0	2.0	38
343-8d2.93	2.93	8.0	2.0	38
343-8d2.94	2.94	8.0	2.0	38
343-8d2.95	2.95	8.0	2.0	38
343-8d2.96	2.96	8.0	2.0	38
343-8d2.97	2.97	8.0	2.0	38
343-8d2.98	2.98	8.0	2.0	38
343-8d2.99	2.99	8.0	2.0	38
343-8d3.00	3.00	8.0	3.0	38
343-8d3.10	3.10	8.0	4.0	38
343-8d3.20	3.20	8.0	4.0	38
343-8d3.30	3.30	8.0	4.0	38
343-8d3.40	3.40	8.0	4.0	38
343-8d3.50	3.50	8.0	4.0	38
343-8d3.60	3.60	8.0	4.0	38
343-8d3.70	3.70	8.0	4.0	38
343-8d3.80	3.80	8.0	4.0	38
343-8d3.90	3.90	8.0	4.0	38
343-8d4.00	4.00	8.0	4.0	38
343-8d4.10	4.10	8.0	4.5	38
343-8d4.20	4.20	8.0	4.5	38
343-8d4.30	4.30	8.0	4.5	38
343-8d4.40	4.40	8.0	4.5	38
343-8d4.50	4.50	8.0	4.5	38
343-8d5.00	5.00	8.0	5.0	38
343-8d5.50	5.50	8.0	5.5	38
343-8d6.00	6.00	8.0	6.0	38

Drill - helix 34° - l_1=12 mm

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances d_1: -0.002/-0.004
D: h5

Art. n°	d_1	l_1	D	L
343-12d0.80	0.80	12.0	2.0	38
343-12d0.81	0.81	12.0	2.0	38
343-12d0.82	0.82	12.0	2.0	38
343-12d0.83	0.83	12.0	2.0	38
343-12d0.84	0.84	12.0	2.0	38
343-12d0.85	0.85	12.0	2.0	38
343-12d0.86	0.86	12.0	2.0	38
343-12d0.87	0.87	12.0	2.0	38
343-12d0.88	0.88	12.0	2.0	38
343-12d0.89	0.89	12.0	2.0	38
343-12d0.90	0.90	12.0	2.0	38
343-12d0.91	0.91	12.0	2.0	38
343-12d0.92	0.92	12.0	2.0	38
343-12d0.93	0.93	12.0	2.0	38
343-12d0.94	0.94	12.0	2.0	38
343-12d0.95	0.95	12.0	2.0	38
343-12d0.96	0.96	12.0	2.0	38
343-12d0.97	0.97	12.0	2.0	38
343-12d0.98	0.98	12.0	2.0	38
343-12d0.99	0.99	12.0	2.0	38
343-12d1.00	1.00	12.0	2.0	38
343-12d1.01	1.01	12.0	2.0	38
343-12d1.02	1.02	12.0	2.0	38
343-12d1.03	1.03	12.0	2.0	38
343-12d1.04	1.04	12.0	2.0	38
343-12d1.05	1.05	12.0	2.0	38
343-12d1.06	1.06	12.0	2.0	38
343-12d1.07	1.07	12.0	2.0	38

Art. n°	d_1	l_1	D	L
343-12d1.08	1.08	12.0	2.0	38
343-12d1.09	1.09	12.0	2.0	38
343-12d1.10	1.10	12.0	2.0	38
343-12d1.11	1.11	12.0	2.0	38
343-12d1.12	1.12	12.0	2.0	38
343-12d1.13	1.13	12.0	2.0	38
343-12d1.14	1.14	12.0	2.0	38
343-12d1.15	1.15	12.0	2.0	38
343-12d1.16	1.16	12.0	2.0	38
343-12d1.17	1.17	12.0	2.0	38
343-12d1.18	1.18	12.0	2.0	38
343-12d1.19	1.19	12.0	2.0	38
343-12d1.20	1.20	12.0	2.0	38
343-12d1.21	1.21	12.0	2.0	38
343-12d1.22	1.22	12.0	2.0	38
343-12d1.23	1.23	12.0	2.0	38
343-12d1.24	1.24	12.0	2.0	38
343-12d1.25	1.25	12.0	2.0	38
343-12d1.26	1.26	12.0	2.0	38
343-12d1.27	1.27	12.0	2.0	38
343-12d1.28	1.28	12.0	2.0	38
343-12d1.29	1.29	12.0	2.0	38
343-12d1.30	1.30	12.0	2.0	38
343-12d1.31	1.31	12.0	2.0	38
343-12d1.32	1.32	12.0	2.0	38
343-12d1.33	1.33	12.0	2.0	38
343-12d1.34	1.34	12.0	2.0	38
343-12d1.35	1.35	12.0	2.0	38

118° Z2

λ 34°

MG10 N

343-12

Continuation

Drill - helix 34° - l_1=12 mm

Available uncoated or coated (see page 61)

118°

Z2

λ 34°

MG10

N

Art. n°	d_1	l_1	D	L
343-12d1.36	1.36	12.0	2.0	38
343-12d1.37	1.37	12.0	2.0	38
343-12d1.38	1.38	12.0	2.0	38
343-12d1.39	1.39	12.0	2.0	38
343-12d1.40	1.40	12.0	2.0	38
343-12d1.41	1.41	12.0	2.0	38
343-12d1.42	1.42	12.0	2.0	38
343-12d1.43	1.43	12.0	2.0	38
343-12d1.44	1.44	12.0	2.0	38
343-12d1.45	1.45	12.0	2.0	38
343-12d1.46	1.46	12.0	2.0	38
343-12d1.47	1.47	12.0	2.0	38
343-12d1.48	1.48	12.0	2.0	38
343-12d1.49	1.49	12.0	2.0	38
343-12d1.50	1.50	12.0	2.0	38
343-12d1.51	1.51	12.0	2.0	38
343-12d1.52	1.52	12.0	2.0	38
343-12d1.53	1.53	12.0	2.0	38
343-12d1.54	1.54	12.0	2.0	38
343-12d1.55	1.55	12.0	2.0	38
343-12d1.56	1.56	12.0	2.0	38
343-12d1.57	1.57	12.0	2.0	38
343-12d1.58	1.58	12.0	2.0	38
343-12d1.59	1.59	12.0	2.0	38
343-12d1.60	1.60	12.0	2.0	38
343-12d1.61	1.61	12.0	2.0	38
343-12d1.62	1.62	12.0	2.0	38
343-12d1.63	1.63	12.0	2.0	38
343-12d1.64	1.64	12.0	2.0	38
343-12d1.65	1.65	12.0	2.0	38
343-12d1.66	1.66	12.0	2.0	38
343-12d1.67	1.67	12.0	2.0	38
343-12d1.68	1.68	12.0	2.0	38
343-12d1.69	1.69	12.0	2.0	38
343-12d1.70	1.70	12.0	2.0	38
343-12d1.71	1.71	12.0	2.0	38
343-12d1.72	1.72	12.0	2.0	38
343-12d1.73	1.73	12.0	2.0	38
343-12d1.74	1.74	12.0	2.0	38
343-12d1.75	1.75	12.0	2.0	38
343-12d1.76	1.76	12.0	2.0	38
343-12d1.77	1.77	12.0	2.0	38
343-12d1.78	1.78	12.0	2.0	38
343-12d1.79	1.79	12.0	2.0	38

Art. n°	d_1	l_1	D	L
343-12d1.80	1.80	12.0	2.0	38
343-12d1.81	1.81	12.0	2.0	38
343-12d1.82	1.82	12.0	2.0	38
343-12d1.83	1.83	12.0	2.0	38
343-12d1.84	1.84	12.0	2.0	38
343-12d1.85	1.85	12.0	2.0	38
343-12d1.86	1.86	12.0	2.0	38
343-12d1.87	1.87	12.0	2.0	38
343-12d1.88	1.88	12.0	2.0	38
343-12d1.89	1.89	12.0	2.0	38
343-12d1.90	1.90	12.0	2.0	38
343-12d1.91	1.91	12.0	2.0	38
343-12d1.92	1.92	12.0	2.0	38
343-12d1.93	1.93	12.0	2.0	38
343-12d1.94	1.94	12.0	2.0	38
343-12d1.95	1.95	12.0	2.0	38
343-12d1.96	1.96	12.0	2.0	38
343-12d1.97	1.97	12.0	2.0	38
343-12d1.98	1.98	12.0	2.0	38
343-12d1.99	1.99	12.0	2.0	38
343-12d2.00	2.00	12.0	2.0	38
343-12d2.05	2.05	12.0	3.0	38
343-12d2.10	2.10	12.0	3.0	38
343-12d2.15	2.15	12.0	3.0	38
343-12d2.17	2.17	12.0	3.0	38
343-12d2.18	2.18	12.0	3.0	38
343-12d2.20	2.20	12.0	3.0	38
343-12d2.25	2.25	12.0	3.0	38
343-12d2.27	2.27	12.0	3.0	38
343-12d2.28	2.28	12.0	3.0	38
343-12d2.30	2.30	12.0	3.0	38
343-12d2.35	2.35	12.0	3.0	38
343-12d2.37	2.37	12.0	3.0	38
343-12d2.38	2.38	12.0	3.0	38
343-12d2.40	2.40	12.0	3.0	38
343-12d2.45	2.45	12.0	3.0	38
343-12d2.50	2.50	12.0	3.0	38
343-12d2.55	2.55	12.0	3.0	38
343-12d2.60	2.60	12.0	3.0	38
343-12d2.65	2.65	12.0	3.0	38
343-12d2.70	2.70	12.0	3.0	38
343-12d2.80	2.80	12.0	3.0	38
343-12d2.90	2.90	12.0	3.0	38
343-12d2.95	2.95	12.0	3.0	38

Drill - helix 34° - l_1=12 mm

Art. n°	d_1	l_1	D	L
343-12d3.00	**3.00**	**12.0**	3.0	38
343-12d3.10	**3.10**	**12.0**	4.0	38
343-12d3.20	**3.20**	**12.0**	4.0	38
343-12d3.30	**3.30**	**12.0**	4.0	38
343-12d3.40	**3.40**	**12.0**	4.0	38
343-12d3.50	**3.50**	**12.0**	4.0	38
343-12d3.60	**3.60**	**12.0**	4.0	38
343-12d3.70	**3.70**	**12.0**	4.0	38
343-12d3.80	**3.80**	**12.0**	4.0	38
343-12d3.90	**3.90**	**12.0**	4.0	38
343-12d4.00	**4.00**	**12.0**	4.0	38
343-12d4.10	**4.10**	**12.0**	4.5	38
343-12d4.20	**4.20**	**12.0**	4.5	38
343-12d4.30	**4.30**	**12.0**	4.5	38
343-12d4.40	**4.40**	**12.0**	4.5	38
343-12d4.50	**4.50**	**12.0**	4.5	38
343-12d5.00	**5.00**	**12.0**	5.0	38
343-12d5.50	**5.50**	**12.0**	5.5	38
343-12d6.00	**6.00**	**12.0**	6.0	38

Available uncoated or coated (see page 61)

118°

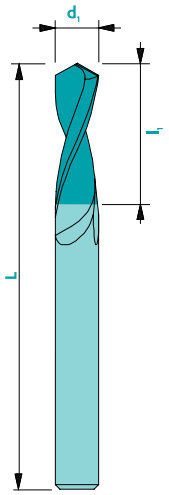
Z2

λ 34°

MG10

N

Twist drill - helix 24°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: h5

Available uncoated or coated (see page 61)

118° | Z2 | λ 24° | MG10 | N

Art. n°	d_1	l_1	L
348d0.30	0.30	5.0	30
348d0.35	0.35	5.0	30
348d0.40	0.40	6.0	30
348d0.45	0.45	6.0	30
348d0.50	0.50	6.0	30
348d0.55	0.55	6.0	30
348d0.60	0.60	6.0	30
348d0.65	0.65	6.0	30
348d0.70	0.70	6.0	30
348d0.75	0.75	6.0	30
348d0.80	0.80	7.0	30
348d0.85	0.85	7.0	30
348d0.90	0.90	7.0	30
348d0.95	0.95	7.0	30
348d1.00	1.00	7.0	30
348d1.05	1.05	8.0	30
348d1.10	1.10	8.0	30
348d1.15	1.15	8.0	30
348d1.20	1.20	8.0	30
348d1.25	1.25	8.0	30
348d1.30	1.30	8.0	30
348d1.35	1.35	8.0	30
348d1.40	1.40	8.0	30
348d1.45	1.45	8.0	30
348d1.50	1.50	8.0	30
348d1.55	1.55	9.0	38
348d1.60	1.60	9.0	38
348d1.65	1.65	9.0	38
348d1.70	1.70	9.0	38
348d1.75	1.75	9.0	38

Art. n°	d_1	l_1	L
348d1.80	1.80	9.0	38
348d1.85	1.85	9.0	38
348d1.90	1.90	9.0	38
348d1.95	1.95	9.0	38
348d2.00	2.00	9.0	38
348d2.05	2.05	9.0	38
348d2.10	2.10	9.0	38
348d2.15	2.15	10.0	40
348d2.20	2.20	10.0	40
348d2.25	2.25	10.0	40
348d2.30	2.30	10.0	40
348d2.35	2.35	10.0	40
348d2.40	2.40	11.0	43
348d2.45	2.45	11.0	43
348d2.50	2.50	11.0	43
348d2.55	2.55	11.0	43
348d2.60	2.60	11.0	43
348d2.65	2.65	11.0	43
348d2.70	2.70	12.0	46
348d2.75	2.75	12.0	46
348d2.80	2.80	12.0	46
348d2.85	2.85	12.0	46
348d2.90	2.90	12.0	46
348d2.95	2.95	12.0	46
348d3.00	3.00	12.0	46
348d3.05	3.05	14.0	49
348d3.10	3.10	14.0	49
348d3.15	3.15	14.0	49
348d3.20	3.20	14.0	49

Twist drill - helix 24°

Art. n°	d_1	l_1	L
348d3.25	3.25	14.0	49
348d3.30	3.30	14.0	49
348d3.35	3.35	14.0	49
348d3.40	3.40	15.0	52
348d3.45	3.45	15.0	52
348d3.50	3.50	15.0	52
348d3.55	3.55	15.0	52
348d3.60	3.60	15.0	52
348d3.65	3.65	15.0	52
348d3.70	3.70	15.0	52
348d3.75	3.75	15.0	52
348d3.80	3.80	17.0	52
348d3.85	3.85	17.0	50
348d3.90	3.90	17.0	55
348d3.95	3.95	17.0	55
348d4.00	4.00	17.0	55
348d4.05	4.05	17.0	55
348d4.10	4.10	17.0	55
348d4.15	4.15	17.0	55
348d4.20	4.20	17.0	55
348d4.25	4.25	17.0	55
348d4.30	4.30	18.0	58
348d4.35	4.35	18.0	58
348d4.40	4.40	18.0	58
348d4.45	4.45	18.0	58
348d4.50	4.50	18.0	58
348d4.55	4.55	18.0	58
348d4.60	4.60	18.0	58
348d4.65	4.65	18.0	58
348d4.70	4.70	18.0	58
348d4.75	4.75	18.0	58
348d4.80	4.80	20.0	62
348d4.85	4.85	20.0	62
348d4.90	4.90	20.0	62
348d4.95	4.95	20.0	62
348d5.00	5.00	20.0	62
348d5.10	5.10	20.0	62
348d5.20	5.20	20.0	62
348d5.30	5.30	20.0	62
348d5.40	5.40	21.0	66
348d5.50	5.50	21.0	66
348d5.60	5.60	21.0	66
348d5.70	5.70	21.0	66
348d5.80	5.80	21.0	66
348d5.90	5.90	21.0	66

Art. n°	d_1	l_1	L
348d6.00	6.00	21.0	66
348d6.10	6.10	23.0	70
348d6.20	6.20	23.0	70
348d6.30	6.30	23.0	70
348d6.40	6.40	23.0	70
348d6.50	6.50	23.0	70
348d6.60	6.60	23.0	70
348d6.70	6.70	23.0	70
348d6.80	6.80	25.0	74
348d6.90	6.90	25.0	74
348d7.00	7.00	25.0	74
348d7.10	7.10	25.0	74
348d7.20	7.20	25.0	74
348d7.30	7.30	25.0	74
348d7.40	7.40	25.0	74
348d7.50	7.50	25.0	74
348d7.60	7.60	27.0	79
348d7.70	7.70	27.0	79
348d7.80	7.80	27.0	79
348d7.90	7.90	27.0	79
348d8.00	8.00	27.0	79
348d8.10	8.10	27.0	79
348d8.20	8.20	27.0	79
348d8.30	8.30	27.0	79
348d8.40	8.40	27.0	79
348d8.50	8.50	27.0	79
348d8.80	8.80	29.0	84
348d9.00	9.00	29.0	84
348d9.20	9.20	29.0	84
348d9.50	9.50	29.0	84
348d9.80	9.80	31.0	89
348d10.00	10.00	31.0	89
348d10.20	10.20	31.0	89
348d10.50	10.50	31.0	89
348d11.00	11.00	33.0	95
348d11.50	11.50	33.0	95
348d12.00	12.00	35.0	102
348d12.50	12.50	35.0	102
348d13.00	13.00	35.0	102
348d13.50	13.50	37.0	107
348d14.00	14.00	37.0	107
348d16.00	16.00	38.0	115

Available uncoated or coated (see page 61)

118°

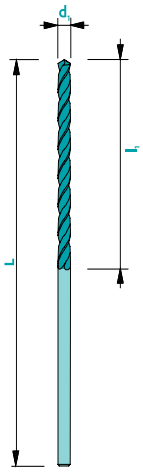
Z2

λ 24°

MG10

N

Long twist drill - helix 34°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances d_1: h5

118° | Z2 | λ 34° | MG10 | N

Art. n°	d_1	l_1	L
352d0.300	0.300	3.7	38
352d0.350	0.350	3.7	38
352d0.400	0.400	4.7	38
352d0.450	0.450	4.7	38
352d0.500	0.500	5.7	38
352d0.550	0.550	5.7	38
352d0.600	0.600	7.7	38
352d0.650	0.650	7.7	38
352d0.700	0.700	9.7	38
352d0.750	0.750	9.7	38
352d0.800	0.800	11.7	38
352d0.850	0.850	11.7	38
352d0.900	0.900	14.7	38
352d0.950	0.950	14.7	38
352d1.000	1.000	14.7	38
352d1.050	1.050	14.7	38
352d1.100	1.100	14.7	38
352d1.150	1.150	14.7	38
352d1.200	1.200	14.7	38
352d1.250	1.250	14.7	38
352d1.300	1.300	14.7	38
352d1.350	1.350	14.7	38
352d1.400	1.400	14.7	38
352d1.450	1.450	14.7	38
352d1.500	1.500	14.7	38
352d1.550	1.550	14.7	38
352d1.600	1.600	14.7	38
352d1.650	1.650	14.7	38
352d1.700	1.700	14.7	38
352d1.750	1.750	14.7	38
352d1.800	1.800	14.7	38
352d1.850	1.850	14.7	38

Art. n°	d_1	l_1	L
352d1.900	1.900	14.7	38
352d1.950	1.950	14.7	38
352d2.000	2.000	14.7	38
352d2.050	2.050	14.7	38
352d2.100	2.100	14.7	38
352d2.150	2.150	14.7	38
352d2.200	2.200	14.7	38
352d2.250	2.250	14.7	38
352d2.300	2.300	14.7	38
352d2.350	2.350	14.7	38
352d2.400	2.400	14.7	38
352d2.450	2.450	14.7	38
352d2.500	2.500	14.7	38
352d2.550	2.550	14.7	38
352d2.600	2.600	14.7	38
352d2.650	2.650	14.7	38
352d2.700	2.700	14.7	38
352d2.750	2.750	14.7	38
352d2.800	2.800	14.7	38
352d2.850	2.850	14.7	38
352d2.900	2.900	14.7	38
352d2.950	2.950	14.7	38
352d3.000	3.000	14.7	38
352d3.050	3.050	14.7	38
352d3.100	3.100	14.7	38
352d3.150	3.150	14.7	38
352d3.175	3.175	14.7	38
352d3.200	3.200	19.7	50
352d3.300	3.300	19.7	50
352d3.400	3.400	19.7	50
352d3.500	3.500	19.7	50
352d3.600	3.600	19.7	50

Long twist drill - helix 34°

Art. n°	d_1	l_1	L
352d3.700	3.700	19.7	50
352d3.800	3.800	19.7	50
352d3.900	3.900	19.7	50
352d4.000	4.000	19.7	50
352d4.100	4.100	24.7	50
352d4.200	4.200	24.7	50
352d4.300	4.300	24.7	50
352d4.400	4.400	24.7	50
352d4.500	4.500	24.7	50
352d4.600	4.600	24.7	50
352d4.700	4.700	24.7	50
352d4.800	4.800	24.7	50
352d4.900	4.900	24.7	50
352d5.000	5.000	24.7	50
352d5.100	5.100	24.7	50
352d5.200	5.200	24.7	50
352d5.300	5.300	24.7	50
352d5.400	5.400	24.7	50
352d5.500	5.500	24.7	50
352d5.600	5.600	24.7	50
352d5.700	5.700	24.7	50
352d5.800	5.800	24.7	50
352d5.900	5.900	24.7	50
352d6.000	6.000	24.7	50
352d6.100	6.100	30.0	70
352d6.200	6.200	30.0	70
352d6.300	6.300	30.0	70
352d6.400	6.400	30.0	70
352d6.500	6.500	30.0	70
352d6.600	6.600	30.0	70
352d6.700	6.700	30.0	70
352d6.800	6.800	33.0	74
352d6.900	6.900	33.0	74
352d7.000	7.000	33.0	74
352d7.100	7.100	33.0	74
352d7.200	7.200	33.0	74
352d7.300	7.300	33.0	74
352d7.400	7.400	33.0	74
352d7.500	7.500	33.0	74
352d7.600	7.600	36.0	79
352d7.700	7.700	36.0	79
352d7.800	7.800	36.0	79
352d7.900	7.900	36.0	79
352d8.000	8.000	36.0	79
352d8.100	8.100	36.0	79
352d8.200	8.200	36.0	79
352d8.300	8.300	36.0	79
352d8.400	8.400	36.0	79
352d8.500	8.500	36.0	79
352d8.600	8.600	39.0	84
352d8.700	8.700	39.0	84
352d8.800	8.800	39.0	84
352d8.900	8.900	39.0	84
352d9.000	9.000	39.0	84
352d9.100	9.100	39.0	84
352d9.200	9.200	39.0	84
352d9.300	9.300	39.0	84
352d9.400	9.400	39.0	84
352d9.500	9.500	39.0	84
352d9.600	9.600	41.0	89
352d9.700	9.700	41.0	89
352d9.800	9.800	41.0	89
352d9.900	9.900	41.0	89
352d10.000	10.000	41.0	89
352d10.200	10.200	41.0	89
352d10.500	10.500	41.0	89
352d11.000	11.000	45.0	95
352d11.500	11.500	45.0	95
352d12.000	12.000	49.0	102
352d12.500	12.500	49.0	102
352d13.000	13.000	49.0	102
352d13.500	13.500	52.0	107
352d14.000	14.000	52.0	107
352d15.000	15.000	54.0	111
352d16.000	16.000	56.0	115
352d17.000	17.000	58.0	119
352d18.000	18.000	60.0	123
352d19.000	19.000	62.0	127
352d20.000	20.000	64.0	131

Available uncoated or coated (see page 61)

118°

Z2

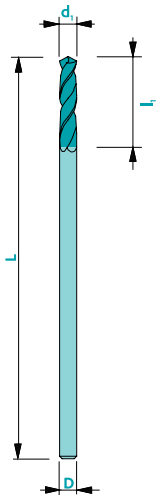
λ 34°

MG10

N

352-1

Short twist drill - helix 34°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	■	■	Solo
Gold - Silver	80	100	□	□	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	□	Trio
Titanium	40	60	□	□	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances d_1: h5

118° | Z2

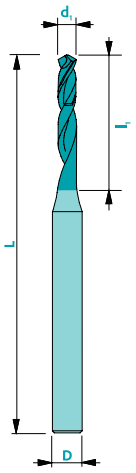
λ 34° | MG10 | N

Art. n°	d_1	l_1	L
352-1d0.30	**0.30**	**1.5**	30
352-1d0.40	**0.40**	**2.3**	30
352-1d0.50	**0.50**	**2.8**	30
352-1d0.60	**0.60**	**3.3**	30
352-1d0.70	**0.70**	**4.3**	30
352-1d0.80	**0.80**	**4.8**	30
352-1d0.90	**0.90**	**5.3**	30
352-1d1.00	**1.00**	**5.7**	30
352-1d1.10	**1.10**	**6.7**	30
352-1d1.20	**1.20**	**7.7**	30
352-1d1.30	**1.30**	**7.7**	30
352-1d1.40	**1.40**	**8.8**	32
352-1d1.50	**1.50**	**8.8**	32
352-1d1.60	**1.60**	**9.7**	34
352-1d1.70	**1.70**	**9.7**	34
352-1d1.80	**1.80**	**10.7**	36
352-1d1.90	**1.90**	**10.7**	36
352-1d2.00	**2.00**	**11.5**	38

EXPERT drill - stainless steel

Ø drill	f [mm/rotation]	Vc [m/min]	Pecking
Ø 0.50 - Ø 0.70	0.01 / 0.015	25	1/3xØ
Ø 0.71 - Ø 0.99	0.015 / 0.02	25	1/3xØ
Ø 1.00 - Ø 1.50	0.02 / 0.03	30	1/3xØ
Ø 1.50 - Ø 2.00	0.03 / 0.04	30	1/3xØ
Ø 2.00 - Ø 3.00	0.045 / 0.055	30	1/3xØ

Pre-centering with center drill ref. 337-2 recommended for diameters <1.00 mm

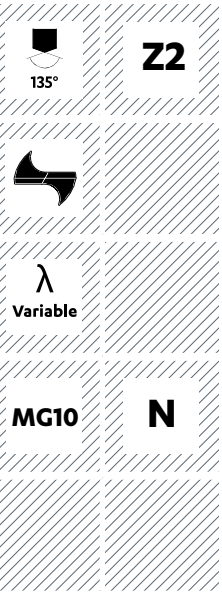


Nemo coated
(see page 61)

Tolerances d_1: -0.002/-0.004 D: h5
l_1: 0.02/-0

Art. n°	d_1	l_1	D	L
370d0.50	0.50	4	3	38
370d0.51	0.51	4	3	38
370d0.52	0.52	4	3	38
370d0.53	0.53	4	3	38
370d0.54	0.54	4	3	38
370d0.55	0.55	4	3	38
370d0.56	0.56	4	3	38
370d0.57	0.57	4	3	38
370d0.58	0.58	4	3	38
370d0.59	0.59	4	3	38
370d0.60	0.60	5	3	38
370d0.61	0.61	5	3	38
370d0.62	0.62	5	3	38
370d0.63	0.63	5	3	38
370d0.64	0.64	5	3	38
370d0.65	0.65	5	3	38
370d0.66	0.66	5	3	38
370d0.67	0.67	5	3	38
370d0.68	0.68	5	3	38
370d0.69	0.69	5	3	38
370d0.70	0.70	5	3	38
370d0.71	0.71	5	3	38
370d0.72	0.72	5	3	38
370d0.73	0.73	5	3	38
370d0.74	0.74	5	3	38
370d0.75	0.75	5	3	38
370d0.76	0.76	5	3	38
370d0.77	0.77	5	3	38
370d0.78	0.78	5	3	38

Art. n°	d_1	l_1	D	L
370d0.79	0.79	5	3	38
370d0.80	0.80	6	3	38
370d0.81	0.81	6	3	38
370d0.82	0.82	6	3	38
370d0.83	0.83	6	3	38
370d0.84	0.84	6	3	38
370d0.85	0.85	6	3	38
370d0.86	0.86	6	3	38
370d0.87	0.87	6	3	38
370d0.88	0.88	6	3	38
370d0.89	0.89	6	3	38
370d0.90	0.90	6	3	38
370d0.91	0.91	8	3	38
370d0.92	0.92	8	3	38
370d0.93	0.93	8	3	38
370d0.94	0.94	8	3	38
370d0.95	0.95	8	3	38
370d0.96	0.96	8	3	38
370d0.97	0.97	8	3	38
370d0.98	0.98	8	3	38
370d0.99	0.99	8	3	38
370d1.00	1.00	8	3	38
370d1.01	1.01	8	3	38
370d1.02	1.02	8	3	38
370d1.03	1.03	8	3	38
370d1.04	1.04	8	3	38
370d1.05	1.05	8	3	38
370d1.06	1.06	8	3	38
370d1.07	1.07	8	3	38



EXPERT drill - stainless steel

Continuation

Nemo coated
(see page 61)

135°

Z2

λ
Variable

MG10

N

Art. n°	d_1	l_1	D	L
370d1.08	1.08	8	3	38
370d1.09	1.09	8	3	38
370d1.10	1.10	8	3	38
370d1.11	1.11	8	3	38
370d1.12	1.12	8	3	38
370d1.13	1.13	8	3	38
370d1.14	1.14	8	3	38
370d1.15	1.15	8	3	38
370d1.16	1.16	8	3	38
370d1.17	1.17	8	3	38
370d1.18	1.18	8	3	38
370d1.19	1.19	8	3	38
370d1.20	1.20	8	3	38
370d1.21	1.21	8	3	38
370d1.22	1.22	8	3	38
370d1.23	1.23	8	3	38
370d1.24	1.24	8	3	38
370d1.25	1.25	8	3	38
370d1.26	1.26	8	3	38
370d1.27	1.27	8	3	38
370d1.28	1.28	8	3	38
370d1.29	1.29	8	3	38
370d1.30	1.30	8	3	38
370d1.31	1.31	8	3	38
370d1.32	1.32	8	3	38
370d1.33	1.33	8	3	38
370d1.34	1.34	8	3	38
370d1.35	1.35	8	3	38
370d1.36	1.36	8	3	38
370d1.37	1.37	8	3	38
370d1.38	1.38	8	3	38
370d1.39	1.39	8	3	38
370d1.40	1.40	8	3	38
370d1.41	1.41	8	3	38
370d1.42	1.42	8	3	38
370d1.43	1.43	8	3	38
370d1.44	1.44	8	3	38
370d1.45	1.45	8	3	38
370d1.46	1.46	8	3	38
370d1.47	1.47	8	3	38
370d1.48	1.48	8	3	38
370d1.49	1.49	8	3	38
370d1.50	1.50	10	3	38
370d1.55	1.55	10	3	38
370d1.60	1.60	10	3	38

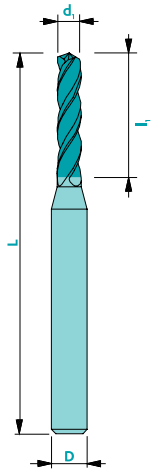
Art. n°	d_1	l_1	D	L
370d1.65	1.65	10	3	38
370d1.70	1.70	12	3	38
370d1.75	1.75	12	3	38
370d1.80	1.80	12	3	38
370d1.85	1.85	12	3	38
370d1.90	1.90	12	3	38
370d1.95	1.95	12	3	38
370d2.00	2.00	12	3	38
370d2.05	2.05	12	3	38
370d2.10	2.10	12	3	38
370d2.15	2.15	12	3	38
370d2.20	2.20	12	3	38
370d2.25	2.25	12	3	38
370d2.30	2.30	12	3	38
370d2.35	2.35	12	3	38
370d2.40	2.40	12	3	38
370d2.45	2.45	12	3	38
370d2.50	2.50	12	3	38
370d2.60	2.60	12	3	38
370d2.70	2.70	12	3	38
370d2.80	2.80	12	3	38
370d2.90	2.90	12	3	38
370d3.00	3.00	12	3	38

Twist drill Z3 - shank Ø3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	□	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	□	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	□	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.002/-0.004
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
353d0.15	0.15	2.0	3.0	38
353d0.18	0.18	2.0	3.0	38
353d0.20	0.20	3.0	3.0	38
353d0.21	0.21	3.0	3.0	38
353d0.22	0.22	3.0	3.0	38
353d0.23	0.23	3.0	3.0	38
353d0.24	0.24	3.0	3.0	38
353d0.25	0.25	3.5	3.0	38
353d0.26	0.26	3.5	3.0	38
353d0.27	0.27	3.5	3.0	38
353d0.28	0.28	3.5	3.0	38
353d0.29	0.29	3.5	3.0	38
353d0.30	0.30	5.0	3.0	38
353d0.31	0.31	5.0	3.0	38
353d0.32	0.32	5.0	3.0	38
353d0.33	0.33	5.0	3.0	38
353d0.34	0.34	5.0	3.0	38
353d0.35	0.35	5.0	3.0	38
353d0.36	0.36	5.0	3.0	38
353d0.37	0.37	5.0	3.0	38
353d0.38	0.38	5.0	3.0	38
353d0.39	0.39	5.0	3.0	38
353d0.40	0.40	6.0	3.0	38
353d0.41	0.41	6.0	3.0	38
353d0.42	0.42	6.0	3.0	38
353d0.43	0.43	6.0	3.0	38
353d0.44	0.44	6.0	3.0	38
353d0.45	0.45	6.0	3.0	38
353d0.46	0.46	6.0	3.0	38

Art. n°	d_1	l_1	D	L
353d0.47	0.47	6.0	3.0	38
353d0.48	0.48	6.0	3.0	38
353d0.49	0.49	6.0	3.0	38
353d0.50	0.50	6.0	3.0	38
353d0.51	0.51	6.0	3.0	38
353d0.52	0.52	6.0	3.0	38
353d0.53	0.53	6.0	3.0	38
353d0.54	0.54	6.0	3.0	38
353d0.55	0.55	7.0	3.0	38
353d0.56	0.56	7.0	3.0	38
353d0.57	0.57	7.0	3.0	38
353d0.58	0.58	7.0	3.0	38
353d0.59	0.59	7.0	3.0	38
353d0.60	0.60	7.0	3.0	38
353d0.61	0.61	7.0	3.0	38
353d0.62	0.62	7.0	3.0	38
353d0.63	0.63	7.0	3.0	38
353d0.64	0.64	7.0	3.0	38
353d0.65	0.65	7.0	3.0	38
353d0.66	0.66	7.0	3.0	38
353d0.67	0.67	7.0	3.0	38
353d0.68	0.68	7.0	3.0	38
353d0.69	0.69	7.0	3.0	38
353d0.70	0.70	9.5	3.0	38
353d0.71	0.71	9.5	3.0	38
353d0.72	0.72	9.5	3.0	38
353d0.73	0.73	9.5	3.0	38
353d0.74	0.74	9.5	3.0	38
353d0.75	0.75	9.5	3.0	38

140° Z3

λ 34°

MG10 N

Twist drill Z3 - shank Ø3

Available uncoated or coated (see page 61)

140°

Z3

λ 34°

MG10

N

Art. n°	d_1	l_1	D	L
353d0.76	0.76	9.5	3.0	38
353d0.77	0.77	9.5	3.0	38
353d0.78	0.78	9.5	3.0	38
353d0.79	0.79	9.5	3.0	38
353d0.80	0.80	9.5	3.0	38
353d0.81	0.81	9.5	3.0	38
353d0.82	0.82	9.5	3.0	38
353d0.83	0.83	9.5	3.0	38
353d0.84	0.84	9.5	3.0	38
353d0.85	0.85	9.5	3.0	38
353d0.86	0.86	9.5	3.0	38
353d0.87	0.87	9.5	3.0	38
353d0.88	0.88	9.5	3.0	38
353d0.89	0.89	9.5	3.0	38
353d0.90	0.90	9.5	3.0	38
353d0.91	0.91	9.5	3.0	38
353d0.92	0.92	9.5	3.0	38
353d0.93	0.93	9.5	3.0	38
353d0.94	0.94	9.5	3.0	38
353d0.95	0.95	9.5	3.0	38
353d0.96	0.96	9.5	3.0	38
353d0.97	0.97	9.5	3.0	38
353d0.98	0.98	9.5	3.0	38
353d0.99	0.99	9.5	3.0	38
353d1.00	1.00	9.5	3.0	38
353d1.01	1.01	9.5	3.0	38
353d1.02	1.02	9.5	3.0	38
353d1.03	1.03	9.5	3.0	38
353d1.04	1.04	9.5	3.0	38
353d1.05	1.05	10.5	3.0	38
353d1.06	1.06	10.5	3.0	38
353d1.07	1.07	10.5	3.0	38
353d1.08	1.08	10.5	3.0	38
353d1.09	1.09	10.5	3.0	38
353d1.10	1.10	10.5	3.0	38
353d1.11	1.11	10.5	3.0	38
353d1.12	1.12	10.5	3.0	38
353d1.13	1.13	10.5	3.0	38
353d1.14	1.14	10.5	3.0	38
353d1.15	1.15	10.5	3.0	38
353d1.16	1.16	10.5	3.0	38
353d1.17	1.17	10.5	3.0	38
353d1.18	1.18	10.5	3.0	38
353d1.19	1.19	10.5	3.0	38

Art. n°	d_1	l_1	D	L
353d1.20	1.20	10.5	3.0	38
353d1.21	1.21	10.5	3.0	38
353d1.22	1.22	10.5	3.0	38
353d1.23	1.23	10.5	3.0	38
353d1.24	1.24	10.5	3.0	38
353d1.25	1.25	10.5	3.0	38
353d1.26	1.26	10.5	3.0	38
353d1.27	1.27	10.5	3.0	38
353d1.28	1.28	10.5	3.0	38
353d1.29	1.29	10.5	3.0	38
353d1.30	1.30	10.5	3.0	38
353d1.31	1.31	10.5	3.0	38
353d1.32	1.32	10.5	3.0	38
353d1.33	1.33	10.5	3.0	38
353d1.34	1.34	10.5	3.0	38
353d1.35	1.35	10.5	3.0	38
353d1.36	1.36	10.5	3.0	38
353d1.37	1.37	10.5	3.0	38
353d1.38	1.38	10.5	3.0	38
353d1.39	1.39	10.5	3.0	38
353d1.40	1.40	10.5	3.0	38
353d1.41	1.41	10.5	3.0	38
353d1.42	1.42	10.5	3.0	38
353d1.43	1.43	10.5	3.0	38
353d1.44	1.44	10.5	3.0	38
353d1.45	1.45	10.5	3.0	38
353d1.46	1.46	10.5	3.0	38
353d1.47	1.47	10.5	3.0	38
353d1.48	1.48	10.5	3.0	38
353d1.49	1.49	10.5	3.0	38
353d1.50	1.50	10.5	3.0	38
353d1.51	1.51	10.5	3.0	38
353d1.52	1.52	10.5	3.0	38
353d1.53	1.53	10.5	3.0	38
353d1.54	1.54	10.5	3.0	38
353d1.55	1.55	10.5	3.0	38
353d1.56	1.56	10.5	3.0	38
353d1.57	1.57	10.5	3.0	38
353d1.58	1.58	10.5	3.0	38
353d1.59	1.59	10.5	3.0	38
353d1.60	1.60	10.5	3.0	38
353d1.61	1.61	10.5	3.0	38
353d1.62	1.62	10.5	3.0	38

Twist drill Z3 - shank Ø3

Art. n°	d_1	l_1	D	L
353d1.63	1.63	10.5	3.0	38
353d1.64	1.64	10.5	3.0	38
353d1.65	1.65	10.5	3.0	38
353d1.66	1.66	10.5	3.0	38
353d1.67	1.67	10.5	3.0	38
353d1.68	1.68	10.5	3.0	38
353d1.69	1.69	10.5	3.0	38
353d1.70	1.70	10.5	3.0	38
353d1.71	1.71	10.5	3.0	38
353d1.72	1.72	10.5	3.0	38
353d1.73	1.73	10.5	3.0	38
353d1.74	1.74	10.5	3.0	38
353d1.75	1.75	10.5	3.0	38
353d1.76	1.76	10.5	3.0	38
353d1.77	1.77	10.5	3.0	38
353d1.78	1.78	10.5	3.0	38
353d1.79	1.79	10.5	3.0	38
353d1.80	1.80	10.5	3.0	38
353d1.81	1.81	10.5	3.0	38
353d1.82	1.82	10.5	3.0	38
353d1.83	1.83	10.5	3.0	38
353d1.84	1.84	10.5	3.0	38
353d1.85	1.85	10.5	3.0	38
353d1.86	1.86	10.5	3.0	38
353d1.87	1.87	10.5	3.0	38
353d1.88	1.88	10.5	3.0	38
353d1.89	1.89	10.5	3.0	38
353d1.90	1.90	10.5	3.0	38
353d1.91	1.91	10.5	3.0	38
353d1.92	1.92	10.5	3.0	38
353d1.93	1.93	10.5	3.0	38
353d1.94	1.94	10.5	3.0	38
353d1.95	1.95	10.5	3.0	38
353d1.96	1.96	10.5	3.0	38
353d1.97	1.97	10.5	3.0	38
353d1.98	1.98	10.5	3.0	38
353d1.99	1.99	10.5	3.0	38
353d2.00	2.00	10.5	3.0	38
353d2.05	2.05	10.5	3.0	38
353d2.10	2.10	10.5	3.0	38
353d2.15	2.15	10.5	3.0	38
353d2.20	2.20	10.5	3.0	38
353d2.25	2.25	10.5	3.0	38

Art. n°	d_1	l_1	D	L
353d2.30	2.30	10.5	3.0	38
353d2.35	2.35	10.5	3.0	38
353d2.40	2.40	10.5	3.0	38
353d2.45	2.45	10.5	3.0	38
353d2.50	2.50	10.5	3.0	38
353d2.55	2.55	10.5	3.0	38
353d2.60	2.60	10.5	3.0	38
353d2.65	2.65	10.5	3.0	38
353d2.70	2.70	10.5	3.0	38
353d2.75	2.75	10.5	3.0	38
353d2.80	2.80	10.5	3.0	38
353d2.85	2.85	10.5	3.0	38
353d2.90	2.90	10.5	3.0	38
353d2.95	2.95	10.5	3.0	38
353d3.00	3.00	10.5	3.0	38

Available uncoated or coated (see page 61)

140°

Z3

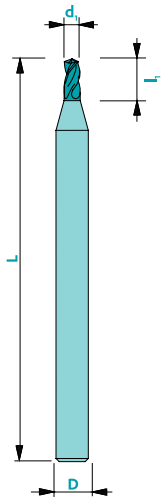
λ 34°

MG10

N

353-0

Twist drill Z3 - shank Ø3 - short



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	□	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	□	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	□	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances d_1: -0.002/-0.004
D: h5

140° Z3

λ 34°

MG10 N

Art. n°	d_1	l_1	D	L
353-0d0.10	0.10	1.0	3.0	38
353-0d0.13	0.13	1.5	3.0	38
353-0d0.15	0.15	1.5	3.0	38
353-0d0.20	0.20	2.0	3.0	38
353-0d0.21	0.21	2.0	3.0	38
353-0d0.22	0.22	2.0	3.0	38
353-0d0.23	0.23	2.0	3.0	38
353-0d0.24	0.24	2.0	3.0	38
353-0d0.25	0.25	2.0	3.0	38
353-0d0.26	0.26	2.0	3.0	38
353-0d0.27	0.27	2.0	3.0	38
353-0d0.28	0.28	2.0	3.0	38
353-0d0.29	0.29	2.0	3.0	38
353-0d0.30	0.30	2.0	3.0	38
353-0d0.31	0.31	2.0	3.0	38
353-0d0.32	0.32	2.0	3.0	38
353-0d0.33	0.33	2.0	3.0	38
353-0d0.34	0.34	2.0	3.0	38
353-0d0.35	0.35	2.0	3.0	38
353-0d0.36	0.36	2.0	3.0	38
353-0d0.37	0.37	2.0	3.0	38
353-0d0.38	0.38	2.0	3.0	38
353-0d0.39	0.39	2.0	3.0	38
353-0d0.40	0.40	2.0	3.0	38
353-0d0.41	0.41	2.0	3.0	38
353-0d0.42	0.42	2.0	3.0	38
353-0d0.43	0.43	2.0	3.0	38
353-0d0.44	0.44	2.0	3.0	38
353-0d0.45	0.45	2.0	3.0	38
353-0d0.46	0.46	2.0	3.0	38

Art. n°	d_1	l_1	D	L
353-0d0.47	0.47	2.0	3.0	38
353-0d0.48	0.48	2.0	3.0	38
353-0d0.49	0.49	2.0	3.0	38
353-0d0.50	0.50	3.0	3.0	38
353-0d0.51	0.51	3.0	3.0	38
353-0d0.52	0.52	3.0	3.0	38
353-0d0.53	0.53	3.0	3.0	38
353-0d0.54	0.54	3.0	3.0	38
353-0d0.55	0.55	3.0	3.0	38
353-0d0.56	0.56	3.0	3.0	38
353-0d0.57	0.57	3.0	3.0	38
353-0d0.58	0.58	3.0	3.0	38
353-0d0.59	0.59	3.0	3.0	38
353-0d0.60	0.60	3.0	3.0	38
353-0d0.61	0.61	3.0	3.0	38
353-0d0.62	0.62	3.0	3.0	38
353-0d0.63	0.63	3.0	3.0	38
353-0d0.64	0.64	3.0	3.0	38
353-0d0.65	0.65	3.0	3.0	38
353-0d0.66	0.66	3.0	3.0	38
353-0d0.67	0.67	3.0	3.0	38
353-0d0.68	0.68	3.0	3.0	38
353-0d0.69	0.69	3.0	3.0	38
353-0d0.70	0.70	3.0	3.0	38
353-0d0.71	0.71	3.0	3.0	38
353-0d0.72	0.72	3.0	3.0	38
353-0d0.73	0.73	3.0	3.0	38
353-0d0.74	0.74	3.0	3.0	38
353-0d0.75	0.75	3.0	3.0	38

Twist drill Z3 - shank Ø3 - short

Art. n°	d_1	l_1	D	L
353-0d0.76	0.76	3.0	3.0	38
353-0d0.77	0.77	3.0	3.0	38
353-0d0.78	0.78	3.0	3.0	38
353-0d0.79	0.79	3.0	3.0	38
353-0d0.80	0.80	3.0	3.0	38
353-0d0.81	0.81	3.0	3.0	38
353-0d0.82	0.82	3.0	3.0	38
353-0d0.83	0.83	3.0	3.0	38
353-0d0.84	0.84	3.0	3.0	38
353-0d0.85	0.85	3.0	3.0	38
353-0d0.86	0.86	3.0	3.0	38
353-0d0.87	0.87	3.0	3.0	38
353-0d0.88	0.88	3.0	3.0	38
353-0d0.89	0.89	3.0	3.0	38
353-0d0.90	0.90	3.0	3.0	38
353-0d0.91	0.91	3.0	3.0	38
353-0d0.92	0.92	3.0	3.0	38
353-0d0.93	0.93	3.0	3.0	38
353-0d0.94	0.94	3.0	3.0	38
353-0d0.95	0.95	3.0	3.0	38
353-0d0.96	0.96	3.0	3.0	38
353-0d0.97	0.97	3.0	3.0	38
353-0d0.98	0.98	3.0	3.0	38
353-0d0.99	0.99	3.0	3.0	38
353-0d1.00	1.00	3.5	3.0	38
353-0d1.01	1.01	3.5	3.0	38
353-0d1.02	1.02	3.5	3.0	38
353-0d1.03	1.03	3.5	3.0	38
353-0d1.04	1.04	3.5	3.0	38
353-0d1.05	1.05	3.5	3.0	38
353-0d1.06	1.06	3.5	3.0	38
353-0d1.07	1.07	3.5	3.0	38
353-0d1.08	1.08	3.5	3.0	38
353-0d1.09	1.09	3.5	3.0	38
353-0d1.10	1.10	3.5	3.0	38
353-0d1.11	1.11	3.5	3.0	38
353-0d1.12	1.12	3.5	3.0	38
353-0d1.13	1.13	3.5	3.0	38
353-0d1.14	1.14	3.5	3.0	38
353-0d1.15	1.15	3.5	3.0	38
353-0d1.16	1.16	3.5	3.0	38
353-0d1.17	1.17	3.5	3.0	38
353-0d1.18	1.18	3.5	3.0	38
353-0d1.19	1.19	3.5	3.0	38

Art. n°	d_1	l_1	D	L
353-0d1.20	1.20	3.5	3.0	38
353-0d1.21	1.21	3.5	3.0	38
353-0d1.22	1.22	3.5	3.0	38
353-0d1.23	1.23	3.5	3.0	38
353-0d1.24	1.24	3.5	3.0	38
353-0d1.25	1.25	3.5	3.0	38
353-0d1.26	1.26	3.5	3.0	38
353-0d1.27	1.27	3.5	3.0	38
353-0d1.28	1.28	3.5	3.0	38
353-0d1.29	1.29	3.5	3.0	38
353-0d1.30	1.30	3.5	3.0	38
353-0d1.31	1.31	3.5	3.0	38
353-0d1.32	1.32	3.5	3.0	38
353-0d1.33	1.33	3.5	3.0	38
353-0d1.34	1.34	3.5	3.0	38
353-0d1.35	1.35	3.5	3.0	38
353-0d1.36	1.36	3.5	3.0	38
353-0d1.37	1.37	3.5	3.0	38
353-0d1.38	1.38	3.5	3.0	38
353-0d1.39	1.39	3.5	3.0	38
353-0d1.40	1.40	3.5	3.0	38
353-0d1.41	1.41	3.5	3.0	38
353-0d1.42	1.42	3.5	3.0	38
353-0d1.43	1.43	3.5	3.0	38
353-0d1.44	1.44	3.5	3.0	38
353-0d1.45	1.45	3.5	3.0	38
353-0d1.46	1.46	3.5	3.0	38
353-0d1.47	1.47	3.5	3.0	38
353-0d1.48	1.48	3.5	3.0	38
353-0d1.49	1.49	3.5	3.0	38
353-0d1.50	1.50	3.5	3.0	38

Available uncoated or coated (see page 61)

140°

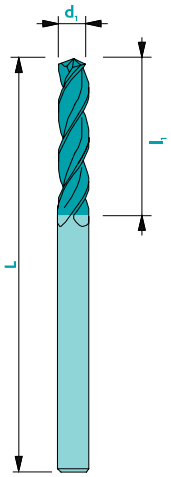
Z3

λ 34°

MG10

N

353-1 Twist drill Z3



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	□	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	□	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	□	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: h5

Available uncoated or coated (see page 61)

140° Z3

λ 34°

MG10 N

Art. n°	d_1	l_1	L
353-1d1.00	1.00	6.0	38
353-1d1.10	1.10	6.5	38
353-1d1.20	1.20	7.5	38
353-1d1.30	1.30	7.5	38
353-1d1.40	1.40	8.5	38
353-1d1.50	1.50	8.5	38
353-1d1.60	1.60	9.5	38
353-1d1.70	1.70	9.5	38
353-1d1.80	1.80	10.5	38
353-1d1.90	1.90	10.5	38
353-1d2.00	2.00	11.5	38
353-1d2.10	2.10	11.5	38
353-1d2.20	2.20	12.5	40
353-1d2.30	2.30	12.5	40
353-1d2.40	2.40	13.5	43
353-1d2.50	2.50	13.5	43
353-1d2.60	2.60	13.5	43
353-1d2.70	2.70	15.5	46
353-1d2.80	2.80	15.5	46
353-1d2.90	2.90	15.5	46
353-1d3.00	3.00	15.5	46
353-1d3.10	3.10	17.0	49
353-1d3.20	3.20	17.0	49
353-1d3.30	3.30	17.0	49
353-1d3.40	3.40	19.0	52
353-1d3.50	3.50	19.0	52
353-1d3.60	3.60	19.0	52
353-1d3.70	3.70	19.0	52
353-1d3.80	3.80	21.0	55
353-1d3.90	3.90	21.0	55
353-1d4.00	4.00	21.0	55

Art. n°	d_1	l_1	L
353-1d4.10	4.10	21.0	55
353-1d4.20	4.20	21.0	55
353-1d4.30	4.30	22.5	58
353-1d4.40	4.40	22.5	58
353-1d4.50	4.50	22.5	58
353-1d4.60	4.60	22.5	58
353-1d4.70	4.70	22.5	58
353-1d4.80	4.80	24.5	62
353-1d4.90	4.90	24.5	62
353-1d5.00	5.00	24.5	62
353-1d5.10	5.10	24.5	62
353-1d5.20	5.20	24.5	62
353-1d5.30	5.30	24.5	62
353-1d5.40	5.40	26.0	66
353-1d5.50	5.50	26.0	66
353-1d5.60	5.60	26.0	66
353-1d5.70	5.70	26.0	66
353-1d5.80	5.80	26.0	66
353-1d5.90	5.90	26.0	66
353-1d6.00	6.00	26.0	66
353-1d6.10	6.10	28.5	70
353-1d6.20	6.20	28.5	70
353-1d6.30	6.30	28.5	70
353-1d6.40	6.40	28.5	70
353-1d6.50	6.50	28.5	70
353-1d6.60	6.60	28.5	70
353-1d6.70	6.70	28.5	70
353-1d6.80	6.80	31.0	74
353-1d6.90	6.90	31.0	74

Twist drill Z3

Art. n°	d_1	l_1	L
353-1d7.00	7.00	31.0	74
353-1d7.10	7.10	31.0	74
353-1d7.20	7.20	31.0	74
353-1d7.30	7.30	31.0	74
353-1d7.40	7.40	31.0	74
353-1d7.50	7.50	31.0	74
353-1d7.60	7.60	34.0	79
353-1d7.70	7.70	34.0	79
353-1d7.80	7.80	34.0	79
353-1d7.90	7.90	34.0	79
353-1d8.00	8.00	34.0	79
353-1d8.10	8.10	34.0	79
353-1d8.20	8.20	34.0	79
353-1d8.30	8.30	34.0	79
353-1d8.40	8.40	34.0	79
353-1d8.50	8.50	34.0	79
353-1d8.60	8.60	36.5	84
353-1d8.70	8.70	36.5	84
353-1d8.80	8.80	36.5	84
353-1d8.90	8.90	36.5	84
353-1d9.00	9.00	36.5	84
353-1d9.10	9.10	36.5	84
353-1d9.20	9.20	36.5	84
353-1d9.30	9.30	36.5	84
353-1d9.40	9.40	36.5	84
353-1d9.50	9.50	36.5	84
353-1d9.60	9.60	39.0	89
353-1d9.70	9.70	39.0	89
353-1d9.80	9.80	39.0	89
353-1d9.90	9.90	39.0	89
353-1d10.00	10.00	39.0	89
353-1d10.20	10.20	39.0	89
353-1d10.50	10.50	39.0	89
353-1d11.00	11.00	43.0	95
353-1d11.50	11.50	43.0	95
353-1d12.00	12.00	47.0	102

Available uncoated or coated (see page 61)

140°

Z3

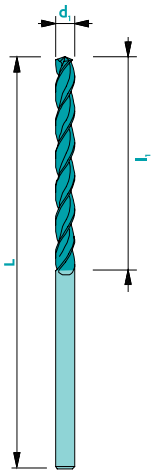
λ
34°

MG10

N

353-2

Twist drill Z3 - long serie



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	□	Trio
Steel > 700 N/mm²	60	70	□	□	Trio
Stainless steel	20	40	□	□	Nemo
Cast iron	60	70	□	□	Nemo
Copper	100	130	□	□	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	□	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: h5

Available uncoated or coated (see page 61)

140° | Z3

λ 34° | MG10 | N

Art. n°	d_1	l_1	L
353-2d1.00	1.00	11.5	38
353-2d1.10	1.10	13.0	38
353-2d1.20	1.20	15.0	38
353-2d1.30	1.30	15.0	38
353-2d1.40	1.40	17.0	40
353-2d1.50	1.50	17.0	40
353-2d1.60	1.60	19.0	43
353-2d1.70	1.70	19.0	43
353-2d1.80	1.80	21.0	46
353-2d1.90	1.90	21.0	46
353-2d2.00	2.00	22.0	49
353-2d2.10	2.10	22.0	49
353-2d2.20	2.20	25.0	53
353-2d2.30	2.30	25.0	53
353-2d2.40	2.40	28.0	57
353-2d2.50	2.50	28.0	57
353-2d2.60	2.60	28.0	57
353-2d2.70	2.70	31.0	61
353-2d2.80	2.80	31.0	61
353-2d2.90	2.90	31.0	61
353-2d3.00	3.00	31.0	61
353-2d3.10	3.10	34.0	65
353-2d3.20	3.20	34.0	65
353-2d3.30	3.30	34.0	65
353-2d3.40	3.40	37.0	70
353-2d3.50	3.50	37.0	70
353-2d3.60	3.60	37.0	70
353-2d3.70	3.70	37.0	70
353-2d3.80	3.80	41.0	75
353-2d3.90	3.90	41.0	75
353-2d4.00	4.00	41.0	75

Art. n°	d_1	l_1	L
353-2d4.10	4.10	41.0	75
353-2d4.20	4.20	41.0	75
353-2d4.30	4.30	45.0	80
353-2d4.40	4.40	45.0	80
353-2d4.50	4.50	45.0	80
353-2d4.60	4.60	45.0	80
353-2d4.70	4.70	45.0	80
353-2d4.80	4.80	50.0	86
353-2d4.90	4.90	50.0	86
353-2d5.00	5.00	50.0	86
353-2d5.10	5.10	50.0	86
353-2d5.20	5.20	50.0	86
353-2d5.30	5.30	50.0	86
353-2d5.40	5.40	55.0	93
353-2d5.50	5.50	55.0	93
353-2d5.60	5.60	55.0	93
353-2d5.70	5.70	55.0	93
353-2d5.80	5.80	55.0	93
353-2d5.90	5.90	55.0	93
353-2d6.00	6.00	55.0	93
353-2d6.10	6.10	60.0	101
353-2d6.20	6.20	60.0	101
353-2d6.30	6.30	60.0	101
353-2d6.40	6.40	60.0	101
353-2d6.50	6.50	60.0	101
353-2d6.60	6.60	60.0	101
353-2d6.70	6.70	60.0	101
353-2d6.80	6.80	66.0	109
353-2d6.90	6.90	66.0	109

Twist drill Z3 - long serie

Art. n°	d_1	l_1	L
353-2d7.00	7.00	66.0	109
353-2d7.10	7.10	66.0	109
353-2d7.20	7.20	66.0	109
353-2d7.30	7.30	66.0	109
353-2d7.40	7.40	66.0	109
353-2d7.50	7.50	66.0	109
353-2d7.60	7.60	72.0	117
353-2d7.70	7.70	72.0	117
353-2d7.80	7.80	72.0	117
353-2d7.90	7.90	72.0	117
353-2d8.00	8.00	72.0	117
353-2d8.10	8.10	72.0	117
353-2d8.20	8.20	72.0	117
353-2d8.30	8.30	72.0	117
353-2d8.40	8.40	72.0	117
353-2d8.50	8.50	72.0	117
353-2d8.60	8.60	78.0	125
353-2d8.70	8.70	78.0	125
353-2d8.80	8.80	78.0	125
353-2d8.90	8.90	78.0	125
353-2d9.00	9.00	78.0	125
353-2d9.10	9.10	78.0	125
353-2d9.20	9.20	78.0	125
353-2d9.30	9.30	78.0	125
353-2d9.40	9.40	78.0	125
353-2d9.50	9.50	78.0	125
353-2d9.60	9.60	84.0	133
353-2d9.70	9.70	84.0	133
353-2d9.80	9.80	84.0	133
353-2d9.90	9.90	84.0	133
353-2d10.00	10.00	84.0	133
353-2d10.20	10.20	84.0	133
353-2d10.50	10.50	84.0	133
353-2d11.00	11.00	91.0	142
353-2d11.50	11.50	91.0	142
353-2d12.00	12.00	98.0	151
353-2d12.50	12.50	98.0	151
353-2d13.00	13.00	98.0	151
353-2d13.50	13.50	105.0	160
353-2d14.00	14.00	105.0	160

Available uncoated or coated (see page 61)

140°

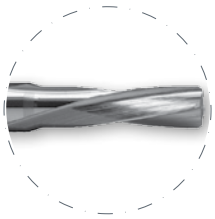
Z3

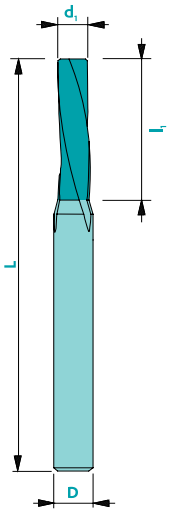
λ 34°

MG10

N

Reamer for watchmakers





Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	15	20	□	■	Trio
Steel > 700 N/mm²	10	15	□	■	Trio
Stainless steel	10	15	□	■	Trio
Cast iron	10	15	□	■	Trio
Copper	15	40	□	■	Solo
Brass - Bronze	20	40	□	■	Solo
Aluminium	10	35	■	□	Solo
Gold - Silver	20	40	□	■	Solo
Platinum - Palladium	-	10	-	□	Solo
Superalloys	-	10	-	□	Trio
Titanium	15	-	■	-	-

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm ▶ -0.002/-0.004 D: h5
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

Z3-4

λ **10°**

MG10 **N**

Left helix

Right cut

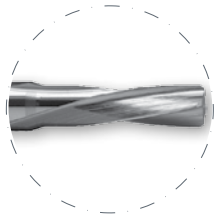
Art. n°	d_1	l_1	D	L	Z
361d0.50Z3	0.50	5.0	3.0	33	3
361d0.51Z3	0.51	5.0	3.0	33	3
361d0.52Z3	0.52	5.0	3.0	33	3
361d0.53Z3	0.53	5.0	3.0	33	3
361d0.54Z3	0.54	5.0	3.0	33	3
361d0.55Z3	0.55	5.0	3.0	33	3
361d0.56Z3	0.56	5.0	3.0	33	3
361d0.57Z3	0.57	5.0	3.0	33	3
361d0.58Z3	0.58	5.0	3.0	33	3
361d0.59Z3	0.59	5.0	3.0	33	3
361d0.60Z3	0.60	5.0	3.0	33	3
361d0.61Z3	0.61	5.0	3.0	33	3
361d0.62Z3	0.62	5.0	3.0	33	3
361d0.63Z3	0.63	5.0	3.0	33	3
361d0.64Z3	0.64	5.0	3.0	33	3
361d0.65Z3	0.65	5.0	3.0	33	3
361d0.66Z3	0.66	5.0	3.0	33	3
361d0.67Z3	0.67	5.0	3.0	33	3
361d0.68Z3	0.68	5.0	3.0	33	3
361d0.69Z3	0.69	5.0	3.0	33	3
361d0.70Z3	0.70	6.0	3.0	33	3
361d0.71Z3	0.71	6.0	3.0	33	3
361d0.72Z3	0.72	6.0	3.0	33	3
361d0.73Z3	0.73	6.0	3.0	33	3
361d0.74Z3	0.74	6.0	3.0	33	3
361d0.75Z3	0.75	6.0	3.0	33	3
361d0.76Z3	0.76	6.0	3.0	33	3
361d0.77Z3	0.77	6.0	3.0	33	3

Art. n°	d_1	l_1	D	L	Z
361d0.78Z3	0.78	6.0	3.0	33	3
361d0.79Z3	0.79	6.0	3.0	33	3
361d0.80Z3	0.80	6.0	3.0	33	3
361d0.81Z3	0.81	6.0	3.0	33	3
361d0.82Z3	0.82	6.0	3.0	33	3
361d0.83Z3	0.83	6.0	3.0	33	3
361d0.84Z3	0.84	6.0	3.0	33	3
361d0.85Z3	0.85	6.0	3.0	33	3
361d0.86Z3	0.86	6.0	3.0	33	3
361d0.87Z3	0.87	6.0	3.0	33	3
361d0.88Z3	0.88	6.0	3.0	33	3
361d0.89Z3	0.89	6.0	3.0	33	3
361d0.90Z3	0.90	6.0	3.0	33	3
361d0.91Z3	0.91	6.0	3.0	33	3
361d0.92Z3	0.92	6.0	3.0	33	3
361d0.93Z3	0.93	6.0	3.0	33	3
361d0.94Z3	0.94	6.0	3.0	33	3
361d0.95Z3	0.95	6.0	3.0	33	3
361d0.96Z3	0.96	6.0	3.0	33	3
361d0.97Z3	0.97	6.0	3.0	33	3
361d0.98Z3	0.98	6.0	3.0	33	3
361d0.99Z3	0.99	6.0	3.0	33	3
361d1.00Z3	1.00	8.0	3.0	33	3
361d1.01Z3	1.01	8.0	3.0	33	3
361d1.02Z3	1.02	8.0	3.0	33	3
361d1.03Z3	1.03	8.0	3.0	33	3
361d1.04Z3	1.04	8.0	3.0	33	3
361d1.05Z3	1.05	8.0	3.0	33	3

Reamer for watchmakers

Art. n°	d_1	l_1	D	L	Z
361d1.06Z3	1.06	8.0	3.0	33	3
361d1.07Z3	1.07	8.0	3.0	33	3
361d1.08Z3	1.08	8.0	3.0	33	3
361d1.09Z3	1.09	8.0	3.0	33	3
361d1.10Z3	1.10	8.0	3.0	33	3
361d1.11Z3	1.11	8.0	3.0	33	3
361d1.12Z3	1.12	8.0	3.0	33	3
361d1.13Z3	1.13	8.0	3.0	33	3
361d1.14Z3	1.14	8.0	3.0	33	3
361d1.15Z3	1.15	8.0	3.0	33	3
361d1.16Z3	1.16	8.0	3.0	33	3
361d1.17Z3	1.17	8.0	3.0	33	3
361d1.18Z3	1.18	8.0	3.0	33	3
361d1.19Z3	1.19	8.0	3.0	33	3
361d1.20Z3	1.20	8.0	3.0	33	3
361d1.21Z3	1.21	8.0	3.0	33	3
361d1.22Z3	1.22	8.0	3.0	33	3
361d1.23Z3	1.23	8.0	3.0	33	3
361d1.24Z3	1.24	8.0	3.0	33	3
361d1.25Z3	1.25	8.0	3.0	33	3
361d1.26Z3	1.26	8.0	3.0	33	3
361d1.27Z3	1.27	8.0	3.0	33	3
361d1.28Z3	1.28	8.0	3.0	33	3
361d1.29Z3	1.29	8.0	3.0	33	3
361d1.30Z3	1.30	8.0	3.0	33	3
361d1.31Z3	1.31	8.0	3.0	33	3
361d1.32Z3	1.32	8.0	3.0	33	3
361d1.33Z3	1.33	8.0	3.0	33	3
361d1.34Z3	1.34	8.0	3.0	33	3
361d1.35Z3	1.35	8.0	3.0	33	3
361d1.36Z3	1.36	8.0	3.0	33	3
361d1.37Z3	1.37	8.0	3.0	33	3
361d1.38Z3	1.38	8.0	3.0	33	3
361d1.39Z3	1.39	8.0	3.0	33	3
361d1.40Z3	1.40	8.0	3.0	33	3
361d1.41Z3	1.41	8.0	3.0	33	3
361d1.42Z3	1.42	8.0	3.0	33	3
361d1.43Z3	1.43	8.0	3.0	33	3
361d1.44Z3	1.44	8.0	3.0	33	3
361d1.45Z3	1.45	8.0	3.0	33	3
361d1.46Z3	1.46	8.0	3.0	33	3
361d1.47Z3	1.47	8.0	3.0	33	3
361d1.48Z3	1.48	8.0	3.0	33	3
361d1.49Z3	1.49	8.0	3.0	33	3

Art. n°	d_1	l_1	D	L	Z
361d1.50Z#	1.50	10.0	3.0	33	3 - 4
361d1.51Z#	1.51	10.0	3.0	33	3 - 4
361d1.52Z#	1.52	10.0	3.0	33	3 - 4
361d1.53Z#	1.53	10.0	3.0	33	3 - 4
361d1.54Z#	1.54	10.0	3.0	33	3 - 4
361d1.55Z#	1.55	10.0	3.0	33	3 - 4
361d1.56Z#	1.56	10.0	3.0	33	3 - 4
361d1.57Z#	1.57	10.0	3.0	33	3 - 4
361d1.58Z#	1.58	10.0	3.0	33	3 - 4
361d1.59Z#	1.59	10.0	3.0	33	3 - 4
361d1.60Z#	1.60	10.0	3.0	33	3 - 4
361d1.61Z#	1.61	10.0	3.0	33	3 - 4
361d1.62Z#	1.62	10.0	3.0	33	3 - 4
361d1.63Z#	1.63	10.0	3.0	33	3 - 4
361d1.64Z#	1.64	10.0	3.0	33	3 - 4
361d1.65Z#	1.65	10.0	3.0	33	3 - 4
361d1.66Z#	1.66	10.0	3.0	33	3 - 4
361d1.67Z#	1.67	10.0	3.0	33	3 - 4
361d1.68Z#	1.68	10.0	3.0	33	3 - 4
361d1.69Z#	1.69	10.0	3.0	33	3 - 4
361d1.70Z#	1.70	10.0	3.0	33	3 - 4
361d1.71Z#	1.71	10.0	3.0	33	3 - 4
361d1.72Z#	1.72	10.0	3.0	33	3 - 4
361d1.73Z#	1.73	10.0	3.0	33	3 - 4
361d1.74Z#	1.74	10.0	3.0	33	3 - 4
361d1.75Z#	1.75	10.0	3.0	33	3 - 4
361d1.76Z#	1.76	10.0	3.0	33	3 - 4
361d1.77Z#	1.77	10.0	3.0	33	3 - 4
361d1.78Z#	1.78	10.0	3.0	33	3 - 4
361d1.79Z#	1.79	10.0	3.0	33	3 - 4
361d1.80Z#	1.80	10.0	3.0	33	3 - 4
361d1.81Z#	1.81	10.0	3.0	33	3 - 4
361d1.82Z#	1.82	10.0	3.0	33	3 - 4
361d1.83Z#	1.83	10.0	3.0	33	3 - 4
361d1.84Z#	1.84	10.0	3.0	33	3 - 4
361d1.85Z#	1.85	10.0	3.0	33	3 - 4
361d1.86Z#	1.86	10.0	3.0	33	3 - 4
361d1.87Z#	1.87	10.0	3.0	33	3 - 4
361d1.88Z#	1.88	10.0	3.0	33	3 - 4
361d1.89Z#	1.89	10.0	3.0	33	3 - 4
361d1.90Z#	1.90	10.0	3.0	33	3 - 4
361d1.91Z#	1.91	10.0	3.0	33	3 - 4
361d1.92Z#	1.92	10.0	3.0	33	3 - 4
361d1.93Z#	1.93	10.0	3.0	33	3 - 4



Available uncoated or coated (see page 61)

Z3-4

λ 10°

MG10

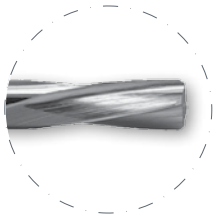
N

Left helix

Right cut

Reamer for watchmakers

Continuation



Available uncoated or coated (see page 61)

Z3-4

λ 10°

MG10

N

Left helix

Right cut

Art. n°	d_1	l_1	D	L	Z
361d1.94Z#	1.94	10.0	3.0	33	3 - 4
361d1.95Z#	1.95	10.0	3.0	33	3 - 4
361d1.96Z#	1.96	10.0	3.0	33	3 - 4
361d1.97Z#	1.97	10.0	3.0	33	3 - 4
361d1.98Z#	1.98	10.0	3.0	33	3 - 4
361d1.99Z#	1.99	10.0	3.0	33	3 - 4
361d2.00Z#	2.00	10.0	3.0	33	3 - 4
361d2.01Z#	2.01	10.0	3.0	33	3 - 4
361d2.02Z#	2.02	10.0	3.0	33	3 - 4
361d2.03Z#	2.03	10.0	3.0	33	3 - 4
361d2.04Z#	2.04	10.0	3.0	33	3 - 4
361d2.05Z#	2.05	10.0	3.0	33	3 - 4
361d2.06Z#	2.06	10.0	3.0	33	3 - 4
361d2.07Z#	2.07	10.0	3.0	33	3 - 4
361d2.08Z#	2.08	10.0	3.0	33	3 - 4
361d2.09Z#	2.09	10.0	3.0	33	3 - 4
361d2.10Z#	2.10	10.0	3.0	33	3 - 4
361d2.11Z#	2.11	10.0	3.0	33	3 - 4
361d2.12Z#	2.12	10.0	3.0	33	3 - 4
361d2.13Z#	2.13	10.0	3.0	33	3 - 4
361d2.14Z#	2.14	10.0	3.0	33	3 - 4
361d2.15Z#	2.15	10.0	3.0	33	3 - 4
361d2.16Z#	2.16	10.0	3.0	33	3 - 4
361d2.17Z#	2.17	10.0	3.0	33	3 - 4
361d2.18Z#	2.18	10.0	3.0	33	3 - 4
361d2.19Z#	2.19	10.0	3.0	33	3 - 4
361d2.20Z#	2.20	10.0	3.0	33	3 - 4
361d2.21Z#	2.21	10.0	3.0	33	3 - 4
361d2.22Z#	2.22	10.0	3.0	33	3 - 4
361d2.23Z#	2.23	10.0	3.0	33	3 - 4
361d2.24Z#	2.24	10.0	3.0	33	3 - 4
361d2.25Z#	2.25	10.0	3.0	33	3 - 4
361d2.26Z#	2.26	10.0	3.0	33	3 - 4
361d2.27Z#	2.27	10.0	3.0	33	3 - 4
361d2.28Z#	2.28	10.0	3.0	33	3 - 4
361d2.29Z#	2.29	10.0	3.0	33	3 - 4
361d2.30Z#	2.30	10.0	3.0	33	3 - 4
361d2.31Z#	2.31	10.0	3.0	33	3 - 4
361d2.32Z#	2.32	10.0	3.0	33	3 - 4
361d2.33Z#	2.33	10.0	3.0	33	3 - 4
361d2.34Z#	2.34	10.0	3.0	33	3 - 4
361d2.35Z#	2.35	10.0	3.0	33	3 - 4
361d2.36Z#	2.36	10.0	3.0	33	3 - 4
361d2.37Z#	2.37	10.0	3.0	33	3 - 4

Art. n°	d_1	l_1	D	L	Z
361d2.38Z#	2.38	10.0	3.0	33	3 - 4
361d2.39Z#	2.39	10.0	3.0	33	3 - 4
361d2.40Z#	2.40	10.0	3.0	33	3 - 4
361d2.41Z#	2.41	10.0	3.0	33	3 - 4
361d2.42Z#	2.42	10.0	3.0	33	3 - 4
361d2.43Z#	2.43	10.0	3.0	33	3 - 4
361d2.44Z#	2.44	10.0	3.0	33	3 - 4
361d2.45Z#	2.45	10.0	3.0	33	3 - 4
361d2.46Z#	2.46	10.0	3.0	33	3 - 4
361d2.47Z#	2.47	10.0	3.0	33	3 - 4
361d2.48Z#	2.48	10.0	3.0	33	3 - 4
361d2.49Z#	2.49	10.0	3.0	33	3 - 4
361d2.50Z#	2.50	10.0	3.0	33	3 - 4
361d2.51Z#	2.51	10.0	3.0	33	3 - 4
361d2.52Z#	2.52	10.0	3.0	33	3 - 4
361d2.53Z#	2.53	10.0	3.0	33	3 - 4
361d2.54Z#	2.54	10.0	3.0	33	3 - 4
361d2.55Z#	2.55	10.0	3.0	33	3 - 4
361d2.56Z#	2.56	10.0	3.0	33	3 - 4
361d2.57Z#	2.57	10.0	3.0	33	3 - 4
361d2.58Z#	2.58	10.0	3.0	33	3 - 4
361d2.59Z#	2.59	10.0	3.0	33	3 - 4
361d2.60Z#	2.60	10.0	3.0	33	3 - 4
361d2.61Z#	2.61	10.0	3.0	33	3 - 4
361d2.62Z#	2.62	10.0	3.0	33	3 - 4
361d2.63Z#	2.63	10.0	3.0	33	3 - 4
361d2.64Z#	2.64	10.0	3.0	33	3 - 4
361d2.65Z#	2.65	10.0	3.0	33	3 - 4
361d2.66Z#	2.66	10.0	3.0	33	3 - 4
361d2.67Z#	2.67	10.0	3.0	33	3 - 4
361d2.68Z#	2.68	10.0	3.0	33	3 - 4
361d2.69Z#	2.69	10.0	3.0	33	3 - 4
361d2.70Z#	2.70	10.0	3.0	33	3 - 4
361d2.71Z#	2.71	10.0	3.0	33	3 - 4
361d2.72Z#	2.72	10.0	3.0	33	3 - 4
361d2.73Z#	2.73	10.0	3.0	33	3 - 4
361d2.74Z#	2.74	10.0	3.0	33	3 - 4
361d2.75Z#	2.75	10.0	3.0	33	3 - 4
361d2.76Z#	2.76	10.0	3.0	33	3 - 4
361d2.77Z#	2.77	10.0	3.0	33	3 - 4
361d2.78Z#	2.78	10.0	3.0	33	3 - 4
361d2.79Z#	2.79	10.0	3.0	33	3 - 4
361d2.80Z#	2.80	10.0	3.0	33	3 - 4
361d2.81Z#	2.81	10.0	3.0	33	3 - 4

Reamer for watchmakers

Art. n°	d_1	l_1	D	L	Z
361d2.82Z#	2.82	10.0	3.0	33	3 - 4
361d2.83Z#	2.83	10.0	3.0	33	3 - 4
361d2.84Z#	2.84	10.0	3.0	33	3 - 4
361d2.85Z#	2.85	10.0	3.0	33	3 - 4
361d2.86Z#	2.86	10.0	3.0	33	3 - 4
361d2.87Z#	2.87	10.0	3.0	33	3 - 4
361d2.88Z#	2.88	10.0	3.0	33	3 - 4
361d2.89Z#	2.89	10.0	3.0	33	3 - 4
361d2.90Z#	2.90	10.0	3.0	33	3 - 4
361d2.91Z#	2.91	10.0	3.0	33	3 - 4
361d2.92Z#	2.92	10.0	3.0	33	3 - 4
361d2.93Z#	2.93	10.0	3.0	33	3 - 4
361d2.94Z#	2.94	10.0	3.0	33	3 - 4
361d2.95Z#	2.95	10.0	3.0	33	3 - 4
361d2.96Z#	2.96	10.0	3.0	33	3 - 4
361d2.97Z#	2.97	10.0	3.0	33	3 - 4
361d2.98Z#	2.98	10.0	3.0	33	3 - 4
361d2.99Z#	2.99	10.0	3.0	33	3 - 4
361d3.00Z#	3.00	10.0	3.0	33	3 - 4

Available uncoated or coated (see page 61)

Z3-4

λ 10°

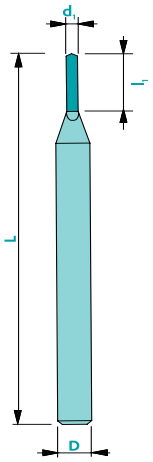
MG10

N

Left helix

Right cut

Gundrill - right cut



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	15	20	□	■	Trio
Steel > 700 N/mm²	10	15	-	-	Trio
Stainless steel	10	15	-	-	Trio
Cast iron	15	20	-	-	Solo
Copper	20	25	□	■	Solo
Brass - Bronze	20	30	■	□	Solo
Aluminium	25	30	-	-	Nemo
Gold - Silver	25	30	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	10	15	-	-	Nemo

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances d_1: -0.002/-0.004 l_1: 0.02/-0 D: h5

Art. n°	d_1	l_1	D	L
363d#.##x#.##	0.20-0.49	Upon request	3.0	38
363d#.##x#.##	0.50 -0.99	Upon request	3.0	38
363d#.##x#.##	1.00-1.49	Upon request	3.0	38
363d#.##x#.##	1.50-3.00	Upon request	3.0	38

120° Z1

λ 0°

MG10 N

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ l_1 : _____

D : _____ L : _____

Tolerances d_1 : _____

Coating :

☐ Coated* : _____

☐ Uncoated

Machined material : _____

Quantity : _____

Order No : _____

Company's stamp & date :

Contact person :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

* Without information, the most suitable Coating will be applied.

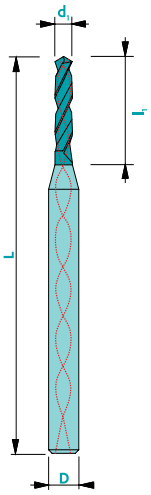
Twist drill with coolant holes

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	70	80	□	■	Trio
Steel > 700 N/mm²	60	70	□	■	Trio
Stainless steel	20	40	□	■	Nemo
Cast iron	60	70	□	■	Nemo
Copper	100	130	□	■	Solo
Brass - Bronze	80	120	■	■	Solo
Aluminium	100	120	□	■	Solo
Gold - Silver	80	100	■	■	Solo
Platinum - Palladium	-	20	-	□	Solo
Superalloys	-	25	-	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

d_1: -0.002/-0.004
D: h5



Available uncoated or coated (see page 61)

118°

Z2

MG10

N

Art. n°	d_1	l_1	D	L
344d0.70	0.70	6.0	3	38
344d0.75	0.75	6.0	3	38
344d0.80	0.80	6.0	3	38
344d0.85	0.85	6.0	3	38
344d0.90	0.90	6.0	3	38
344d0.95	0.95	6.0	3	38
344d1.00	1.00	8.0	3	38
344d1.10	1.10	8.0	3	38
344d1.20	1.20	8.0	3	38
344d1.25	1.25	8.0	3	38
344d1.30	1.30	8.0	3	38
344d1.40	1.40	8.0	3	38
344d1.50	1.50	12.0	3	38
344d1.60	1.60	12.0	3	38
344d1.70	1.70	12.0	3	38
344d1.75	1.75	12.0	3	38
344d1.80	1.80	12.0	3	38
344d1.90	1.90	12.0	3	38
344d2.00	2.00	12.0	3	38
344d2.10	2.10	12.0	3	38
344d2.20	2.20	12.0	3	38
344d2.30	2.30	12.0	3	38
344d2.40	2.40	12.0	3	38
344d2.50	2.50	12.0	3	38
344d2.60	2.60	12.0	3	38
344d2.70	2.70	12.0	3	38
344d2.80	2.80	12.0	3	38
344d2.90	2.90	12.0	3	38
344d3.00	3.00	12.0	3	38

8. Circular saws

Index - Slitting saws & circular cutters

Slitting saws & circular cutters

Table of Contents

Saws and mills

Slitting saws with staggered teeth

Angular cutters - 2 cuts

Angular cutters - 1 cuts

Biconical cutters

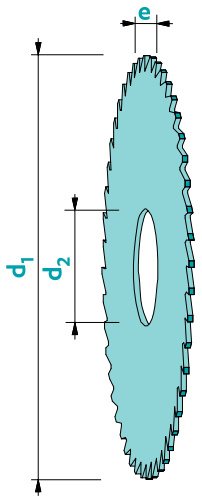
Radius cutters

Slitting saw DIN 1838 coarse pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	■	□	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

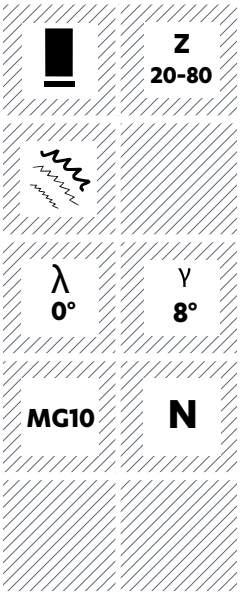
Tolerance e: +0/-0.01
d_2: H7



Available uncoated or coated (see page 61)

Art. n°	d_1	e	d_2	Z
223d15e0.20a5Z20	15	0.20	5	20
223d15e0.25a5Z20	15	0.25	5	20
223d15e0.30a5Z20	15	0.30	5	20
223d15e0.35a5Z20	15	0.35	5	20
223d15e0.40a5Z20	15	0.40	5	20
223d15e0.45a5Z20	15	0.45	5	20
223d15e0.50a5Z20	15	0.50	5	20
223d15e0.60a5Z20	15	0.60	5	20
223d15e0.70a5Z20	15	0.70	5	20
223d15e0.80a5Z20	15	0.80	5	20
223d15e0.90a5Z20	15	0.90	5	20
223d15e1.00a5Z20	15	1.00	5	20
223d15e1.10a5Z20	15	1.10	5	20
223d15e1.20a5Z20	15	1.20	5	20
223d15e1.30a5Z20	15	1.30	5	20
223d15e1.40a5Z20	15	1.40	5	20
223d15e1.50a5Z20	15	1.50	5	20
223d15e1.60a5Z20	15	1.60	5	20
223d15e1.70a5Z20	15	1.70	5	20
223d15e1.80a5Z20	15	1.80	5	20
223d15e1.90a5Z20	15	1.90	5	20
223d15e2.00a5Z20	15	2.00	5	20
223d15e2.10a5Z20	15	2.10	5	20
223d15e2.20a5Z20	15	2.20	5	20
223d15e2.30a5Z20	15	2.30	5	20
223d15e2.40a5Z20	15	2.40	5	20
223d15e2.50a5Z20	15	2.50	5	20
223d15e2.60a5Z20	15	2.60	5	20
223d15e2.70a5Z20	15	2.70	5	20
223d15e2.80a5Z20	15	2.80	5	20

Art. n°	d_1	e	d_2	Z
223d15e2.90a5Z20	15	2.90	5	20
223d15e3.00a5Z20	15	3.00	5	20
223d15e3.10a5Z20	15	3.10	5	20
223d15e3.20a5Z20	15	3.20	5	20
223d15e3.30a5Z20	15	3.30	5	20
223d15e3.40a5Z20	15	3.40	5	20
223d15e3.50a5Z20	15	3.50	5	20
223d15e3.60a5Z20	15	3.60	5	20
223d15e3.70a5Z20	15	3.70	5	20
223d15e3.80a5Z20	15	3.80	5	20
223d15e3.90a5Z20	15	3.90	5	20
223d15e4.00a5Z20	15	4.00	5	20
223d15e4.50a5Z20	15	4.50	5	20
223d15e5.00a5Z20	15	5.00	5	20
223d15e5.50a5Z20	15	5.50	5	20
223d15e6.00a5Z20	15	6.00	5	20
223d20e0.20a5Z20	20	0.20	5	20
223d20e0.25a5Z20	20	0.25	5	20
223d20e0.30a5Z20	20	0.30	5	20
223d20e0.35a5Z20	20	0.35	5	20
223d20e0.40a5Z20	20	0.40	5	20
223d20e0.45a5Z20	20	0.45	5	20
223d20e0.50a5Z20	20	0.50	5	20
223d20e0.60a5Z20	20	0.60	5	20
223d20e0.70a5Z20	20	0.70	5	20
223d20e0.80a5Z20	20	0.80	5	20
223d20e0.90a5Z20	20	0.90	5	20
223d20e1.00a5Z20	20	1.00	5	20
223d20e1.10a5Z20	20	1.10	5	20
223d20e1.20a5Z20	20	1.20	5	20



Slitting saw DIN 1838 coarse pitch

Available uncoated or coated (see page 61)

Z 20-80

λ 0°

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z
223d20e1.30a5Z20	20	1.30	5	20
223d20e1.40a5Z20	20	1.40	5	20
223d20e1.50a5Z20	20	1.50	5	20
223d20e1.60a5Z20	20	1.60	5	20
223d20e1.70a5Z20	20	1.70	5	20
223d20e1.80a5Z20	20	1.80	5	20
223d20e1.90a5Z20	20	1.90	5	20
223d20e2.00a5Z20	20	2.00	5	20
223d20e2.10a5Z20	20	2.10	5	20
223d20e2.20a5Z20	20	2.20	5	20
223d20e2.30a5Z20	20	2.30	5	20
223d20e2.40a5Z20	20	2.40	5	20
223d20e2.50a5Z20	20	2.50	5	20
223d20e2.60a5Z20	20	2.60	5	20
223d20e2.70a5Z20	20	2.70	5	20
223d20e2.80a5Z20	20	2.80	5	20
223d20e2.90a5Z20	20	2.90	5	20
223d20e3.00a5Z20	20	3.00	5	20
223d20e3.10a5Z20	20	3.10	5	20
223d20e3.20a5Z20	20	3.20	5	20
223d20e3.30a5Z20	20	3.30	5	20
223d20e3.40a5Z20	20	3.40	5	20
223d20e3.50a5Z20	20	3.50	5	20
223d20e3.60a5Z20	20	3.60	5	20
223d20e3.70a5Z20	20	3.70	5	20
223d20e3.80a5Z20	20	3.80	5	20
223d20e3.90a5Z20	20	3.90	5	20
223d20e4.00a5Z20	20	4.00	5	20
223d20e4.50a5Z20	20	4.50	5	20
223d20e5.00a5Z20	20	5.00	5	20
223d20e5.50a5Z20	20	5.50	5	20
223d20e6.00a5Z20	20	6.00	5	20
223d25e0.20a8Z20	25	0.20	8	20
223d25e0.25a8Z20	25	0.25	8	20
223d25e0.30a8Z20	25	0.30	8	20
223d25e0.35a8Z20	25	0.35	8	20
223d25e0.40a8Z20	25	0.40	8	20
223d25e0.45a8Z20	25	0.45	8	20
223d25e0.50a8Z20	25	0.50	8	20
223d25e0.60a8Z20	25	0.60	8	20
223d25e0.70a8Z20	25	0.70	8	20
223d25e0.80a8Z20	25	0.80	8	20
223d25e0.90a8Z20	25	0.90	8	20
223d25e1.00a8Z20	25	1.00	8	20
223d25e1.10a8Z20	25	1.10	8	20

Art. n°	d_1	e	d_2	Z
223d25e1.20a8Z20	25	1.20	8	20
223d25e1.30a8Z20	25	1.30	8	20
223d25e1.40a8Z20	25	1.40	8	20
223d25e1.50a8Z20	25	1.50	8	20
223d25e1.60a8Z20	25	1.60	8	20
223d25e1.70a8Z20	25	1.70	8	20
223d25e1.80a8Z20	25	1.80	8	20
223d25e1.90a8Z20	25	1.90	8	20
223d25e2.00a8Z20	25	2.00	8	20
223d25e2.10a8Z20	25	2.10	8	20
223d25e2.20a8Z20	25	2.20	8	20
223d25e2.30a8Z20	25	2.30	8	20
223d25e2.40a8Z20	25	2.40	8	20
223d25e2.50a8Z20	25	2.50	8	20
223d25e2.60a8Z20	25	2.60	8	20
223d25e2.70a8Z20	25	2.70	8	20
223d25e2.80a8Z20	25	2.80	8	20
223d25e2.90a8Z20	25	2.90	8	20
223d25e3.00a8Z20	25	3.00	8	20
223d25e3.10a8Z20	25	3.10	8	20
223d25e3.20a8Z20	25	3.20	8	20
223d25e3.30a8Z20	25	3.30	8	20
223d25e3.40a8Z20	25	3.40	8	20
223d25e3.50a8Z20	25	3.50	8	20
223d25e3.60a8Z20	25	3.60	8	20
223d25e3.70a8Z20	25	3.70	8	20
223d25e3.80a8Z20	25	3.80	8	20
223d25e3.90a8Z20	25	3.90	8	20
223d25e4.00a8Z20	25	4.00	8	20
223d25e4.50a8Z20	25	4.50	8	20
223d25e5.00a8Z20	25	5.00	8	20
223d25e5.50a8Z20	25	5.50	8	20
223d25e6.00a8Z20	25	6.00	8	20
223d30e0.20a8Z30	30	0.20	8	30
223d30e0.25a8Z30	30	0.25	8	30
223d30e0.30a8Z30	30	0.30	8	30
223d30e0.35a8Z30	30	0.35	8	30
223d30e0.40a8Z30	30	0.40	8	30
223d30e0.45a8Z30	30	0.45	8	30
223d30e0.50a8Z30	30	0.50	8	30
223d30e0.60a8Z30	30	0.60	8	30
223d30e0.70a8Z30	30	0.70	8	30
223d30e0.80a8Z24	30	0.80	8	24
223d30e0.90a8Z24	30	0.90	8	24
223d30e1.00a8Z24	30	1.00	8	24

Slitting saw DIN 1838 coarse pitch

Art. n°	d_1	e	d_2	Z
223d30e1.10a8Z24	30	1.10	8	24
223d30e1.20a8Z24	30	1.20	8	24
223d30e1.30a8Z24	30	1.30	8	24
223d30e1.40a8Z24	30	1.40	8	24
223d30e1.50a8Z24	30	1.50	8	24
223d30e1.60a8Z24	30	1.60	8	24
223d30e1.70a8Z24	30	1.70	8	24
223d30e1.80a8Z24	30	1.80	8	24
223d30e1.90a8Z24	30	1.90	8	24
223d30e2.00a8Z24	30	2.00	8	24
223d30e2.10a8Z24	30	2.10	8	24
223d30e2.20a8Z24	30	2.20	8	24
223d30e2.30a8Z24	30	2.30	8	24
223d30e2.40a8Z24	30	2.40	8	24
223d30e2.50a8Z24	30	2.50	8	24
223d30e2.60a8Z24	30	2.60	8	24
223d30e2.70a8Z24	30	2.70	8	24
223d30e2.80a8Z24	30	2.80	8	24
223d30e2.90a8Z24	30	2.90	8	24
223d30e3.00a8Z24	30	3.00	8	24
223d30e3.10a8Z24	30	3.10	8	24
223d30e3.20a8Z24	30	3.20	8	24
223d30e3.30a8Z24	30	3.30	8	24
223d30e3.40a8Z24	30	3.40	8	24
223d30e3.50a8Z24	30	3.50	8	24
223d30e3.60a8Z24	30	3.60	8	24
223d30e3.70a8Z24	30	3.70	8	24
223d30e3.80a8Z24	30	3.80	8	24
223d30e3.90a8Z24	30	3.90	8	24
223d30e4.00a8Z24	30	4.00	8	24
223d30e4.50a8Z24	30	4.50	8	24
223d30e5.00a8Z24	30	5.00	8	24
223d30e5.50a8Z24	30	5.50	8	24
223d30e6.00a8Z24	30	6.00	8	24
223d40e0.20a10Z40	40	0.20	10	40
223d40e0.25a10Z40	40	0.25	10	40
223d40e0.30a10Z40	40	0.30	10	40
223d40e0.35a10Z40	40	0.35	10	40
223d40e0.40a10Z40	40	0.40	10	40
223d40e0.45a10Z40	40	0.45	10	40
223d40e0.50a10Z40	40	0.50	10	40
223d40e0.60a10Z40	40	0.60	10	40
223d40e0.70a10Z40	40	0.70	10	40
223d40e0.80a10Z32	40	0.80	10	32
223d40e0.90a10Z32	40	0.90	10	32

Art. n°	d_1	e	d_2	Z
223d40e1.00a10Z32	40	1.00	10	32
223d40e1.10a10Z32	40	1.10	10	32
223d40e1.20a10Z32	40	1.20	10	32
223d40e1.30a10Z32	40	1.30	10	32
223d40e1.40a10Z32	40	1.40	10	32
223d40e1.50a10Z32	40	1.50	10	32
223d40e1.60a10Z32	40	1.60	10	32
223d40e1.70a10Z24	40	1.70	10	24
223d40e1.80a10Z24	40	1.80	10	24
223d40e1.90a10Z24	40	1.90	10	24
223d40e2.00a10Z24	40	2.00	10	24
223d40e2.10a10Z24	40	2.10	10	24
223d40e2.20a10Z24	40	2.20	10	24
223d40e2.30a10Z24	40	2.30	10	24
223d40e2.40a10Z24	40	2.40	10	24
223d40e2.50a10Z24	40	2.50	10	24
223d40e2.60a10Z24	40	2.60	10	24
223d40e2.70a10Z24	40	2.70	10	24
223d40e2.80a10Z24	40	2.80	10	24
223d40e2.90a10Z24	40	2.90	10	24
223d40e3.00a10Z24	40	3.00	10	24
223d40e3.10a10Z20	40	3.10	10	20
223d40e3.20a10Z20	40	3.20	10	20
223d40e3.30a10Z20	40	3.30	10	20
223d40e3.40a10Z20	40	3.40	10	20
223d40e3.50a10Z20	40	3.50	10	20
223d40e3.60a10Z20	40	3.60	10	20
223d40e3.70a10Z20	40	3.70	10	20
223d40e3.80a10Z20	40	3.80	10	20
223d40e3.90a10Z20	40	3.90	10	20
223d40e4.00a10Z20	40	4.00	10	20
223d40e4.50a10Z20	40	4.50	10	20
223d40e5.00a10Z20	40	5.00	10	20
223d40e5.50a10Z20	40	5.50	10	20
223d40e6.00a10Z20	40	6.00	10	20
223d50e0.40a13Z48	50	0.40	13	48
223d50e0.45a13Z48	50	0.45	13	48
223d50e0.50a13Z48	50	0.50	13	48
223d50e0.60a13Z40	50	0.60	13	40
223d50e0.70a13Z40	50	0.70	13	40
223d50e0.80a13Z40	50	0.80	13	40
223d50e0.90a13Z40	50	0.90	13	40
223d50e1.00a13Z40	50	1.00	13	40
223d50e1.10a13Z40	50	1.10	13	40
223d50e1.20a13Z40	50	1.20	13	40

Available uncoated or coated (see page 61)

Z 20-80

λ 0°

γ 8°

MG10

N

Slitting saw DIN 1838 coarse pitch

Available uncoated or coated (see page 61)

Z 20-80

λ 0°

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z
223d50e1.30a13Z32	50	1.30	13	32
223d50e1.40a13Z32	50	1.40	13	32
223d50e1.50a13Z32	50	1.50	13	32
223d50e1.60a13Z32	50	1.60	13	32
223d50e1.70a13Z32	50	1.70	13	32
223d50e1.80a13Z32	50	1.80	13	32
223d50e1.90a13Z32	50	1.90	13	32
223d50e2.00a13Z32	50	2.00	13	32
223d50e2.10a13Z32	50	2.10	13	32
223d50e2.20a13Z32	50	2.20	13	32
223d50e2.30a13Z32	50	2.30	13	32
223d50e2.40a13Z32	50	2.40	13	32
223d50e2.50a13Z32	50	2.50	13	32
223d50e2.60a13Z24	50	2.60	13	24
223d50e2.70a13Z24	50	2.70	13	24
223d50e2.80a13Z24	50	2.80	13	24
223d50e2.90a13Z24	50	2.90	13	24
223d50e3.00a13Z24	50	3.00	13	24
223d50e3.10a13Z24	50	3.10	13	24
223d50e3.20a13Z24	50	3.20	13	24
223d50e3.30a13Z24	50	3.30	13	24
223d50e3.40a13Z24	50	3.40	13	24
223d50e3.50a13Z24	50	3.50	13	24
223d50e3.60a13Z24	50	3.60	13	24
223d50e3.70a13Z24	50	3.70	13	24
223d50e3.80a13Z24	50	3.80	13	24
223d50e3.90a13Z24	50	3.90	13	24
223d50e4.00a13Z24	50	4.00	13	24
223d50e4.50a13Z24	50	4.50	13	24
223d50e5.00a13Z24	50	5.00	13	24
223d50e5.50a13Z20	50	5.50	13	20
223d50e6.00a13Z20	50	6.00	13	20
223d63e0.40a16Z64	63	0.40	16	64
223d63e0.45a16Z64	63	0.45	16	64
223d63e0.50a16Z64	63	0.50	16	64
223d63e0.60a16Z48	63	0.60	16	48
223d63e0.70a16Z48	63	0.70	16	48
223d63e0.80a16Z48	63	0.80	16	48
223d63e0.90a16Z48	63	0.90	16	48
223d63e1.00a16Z40	63	1.00	16	40
223d63e1.10a16Z40	63	1.10	16	40
223d63e1.20a16Z40	63	1.20	16	40
223d63e1.30a16Z40	63	1.30	16	40
223d63e1.40a16Z40	63	1.40	16	40
223d63e1.50a16Z40	63	1.50	16	40

Art. n°	d_1	e	d_2	Z
223d63e1.60a16Z40	63	1.60	16	40
223d63e1.70a16Z40	63	1.70	16	40
223d63e1.80a16Z40	63	1.80	16	40
223d63e1.90a16Z40	63	1.90	16	40
223d63e2.00a16Z40	63	2.00	16	40
223d63e2.10a16Z32	63	2.10	16	32
223d63e2.20a16Z32	63	2.20	16	32
223d63e2.30a16Z32	63	2.30	16	32
223d63e2.40a16Z32	63	2.40	16	32
223d63e2.50a16Z32	63	2.50	16	32
223d63e2.60a16Z32	63	2.60	16	32
223d63e2.70a16Z32	63	2.70	16	32
223d63e2.80a16Z32	63	2.80	16	32
223d63e2.90a16Z32	63	2.90	16	32
223d63e3.00a16Z32	63	3.00	16	32
223d63e3.10a16Z32	63	3.10	16	32
223d63e3.20a16Z32	63	3.20	16	32
223d63e3.30a16Z32	63	3.30	16	32
223d63e3.40a16Z32	63	3.40	16	32
223d63e3.50a16Z32	63	3.50	16	32
223d63e3.60a16Z32	63	3.60	16	32
223d63e3.70a16Z32	63	3.70	16	32
223d63e3.80a16Z32	63	3.80	16	32
223d63e3.90a16Z32	63	3.90	16	32
223d63e4.00a16Z32	63	4.00	16	32
223d63e4.50a16Z24	63	4.50	16	24
223d63e5.00a16Z24	63	5.00	16	24
223d63e5.50a16Z24	63	5.50	16	24
223d63e6.00a16Z24	63	6.00	16	24
223d80e0.60a22Z64	80	0.60	22	64
223d80e0.70a22Z64	80	0.70	22	64
223d80e0.80a22Z64	80	0.80	22	64
223d80e0.90a22Z48	80	0.90	22	48
223d80e1.00a22Z48	80	1.00	22	48
223d80e1.10a22Z48	80	1.10	22	48
223d80e1.20a22Z48	80	1.20	22	48
223d80e1.30a22Z48	80	1.30	22	48
223d80e1.40a22Z48	80	1.40	22	48
223d80e1.50a22Z48	80	1.50	22	48
223d80e1.60a22Z48	80	1.60	22	48
223d80e1.70a22Z40	80	1.70	22	40
223d80e1.80a22Z40	80	1.80	22	40
223d80e1.90a22Z40	80	1.90	22	40
223d80e2.00a22Z40	80	2.00	22	40
223d80e2.10a22Z40	80	2.10	22	40

Slitting saw DIN 1838 coarse pitch

Art. n°	d_1	e	d_2	Z
223d80e2.20a22Z40	80	2.20	22	40
223d80e2.30a22Z40	80	2.30	22	40
223d80e2.40a22Z40	80	2.40	22	40
223d80e2.50a22Z40	80	2.50	22	40
223d80e2.60a22Z40	80	2.60	22	40
223d80e2.70a22Z40	80	2.70	22	40
223d80e2.80a22Z40	80	2.80	22	40
223d80e2.90a22Z40	80	2.90	22	40
223d80e3.00a22Z40	80	3.00	22	40
223d80e3.10a22Z32	80	3.10	22	32
223d80e3.20a22Z32	80	3.20	22	32
223d80e3.30a22Z32	80	3.30	22	32
223d80e3.40a22Z32	80	3.40	22	32
223d80e3.50a22Z32	80	3.50	22	32
223d80e3.60a22Z32	80	3.60	22	32
223d80e3.70a22Z32	80	3.70	22	32
223d80e3.80a22Z32	80	3.80	22	32
223d80e3.90a22Z32	80	3.90	22	32
223d80e4.00a22Z32	80	4.00	22	32
223d80e4.50a22Z32	80	4.50	22	32
223d80e5.00a22Z32	80	5.00	22	32
223d80e5.50a22Z32	80	5.50	22	32
223d80e6.00a22Z32	80	6.00	22	32
223d100e0.60a22Z80	100	0.60	22	80
223d100e0.70a22Z64	100	0.70	22	64
223d100e0.80a22Z64	100	0.80	22	64
223d100e0.90a22Z64	100	0.90	22	64
223d100e1.00a22Z64	100	1.00	22	64
223d100e1.10a22Z64	100	1.10	22	64
223d100e1.20a22Z64	100	1.20	22	64
223d100e1.30a22Z48	100	1.30	22	48
223d100e1.40a22Z48	100	1.40	22	48
223d100e1.50a22Z48	100	1.50	22	48
223d100e1.60a22Z48	100	1.60	22	48
223d100e1.70a22Z48	100	1.70	22	48
223d100e1.80a22Z48	100	1.80	22	48
223d100e1.90a22Z48	100	1.90	22	48
223d100e2.00a22Z48	100	2.00	22	48
223d100e2.10a22Z48	100	2.10	22	48
223d100e2.20a22Z48	100	2.20	22	48
223d100e2.30a22Z48	100	2.30	22	48
223d100e2.40a22Z48	100	2.40	22	48
223d100e2.50a22Z48	100	2.50	22	48
223d100e2.60a22Z40	100	2.60	22	40
223d100e2.70a22Z40	100	2.70	22	40

Art. n°	d_1	e	d_2	Z
223d100e2.80a22Z40	100	2.80	22	40
223d100e2.90a22Z40	100	2.90	22	40
223d100e3.00a22Z40	100	3.00	22	40
223d100e3.10a22Z40	100	3.10	22	40
223d100e3.20a22Z40	100	3.20	22	40
223d100e3.30a22Z40	100	3.30	22	40
223d100e3.40a22Z40	100	3.40	22	40
223d100e3.50a22Z40	100	3.50	22	40
223d100e3.60a22Z40	100	3.60	22	40
223d100e3.70a22Z40	100	3.70	22	40
223d100e3.80a22Z40	100	3.80	22	40
223d100e3.90a22Z40	100	3.90	22	40
223d100e4.00a22Z40	100	4.00	22	40
223d100e4.50a22Z40	100	4.50	22	40
223d100e5.00a22Z40	100	5.00	22	40
223d100e5.50a22Z32	100	5.50	22	32
223d100e6.00a22Z32	100	6.00	22	32
223d125e0.80a22Z80	125	0.80	22	80
223d125e0.90a22Z80	125	0.90	22	80
223d125e1.00a22Z80	125	1.00	22	80
223d125e1.10a22Z64	125	1.10	22	64
223d125e1.20a22Z64	125	1.20	22	64
223d125e1.30a22Z64	125	1.30	22	64
223d125e1.40a22Z64	125	1.40	22	64
223d125e1.50a22Z64	125	1.50	22	64
223d125e1.60a22Z64	125	1.60	22	64
223d125e1.70a22Z64	125	1.70	22	64
223d125e1.80a22Z64	125	1.80	22	64
223d125e1.90a22Z64	125	1.90	22	64
223d125e2.00a22Z64	125	2.00	22	64
223d125e2.10a22Z48	125	2.10	22	48
223d125e2.20a22Z48	125	2.20	22	48
223d125e2.30a22Z48	125	2.30	22	48
223d125e2.40a22Z48	125	2.40	22	48
223d125e2.50a22Z48	125	2.50	22	48
223d125e2.60a22Z48	125	2.60	22	48
223d125e2.70a22Z48	125	2.70	22	48
223d125e2.80a22Z48	125	2.80	22	48
223d125e2.90a22Z48	125	2.90	22	48
223d125e3.00a22Z48	125	3.00	22	48
223d125e3.10a22Z48	125	3.10	22	48
223d125e3.20a22Z48	125	3.20	22	48
223d125e3.30a22Z48	125	3.30	22	48
223d125e3.40a22Z48	125	3.40	22	48
223d125e3.50a22Z48	125	3.50	22	48

Available uncoated or coated (see page 61)

Z 20-80

λ 0°

γ 8°

MG10

N

Slitting saw DIN 1838 coarse pitch

Available uncoated or coated (see page 61)

	Z 20-80
λ 0°	γ 8°
MG10	N

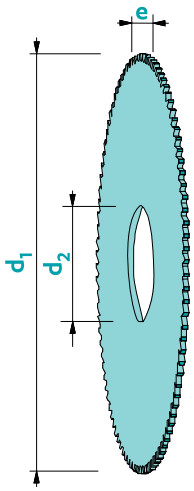
Art. n°	d_1	e	d_2	Z
223d125e3.60a22Z48	125	3.60	22	48
223d125e3.70a22Z48	125	3.70	22	48
223d125e3.80a22Z48	125	3.80	22	48
223d125e3.90a22Z48	125	3.90	22	48
223d125e4.00a22Z48	125	4.00	22	48
223d125e4.50a22Z40	125	4.50	22	40
223d125e5.00a22Z40	125	5.00	22	40
223d125e5.50a22Z40	125	5.50	22	40
223d125e6.00a22Z40	125	6.00	22	40
223d160e1.00a32Z80	160	1.00	32	80
223d160e1.20a32Z80	160	1.20	32	80
223d160e1.50a32Z80	160	1.50	32	80
223d160e2.00a32Z80	160	2.00	32	80
223d160e2.50a32Z80	160	2.50	32	80
223d160e3.00a32Z64	160	3.00	32	64

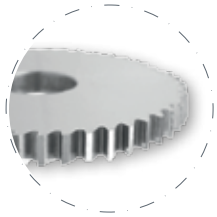
Slitting saw DIN 1837 fine pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	□	■	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	■	-	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H7





Available uncoated or coated (see page 61)

Art. n°	d_1	e	d_2	Z
223-1d15e0.10A5Z64	15	0.10	5	64
223-1d15e0.15A5Z64	15	0.15	5	64
223-1d15e0.20A5Z64	15	0.20	5	64
223-1d15e0.25A5Z64	15	0.25	5	64
223-1d15e0.30A5Z64	15	0.30	5	64
223-1d15e0.35A5Z64	15	0.35	5	64
223-1d15e0.40A5Z64	15	0.40	5	64
223-1d15e0.45A5Z48	15	0.45	5	48
223-1d15e0.50A5Z48	15	0.50	5	48
223-1d15e0.60A5Z48	15	0.60	5	48
223-1d15e0.70A5Z48	15	0.70	5	48
223-1d15e0.80A5Z40	15	0.80	5	40
223-1d15e0.90A5Z40	15	0.90	5	40
223-1d15e1.00A5Z40	15	1.00	5	40
223-1d15e1.10A5Z40	15	1.10	5	40
223-1d15e1.20A5Z40	15	1.20	5	40
223-1d15e1.30A5Z40	15	1.30	5	40
223-1d15e1.40A5Z40	15	1.40	5	40
223-1d15e1.50A5Z40	15	1.50	5	40
223-1d15e1.60A5Z40	15	1.60	5	40
223-1d15e1.70A5Z40	15	1.70	5	40
223-1d15e1.80A5Z40	15	1.80	5	40
223-1d15e1.90A5Z40	15	1.90	5	40
223-1d15e2.00A5Z40	15	2.00	5	40
223-1d15e2.10A5Z40	15	2.10	5	40
223-1d15e2.20A5Z40	15	2.20	5	40
223-1d15e2.30A5Z40	15	2.30	5	40
223-1d15e2.40A5Z40	15	2.40	5	40
223-1d15e2.50A5Z40	15	2.50	5	40
223-1d15e2.60A5Z40	15	2.60	5	40

Art. n°	d_1	e	d_2	Z
223-1d15e2.70A5Z40	15	2.70	5	40
223-1d15e2.80A5Z40	15	2.80	5	40
223-1d15e2.90A5Z40	15	2.90	5	40
223-1d15e3.00A5Z40	15	3.00	5	40
223-1d15e3.10A5Z24	15	3.10	5	24
223-1d15e3.20A5Z24	15	3.20	5	24
223-1d15e3.30A5Z24	15	3.30	5	24
223-1d15e3.40A5Z24	15	3.40	5	24
223-1d15e3.50A5Z24	15	3.50	5	24
223-1d15e3.60A5Z24	15	3.60	5	24
223-1d15e3.70A5Z24	15	3.70	5	24
223-1d15e3.80A5Z24	15	3.80	5	24
223-1d15e3.90A5Z24	15	3.90	5	24
223-1d15e4.00A5Z24	15	4.00	5	24
223-1d15e4.50A5Z24	15	4.50	5	24
223-1d15e5.00A5Z24	15	5.00	5	24
223-1d15e5.50A5Z24	15	5.50	5	24
223-1d15e6.00A5Z24	15	6.00	5	24
223-1d20e0.10A5Z80	20	0.10	5	80
223-1d20e0.15A5Z80	20	0.15	5	80
223-1d20e0.20A5Z80	20	0.20	5	80
223-1d20e0.25A5Z64	20	0.25	5	64
223-1d20e0.30A5Z64	20	0.30	5	64
223-1d20e0.35A5Z64	20	0.35	5	64
223-1d20e0.40A5Z64	20	0.40	5	64
223-1d20e0.45A5Z48	20	0.45	5	48
223-1d20e0.50A5Z48	20	0.50	5	48
223-1d20e0.60A5Z48	20	0.60	5	48
223-1d20e0.70A5Z48	20	0.70	5	48
223-1d20e0.80A5Z40	20	0.80	5	40

Z 24-160

λ 0°

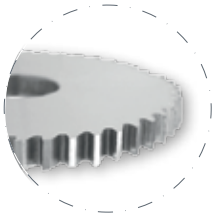
γ 8°

MG10

N

Slitting saw DIN 1837 fine pitch

Continuation



Available uncoated or coated (see page 61)

Z 24-160

λ 0°

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z
223-1d20e0.90A5Z40	20	0.90	5	40
223-1d20e1.00A5Z40	20	1.00	5	40
223-1d20e1.10A5Z40	20	1.10	5	40
223-1d20e1.20A5Z40	20	1.20	5	40
223-1d20e1.30A5Z40	20	1.30	5	40
223-1d20e1.40A5Z40	20	1.40	5	40
223-1d20e1.50A5Z40	20	1.50	5	40
223-1d20e1.60A5Z40	20	1.60	5	40
223-1d20e1.70A5Z32	20	1.70	5	32
223-1d20e1.80A5Z32	20	1.80	5	32
223-1d20e1.90A5Z32	20	1.90	5	32
223-1d20e2.00A5Z32	20	2.00	5	32
223-1d20e2.10A5Z32	20	2.10	5	32
223-1d20e2.20A5Z32	20	2.20	5	32
223-1d20e2.30A5Z32	20	2.30	5	32
223-1d20e2.40A5Z32	20	2.40	5	32
223-1d20e2.50A5Z32	20	2.50	5	32
223-1d20e2.60A5Z32	20	2.60	5	32
223-1d20e2.70A5Z32	20	2.70	5	32
223-1d20e2.80A5Z32	20	2.80	5	32
223-1d20e2.90A5Z32	20	2.90	5	32
223-1d20e3.00A5Z32	20	3.00	5	32
223-1d20e3.10A5Z24	20	3.10	5	24
223-1d20e3.20A5Z24	20	3.20	5	24
223-1d20e3.30A5Z24	20	3.30	5	24
223-1d20e3.40A5Z24	20	3.40	5	24
223-1d20e3.50A5Z24	20	3.50	5	24
223-1d20e3.60A5Z24	20	3.60	5	24
223-1d20e3.70A5Z24	20	3.70	5	24
223-1d20e3.80A5Z24	20	3.80	5	24
223-1d20e3.90A5Z24	20	3.90	5	24
223-1d20e4.00A5Z24	20	4.00	5	24
223-1d20e4.50A5Z24	20	4.50	5	24
223-1d20e5.00A5Z24	20	5.00	5	24
223-1d20e5.50A5Z24	20	5.50	5	24
223-1d20e6.00A5Z24	20	6.00	5	24
223-1d25e0.10A8Z80	25	0.10	8	80
223-1d25e0.15A8Z80	25	0.15	8	80
223-1d25e0.20A8Z80	25	0.20	8	80
223-1d25e0.25A8Z80	25	0.25	8	80
223-1d25e0.30A8Z80	25	0.30	8	80
223-1d25e0.35A8Z64	25	0.35	8	64
223-1d25e0.40A8Z64	25	0.40	8	64
223-1d25e0.45A8Z64	25	0.45	8	64
223-1d25e0.50A8Z64	25	0.50	8	64

Art. n°	d_1	e	d_2	Z
223-1d25e0.60A8Z64	25	0.60	8	64
223-1d25e0.70A8Z48	25	0.70	8	48
223-1d25e0.80A8Z48	25	0.80	8	48
223-1d25e0.90A8Z48	25	0.90	8	48
223-1d25e1.00A8Z48	25	1.00	8	48
223-1d25e1.10A8Z48	25	1.10	8	48
223-1d25e1.20A8Z48	25	1.20	8	48
223-1d25e1.30A8Z40	25	1.30	8	40
223-1d25e1.40A8Z40	25	1.40	8	40
223-1d25e1.50A8Z40	25	1.50	8	40
223-1d25e1.60A8Z40	25	1.60	8	40
223-1d25e1.70A8Z40	25	1.70	8	40
223-1d25e1.80A8Z40	25	1.80	8	40
223-1d25e1.90A8Z40	25	1.90	8	40
223-1d25e2.00A8Z40	25	2.00	8	40
223-1d25e2.10A8Z40	25	2.10	8	40
223-1d25e2.20A8Z40	25	2.20	8	40
223-1d25e2.30A8Z40	25	2.30	8	40
223-1d25e2.40A8Z40	25	2.40	8	40
223-1d25e2.50A8Z40	25	2.50	8	40
223-1d25e2.60A8Z32	25	2.60	8	32
223-1d25e2.70A8Z32	25	2.70	8	32
223-1d25e2.80A8Z32	25	2.80	8	32
223-1d25e2.90A8Z32	25	2.90	8	32
223-1d25e3.00A8Z32	25	3.00	8	32
223-1d25e3.10A8Z32	25	3.10	8	32
223-1d25e3.20A8Z32	25	3.20	8	32
223-1d25e3.30A8Z32	25	3.30	8	32
223-1d25e3.40A8Z32	25	3.40	8	32
223-1d25e3.50A8Z32	25	3.50	8	32
223-1d25e3.60A8Z32	25	3.60	8	32
223-1d25e3.70A8Z32	25	3.70	8	32
223-1d25e3.80A8Z32	25	3.80	8	32
223-1d25e3.90A8Z32	25	3.90	8	32
223-1d25e4.00A8Z32	25	4.00	8	32
223-1d25e4.50A8Z32	25	4.50	8	32
223-1d25e5.00A8Z32	25	5.00	8	32
223-1d25e5.50A8Z24	25	5.50	8	24
223-1d25e6.00A8Z24	25	6.00	8	24
--> Ref. 223-2	30	0.10	8	100
--> Ref. 223-2	30	0.15	8	100
--> Ref. 223-2	30	0.20	8	100
--> Ref. 223-2	30	0.25	8	100
223-1d30e0.30A8Z80	30	0.30	8	80
223-1d30e0.35A8Z80	30	0.35	8	80

Slitting saw DIN 1837 fine pitch

Art. n°	d_1	e	d_2	Z
223-1d30e0.40A8Z80	30	0.40	8	80
223-1d30e0.45A8Z80	30	0.45	8	80
223-1d30e0.50A8Z80	30	0.50	8	80
223-1d30e0.60A8Z64	30	0.60	8	64
223-1d30e0.70A8Z64	30	0.70	8	64
223-1d30e0.80A8Z64	30	0.80	8	64
223-1d30e0.90A8Z64	30	0.90	8	64
223-1d30e1.00A8Z64	30	1.00	8	64
223-1d30e1.10A8Z48	30	1.10	8	48
223-1d30e1.20A8Z48	30	1.20	8	48
223-1d30e1.30A8Z48	30	1.30	8	48
223-1d30e1.40A8Z48	30	1.40	8	48
223-1d30e1.50A8Z48	30	1.50	8	48
223-1d30e1.60A8Z48	30	1.60	8	48
223-1d30e1.70A8Z48	30	1.70	8	48
223-1d30e1.80A8Z48	30	1.80	8	48
223-1d30e1.90A8Z48	30	1.90	8	48
223-1d30e2.00A8Z48	30	2.00	8	48
223-1d30e2.10A8Z40	30	2.10	8	40
223-1d30e2.20A8Z40	30	2.20	8	40
223-1d30e2.30A8Z40	30	2.30	8	40
223-1d30e2.40A8Z40	30	2.40	8	40
223-1d30e2.50A8Z40	30	2.50	8	40
223-1d30e2.60A8Z40	30	2.60	8	40
223-1d30e2.70A8Z40	30	2.70	8	40
223-1d30e2.80A8Z40	30	2.80	8	40
223-1d30e2.90A8Z40	30	2.90	8	40
223-1d30e3.00A8Z40	30	3.00	8	40
223-1d30e3.10A8Z40	30	3.10	8	40
223-1d30e3.20A8Z40	30	3.20	8	40
223-1d30e3.30A8Z40	30	3.30	8	40
223-1d30e3.40A8Z40	30	3.40	8	40
223-1d30e3.50A8Z40	30	3.50	8	40
223-1d30e3.60A8Z40	30	3.60	8	40
223-1d30e3.70A8Z40	30	3.70	8	40
223-1d30e3.80A8Z40	30	3.80	8	40
223-1d30e3.90A8Z40	30	3.90	8	40
223-1d30e4.00A8Z40	30	4.00	8	40
223-1d30e4.50A8Z32	30	4.50	8	32
223-1d30e5.00A8Z32	30	5.00	8	32
223-1d30e5.50A8Z32	30	5.50	8	32
223-1d30e6.00A8Z32	30	6.00	8	32
223-1d40e0.10A10Z128	40	0.10	10	128
223-1d40e0.15A10Z128	40	0.15	10	128
223-1d40e0.20A10Z128	40	0.20	10	128

Art. n°	d_1	e	d_2	Z
--> Ref. 223-2	40	0.25	10	100
--> Ref. 223-2	40	0.30	10	100
--> Ref. 223-2	40	0.35	10	100
--> Ref. 223-2	40	0.40	10	100
223-1d40e0.45A10Z80	40	0.45	10	80
223-1d40e0.50A10Z80	40	0.50	10	80
223-1d40e0.60A10Z80	40	0.60	10	80
223-1d40e0.70A10Z80	40	0.70	10	80
223-1d40e0.80A10Z80	40	0.80	10	80
223-1d40e0.90A10Z64	40	0.90	10	64
223-1d40e1.00A10Z64	40	1.00	10	64
223-1d40e1.10A10Z64	40	1.10	10	64
223-1d40e1.20A10Z64	40	1.20	10	64
223-1d40e1.30A10Z64	40	1.30	10	64
223-1d40e1.40A10Z64	40	1.40	10	64
223-1d40e1.50A10Z64	40	1.50	10	64
223-1d40e1.60A10Z64	40	1.60	10	64
223-1d40e1.70A10Z48	40	1.70	10	48
223-1d40e1.80A10Z48	40	1.80	10	48
223-1d40e1.90A10Z48	40	1.90	10	48
223-1d40e2.00A10Z48	40	2.00	10	48
223-1d40e2.10A10Z48	40	2.10	10	48
223-1d40e2.20A10Z48	40	2.20	10	48
223-1d40e2.30A10Z48	40	2.30	10	48
223-1d40e2.40A10Z48	40	2.40	10	48
223-1d40e2.50A10Z48	40	2.50	10	48
223-1d40e2.60A10Z48	40	2.60	10	48
223-1d40e2.70A10Z48	40	2.70	10	48
223-1d40e2.80A10Z48	40	2.80	10	48
223-1d40e2.90A10Z48	40	2.90	10	48
223-1d40e3.00A10Z48	40	3.00	10	48
223-1d40e3.10A10Z40	40	3.10	10	40
223-1d40e3.20A10Z40	40	3.20	10	40
223-1d40e3.30A10Z40	40	3.30	10	40
223-1d40e3.40A10Z40	40	3.40	10	40
223-1d40e3.50A10Z40	40	3.50	10	40
223-1d40e3.60A10Z40	40	3.60	10	40
223-1d40e3.70A10Z40	40	3.70	10	40
223-1d40e3.80A10Z40	40	3.80	10	40
223-1d40e3.90A10Z40	40	3.90	10	40
223-1d40e4.00A10Z40	40	4.00	10	40
223-1d40e4.50A10Z40	40	4.50	10	40
223-1d40e5.00A10Z40	40	5.00	10	40
223-1d40e5.50A10Z40	40	5.50	10	40
223-1d40e6.00A10Z40	40	6.00	10	40

Available uncoated or coated (see page 61)

Z 24-160

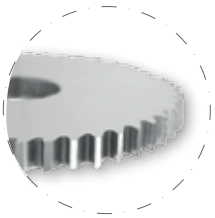
λ 0°

γ 8°

MG10

N

Slitting saw DIN 1837 fine pitch



Available uncoated or coated (see page 61)

Z 24-160

λ 0°

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z
223-1d50e0.20A13Z128	50	0.20	13	128
223-1d50e0.25A13Z128	50	0.25	13	128
223-1d50e0.30A13Z128	50	0.30	13	128
223-1d50e0.35A13Z100	50	0.35	13	100
223-1d50e0.40A13Z100	50	0.40	13	100
223-1d50e0.45A13Z100	50	0.45	13	100
223-1d50e0.50A13Z100	50	0.50	13	100
223-1d50e0.60A13Z100	50	0.60	13	100
223-1d50e0.70A13Z80	50	0.70	13	80
223-1d50e0.80A13Z80	50	0.80	13	80
223-1d50e0.90A13Z80	50	0.90	13	80
223-1d50e1.00A13Z80	50	1.00	13	80
223-1d50e1.10A13Z80	50	1.10	13	80
223-1d50e1.20A13Z80	50	1.20	13	80
223-1d50e1.30A13Z64	50	1.30	13	64
223-1d50e1.40A13Z64	50	1.40	13	64
223-1d50e1.50A13Z64	50	1.50	13	64
223-1d50e1.60A13Z64	50	1.60	13	64
223-1d50e1.70A13Z64	50	1.70	13	64
223-1d50e1.80A13Z64	50	1.80	13	64
223-1d50e1.90A13Z64	50	1.90	13	64
223-1d50e2.00A13Z64	50	2.00	13	64
223-1d50e2.10A13Z64	50	2.10	13	64
223-1d50e2.20A13Z64	50	2.20	13	64
223-1d50e2.30A13Z64	50	2.30	13	64
223-1d50e2.40A13Z64	50	2.40	13	64
223-1d50e2.50A13Z64	50	2.50	13	64
223-1d50e2.60A13Z48	50	2.60	13	48
223-1d50e2.70A13Z48	50	2.70	13	48
223-1d50e2.80A13Z48	50	2.80	13	48
223-1d50e2.90A13Z48	50	2.90	13	48
223-1d50e3.00A13Z48	50	3.00	13	48
223-1d50e3.10A13Z48	50	3.10	13	48
223-1d50e3.20A13Z48	50	3.20	13	48
223-1d50e3.30A13Z48	50	3.30	13	48
223-1d50e3.40A13Z48	50	3.40	13	48
223-1d50e3.50A13Z48	50	3.50	13	48
223-1d50e3.60A13Z48	50	3.60	13	48
223-1d50e3.70A13Z48	50	3.70	13	48
223-1d50e3.80A13Z48	50	3.80	13	48
223-1d50e3.90A13Z48	50	3.90	13	48
223-1d50e4.00A13Z48	50	4.00	13	48
223-1d50e4.50A13Z48	50	4.50	13	48
223-1d50e5.00A13Z48	50	5.00	13	48
223-1d50e5.50A13Z40	50	5.50	13	40
223-1d50e6.00A13Z40	50	6.00	13	40
223-1d63e0.20A16Z160	63	0.20	16	160
223-1d63e0.25A16Z128	63	0.25	16	128
223-1d63e0.30A16Z128	63	0.30	16	128
223-1d63e0.35A16Z128	63	0.35	16	128
223-1d63e0.40A16Z128	63	0.40	16	128
223-1d63e0.45A16Z128	63	0.45	16	128
223-1d63e0.50A16Z128	63	0.50	16	128
223-1d63e0.60A16Z100	63	0.60	16	100
223-1d63e0.70A16Z100	63	0.70	16	100
223-1d63e0.80A16Z100	63	0.80	16	100
223-1d63e0.90A16Z100	63	0.90	16	100
223-1d63e1.00A16Z100	63	1.00	16	100
223-1d63e1.10A16Z80	63	1.10	16	80
223-1d63e1.20A16Z80	63	1.20	16	80
223-1d63e1.30A16Z80	63	1.30	16	80
223-1d63e1.40A16Z80	63	1.40	16	80
223-1d63e1.50A16Z80	63	1.50	16	80
223-1d63e1.60A16Z80	63	1.60	16	80
223-1d63e1.70A16Z80	63	1.70	16	80
223-1d63e1.80A16Z80	63	1.80	16	80
223-1d63e1.90A16Z80	63	1.90	16	80
223-1d63e2.00A16Z80	63	2.00	16	80
223-1d63e2.10A16Z64	63	2.10	16	64
223-1d63e2.20A16Z64	63	2.20	16	64
223-1d63e2.30A16Z64	63	2.30	16	64
223-1d63e2.40A16Z64	63	2.40	16	64
223-1d63e2.50A16Z64	63	2.50	16	64
223-1d63e2.60A16Z64	63	2.60	16	64
223-1d63e2.70A16Z64	63	2.70	16	64
223-1d63e2.80A16Z64	63	2.80	16	64
223-1d63e2.90A16Z64	63	2.90	16	64
223-1d63e3.00A16Z64	63	3.00	16	64
223-1d63e3.10A16Z64	63	3.10	16	64
223-1d63e3.20A16Z64	63	3.20	16	64
223-1d63e3.30A16Z64	63	3.30	16	64
223-1d63e3.40A16Z64	63	3.40	16	64
223-1d63e3.50A16Z64	63	3.50	16	64
223-1d63e3.60A16Z64	63	3.60	16	64
223-1d63e3.70A16Z64	63	3.70	16	64
223-1d63e3.80A16Z64	63	3.80	16	64
223-1d63e3.90A16Z64	63	3.90	16	64
223-1d63e4.00A16Z64	63	4.00	16	64
223-1d63e4.50A16Z48	63	4.50	16	48
223-1d63e5.00A16Z48	63	5.00	16	48

Slitting saw DIN 1837 fine pitch

Art. n°	d_1	e	d_2	Z
223-1d63e5.50A16Z48	63	5.50	16	48
223-1d63e6.00A16Z48	63	6.00	16	48
223-1d80e0.25A22Z160	80	0.25	22	160
223-1d80e0.30A22Z160	80	0.30	22	160
223-1d80e0.35A22Z160	80	0.35	22	160
223-1d80e0.40A22Z160	80	0.40	22	160
223-1d80e0.45A22Z128	80	0.45	22	128
223-1d80e0.50A22Z128	80	0.50	22	128
223-1d80e0.60A22Z128	80	0.60	22	128
223-1d80e0.70A22Z128	80	0.70	22	128
223-1d80e0.80A22Z128	80	0.80	22	128
223-1d80e0.90A22Z100	80	0.90	22	100
223-1d80e1.00A22Z100	80	1.00	22	100
223-1d80e1.10A22Z100	80	1.10	22	100
223-1d80e1.20A22Z100	80	1.20	22	100
223-1d80e1.30A22Z100	80	1.30	22	100
223-1d80e1.40A22Z100	80	1.40	22	100
223-1d80e1.50A22Z100	80	1.50	22	100
223-1d80e1.60A22Z100	80	1.60	22	100
223-1d80e1.70A22Z80	80	1.70	22	80
223-1d80e1.80A22Z80	80	1.80	22	80
223-1d80e1.90A22Z80	80	1.90	22	80
223-1d80e2.00A22Z80	80	2.00	22	80
223-1d80e2.10A22Z80	80	2.10	22	80
223-1d80e2.20A22Z80	80	2.20	22	80
223-1d80e2.30A22Z80	80	2.30	22	80
223-1d80e2.40A22Z80	80	2.40	22	80
223-1d80e2.50A22Z80	80	2.50	22	80
223-1d80e2.60A22Z80	80	2.60	22	80
223-1d80e2.70A22Z80	80	2.70	22	80
223-1d80e2.80A22Z80	80	2.80	22	80
223-1d80e2.90A22Z80	80	2.90	22	80
223-1d80e3.00A22Z80	80	3.00	22	80
223-1d80e3.10A22Z64	80	3.10	22	64
223-1d80e3.20A22Z64	80	3.20	22	64
223-1d80e3.30A22Z64	80	3.30	22	64
223-1d80e3.40A22Z64	80	3.40	22	64
223-1d80e3.50A22Z64	80	3.50	22	64
223-1d80e3.60A22Z64	80	3.60	22	64
223-1d80e3.70A22Z64	80	3.70	22	64
223-1d80e3.80A22Z64	80	3.80	22	64
223-1d80e3.90A22Z64	80	3.90	22	64
223-1d80e4.00A22Z64	80	4.00	22	64
223-1d80e4.50A22Z64	80	4.50	22	64
223-1d80e5.00A22Z64	80	5.00	22	64

Art. n°	d_1	e	d_2	Z
223-1d80e5.50A22Z64	80	5.50	22	64
223-1d80e6.00A22Z64	80	6.00	22	64
223-1d100e0.50A22Z160	100	0.50	22	160
223-1d100e0.60A22Z160	100	0.60	22	160
223-1d100e0.70A22Z128	100	0.70	22	128
223-1d100e0.80A22Z128	100	0.80	22	128
223-1d100e0.90A22Z128	100	0.90	22	128
223-1d100e1.00A22Z128	100	1.00	22	128
223-1d100e1.10A22Z128	100	1.10	22	128
223-1d100e1.20A22Z128	100	1.20	22	128
223-1d100e1.30A22Z100	100	1.30	22	100
223-1d100e1.40A22Z100	100	1.40	22	100
223-1d100e1.50A22Z100	100	1.50	22	100
223-1d100e1.60A22Z100	100	1.60	22	100
223-1d100e1.70A22Z100	100	1.70	22	100
223-1d100e1.80A22Z100	100	1.80	22	100
223-1d100e1.90A22Z100	100	1.90	22	100
223-1d100e2.00A22Z100	100	2.00	22	100
223-1d100e2.10A22Z100	100	2.10	22	100
223-1d100e2.20A22Z100	100	2.20	22	100
223-1d100e2.30A22Z100	100	2.30	22	100
223-1d100e2.40A22Z100	100	2.40	22	100
223-1d100e2.50A22Z100	100	2.50	22	100
223-1d100e2.60A22Z80	100	2.60	22	80
223-1d100e2.70A22Z80	100	2.70	22	80
223-1d100e2.80A22Z80	100	2.80	22	80
223-1d100e2.90A22Z80	100	2.90	22	80
223-1d100e3.00A22Z80	100	3.00	22	80
223-1d100e3.10A22Z80	100	3.10	22	80
223-1d100e3.20A22Z80	100	3.20	22	80
223-1d100e3.30A22Z80	100	3.30	22	80
223-1d100e3.40A22Z80	100	3.40	22	80
223-1d100e3.50A22Z80	100	3.50	22	80
223-1d100e3.60A22Z80	100	3.60	22	80
223-1d100e3.70A22Z80	100	3.70	22	80
223-1d100e3.80A22Z80	100	3.80	22	80
223-1d100e3.90A22Z80	100	3.90	22	80
223-1d100e4.00A22Z80	100	4.00	22	80
223-1d100e4.50A22Z80	100	4.50	22	80
223-1d100e5.00A22Z80	100	5.00	22	80
223-1d100e5.50A22Z64	100	5.50	22	64
223-1d100e6.00A22Z64	100	6.00	22	64
223-1d125e0.60A22Z160	125	0.60	22	160
223-1d125e0.70A22Z160	125	0.70	22	160
223-1d125e0.80A22Z160	125	0.80	22	160

Available uncoated or coated (see page 61)

Z 24-160

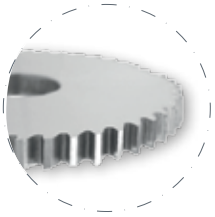
λ 0°

γ 8°

MG10

N

Slitting saw DIN 1837 fine pitch



Available uncoated or coated (see page 61)

Z 24-160

λ 0°

γ 8°

MG10

N

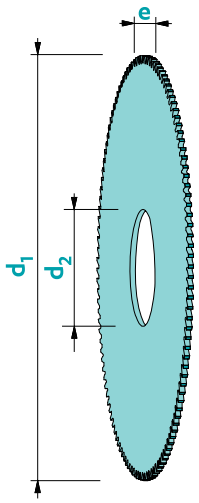
Art. n°	d_1	e	d_2	Z
223-1d125e0.90A22Z160	125	0.90	22	160
223-1d125e1.00A22Z160	125	1.00	22	160
223-1d125e1.10A22Z128	125	1.10	22	128
223-1d125e1.20A22Z128	125	1.20	22	128
223-1d125e1.30A22Z128	125	1.30	22	128
223-1d125e1.40A22Z128	125	1.40	22	128
223-1d125e1.50A22Z128	125	1.50	22	128
223-1d125e1.60A22Z128	125	1.60	22	128
223-1d125e1.70A22Z128	125	1.70	22	128
223-1d125e1.80A22Z128	125	1.80	22	128
223-1d125e1.90A22Z128	125	1.90	22	128
223-1d125e2.00A22Z128	125	2.00	22	128
223-1d125e2.10A22Z100	125	2.10	22	100
223-1d125e2.20A22Z100	125	2.20	22	100
223-1d125e2.30A22Z100	125	2.30	22	100
223-1d125e2.40A22Z100	125	2.40	22	100
223-1d125e2.50A22Z100	125	2.50	22	100
223-1d125e2.60A22Z100	125	2.60	22	100
223-1d125e2.70A22Z100	125	2.70	22	100
223-1d125e2.80A22Z100	125	2.80	22	100
223-1d125e2.90A22Z100	125	2.90	22	100
223-1d125e3.00A22Z100	125	3.00	22	100
223-1d125e3.10A22Z100	125	3.10	22	100
223-1d125e3.20A22Z100	125	3.20	22	100
223-1d125e3.30A22Z100	125	3.30	22	100
223-1d125e3.40A22Z100	125	3.40	22	100
223-1d125e3.50A22Z100	125	3.50	22	100
223-1d125e3.60A22Z100	125	3.60	22	100
223-1d125e3.70A22Z100	125	3.70	22	100
223-1d125e3.80A22Z100	125	3.80	22	100
223-1d125e3.90A22Z100	125	3.90	22	100
223-1d125e4.00A22Z100	125	4.00	22	100
223-1d125e4.50A22Z100	125	4.50	22	100
223-1d125e5.00A22Z100	125	5.00	22	100
223-1d125e5.50A22Z100	125	5.50	22	100
223-1d125e6.00A22Z100	125	6.00	22	100
223-1d160e1.00A32Z160	160	1.00	32	160
223-1d160e1.20A32Z160	160	1.20	32	160
223-1d160e1.50A32Z160	160	1.50	32	160
223-1d160e1.60A32Z160	160	1.60	32	160
223-1d160e1.80A32Z128	160	1.80	32	128
223-1d160e2.00A32Z128	160	2.00	32	128
223-1d160e2.50A32Z128	160	2.50	32	128
223-1d160e3.00A32Z128	160	3.00	32	128

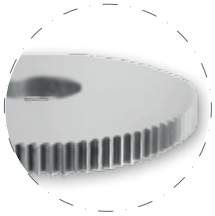
Slitting saw extra fine pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	□	■	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	■	-	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H7

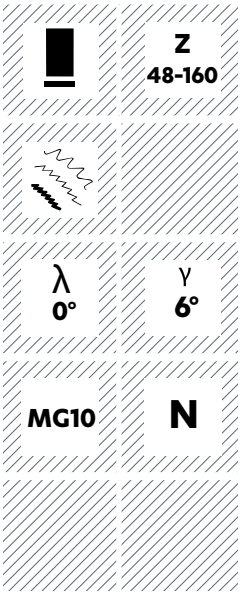




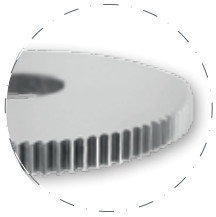
Available uncoated or coated (see page 61)

Art. n°	d_1	e	d_2	Z
223-2d8e0.10A3Z48	8	0.10	3	48
223-2d8e0.15A3Z48	8	0.15	3	48
223-2d8e0.20A3Z48	8	0.20	3	48
223-2d8e0.25A3Z48	8	0.25	3	48
223-2d8e0.30A3Z48	8	0.30	3	48
223-2d8e0.35A3Z48	8	0.35	3	48
223-2d8e0.40A3Z48	8	0.40	3	48
223-2d8e0.50A3Z48	8	0.50	3	48
223-2d8e0.60A3Z48	8	0.60	3	48
223-2d8e0.70A3Z48	8	0.70	3	48
223-2d8e0.80A3Z48	8	0.80	3	48
223-2d8e0.90A3Z48	8	0.90	3	48
223-2d8e1.00A3Z48	8	1.00	3	48
223-2d10e0.10A3Z64	10	0.10	3	64
223-2d10e0.15A3Z64	10	0.15	3	64
223-2d10e0.20A3Z64	10	0.20	3	64
223-2d10e0.25A3Z64	10	0.25	3	64
223-2d10e0.30A3Z64	10	0.30	3	64
223-2d10e0.35A3Z64	10	0.35	3	64
223-2d10e0.40A3Z64	10	0.40	3	64
223-2d10e0.50A3Z64	10	0.50	3	64
223-2d10e0.60A3Z64	10	0.60	3	64
223-2d10e0.70A3Z64	10	0.70	3	64
223-2d10e0.80A3Z64	10	0.80	3	64
223-2d10e0.90A3Z64	10	0.90	3	64
223-2d10e1.00A3Z64	10	1.00	3	64
223-2d12e0.10A5Z64	12	0.10	5	64
223-2d12e0.15A5Z64	12	0.15	5	64
223-2d12e0.20A5Z64	12	0.20	5	64
223-2d12e0.25A5Z64	12	0.25	5	64

Art. n°	d_1	e	d_2	Z
223-2d12e0.30A5Z64	12	0.30	5	64
223-2d12e0.35A5Z64	12	0.35	5	64
223-2d12e0.40A5Z64	12	0.40	5	64
223-2d12e0.50A5Z64	12	0.50	5	64
223-2d12e0.60A5Z64	12	0.60	5	64
223-2d12e0.70A5Z64	12	0.70	5	64
223-2d12e0.80A5Z64	12	0.80	5	64
223-2d12e0.90A5Z64	12	0.90	5	64
223-2d12e1.00A5Z64	12	1.00	5	64
223-2d15e0.10A5Z80	15	0.10	5	80
223-2d15e0.15A5Z80	15	0.15	5	80
223-2d15e0.20A5Z80	15	0.20	5	80
223-2d15e0.25A5Z80	15	0.25	5	80
223-2d15e0.30A5Z80	15	0.30	5	80
223-2d15e0.35A5Z80	15	0.35	5	80
223-2d15e0.40A5Z80	15	0.40	5	80
223-2d15e0.50A5Z80	15	0.50	5	80
223-2d15e0.60A5Z80	15	0.60	5	80
223-2d15e0.70A5Z80	15	0.70	5	80
223-2d15e0.80A5Z80	15	0.80	5	80
223-2d15e0.90A5Z80	15	0.90	5	80
223-2d15e1.00A5Z80	15	1.00	5	80
223-2d15e1.10A5Z80	15	1.10	5	80
223-2d15e1.20A5Z80	15	1.20	5	80
223-2d15e1.30A5Z80	15	1.30	5	80
223-2d15e1.40A5Z80	15	1.40	5	80
223-2d15e1.50A5Z80	15	1.50	5	80
223-2d15e2.00A5Z80	15	2.00	5	80
223-2d15e2.50A5Z80	15	2.50	5	80
223-2d15e3.00A5Z80	15	3.00	5	80



Slitting saw extra fine pitch



Available uncoated or coated (see page 61)

Z 48-160

λ 0°

γ 6°

MG10

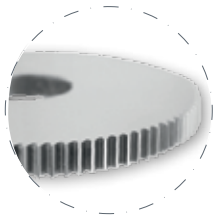
N

Art. n°	d_1	e	d_2	Z
223-2d20e0.10A5Z100	20	0.10	5	100
223-2d20e0.10A6Z80	20	0.10	6	80
223-2d20e0.15A5Z100	20	0.15	5	100
223-2d20e0.15A6Z80	20	0.15	6	80
223-2d20e0.20A5Z100	20	0.20	5	100
223-2d20e0.20A6Z80	20	0.20	6	80
223-2d20e0.25A5Z80	20	0.25	5	80
223-2d20e0.25A5Z100	20	0.25	5	100
223-2d20e0.25A6Z80	20	0.25	6	80
223-2d20e0.30A5Z80	20	0.30	5	80
223-2d20e0.30A5Z100	20	0.30	5	100
223-2d20e0.30A6Z80	20	0.30	6	80
223-2d20e0.35A5Z80	20	0.35	5	80
223-2d20e0.35A5Z100	20	0.35	5	100
223-2d20e0.35A6Z80	20	0.35	6	80
223-2d20e0.40A5Z80	20	0.40	5	80
223-2d20e0.40A5Z100	20	0.40	5	100
223-2d20e0.40A6Z80	20	0.40	6	80
223-2d20e0.50A5Z80	20	0.50	5	80
223-2d20e0.50A5Z100	20	0.50	5	100
223-2d20e0.50A6Z80	20	0.50	6	80
223-2d20e0.60A5Z80	20	0.60	5	80
223-2d20e0.60A6Z80	20	0.60	6	80
223-2d20e0.70A5Z80	20	0.70	5	80
223-2d20e0.70A6Z80	20	0.70	6	80
223-2d20e0.80A5Z80	20	0.80	5	80
223-2d20e0.80A6Z80	20	0.80	6	80
223-2d20e0.90A5Z80	20	0.90	5	80
223-2d20e0.90A6Z80	20	0.90	6	80
223-2d20e1.00A5Z80	20	1.00	5	80
223-2d20e1.00A6Z80	20	1.00	6	80
223-2d20e1.10A5Z80	20	1.10	5	80
223-2d20e1.10A6Z80	20	1.10	6	80
223-2d20e1.20A5Z80	20	1.20	5	80
223-2d20e1.20A6Z80	20	1.20	6	80
223-2d20e1.30A5Z80	20	1.30	5	80
223-2d20e1.30A6Z80	20	1.30	6	80
223-2d20e1.40A5Z80	20	1.40	5	80
223-2d20e1.40A6Z80	20	1.40	6	80
223-2d20e1.50A5Z80	20	1.50	5	80
223-2d20e1.50A6Z80	20	1.50	6	80
223-2d20e2.00A5Z80	20	2.00	5	80
223-2d20e2.00A6Z80	20	2.00	6	80
223-2d20e2.50A5Z80	20	2.50	5	80
223-2d20e2.50A6Z80	20	2.50	6	80

Art. n°	d_1	e	d_2	Z
223-2d20e3.00A5Z80	20	3.00	5	80
223-2d20e3.00A6Z80	20	3.00	6	80
223-2d25e0.10A5Z80	25	0.10	5	80
223-2d25e0.15A5Z80	25	0.15	5	80
223-2d25e0.15A6Z100	25	0.15	6	100
223-2d25e0.15A8Z100	25	0.15	8	100
223-2d25e0.20A5Z80	25	0.20	5	80
223-2d25e0.20A6Z100	25	0.20	6	100
223-2d25e0.20A8Z100	25	0.20	8	100
223-2d25e0.25A5Z80	25	0.25	5	80
223-2d25e0.25A6Z100	25	0.25	6	100
223-2d25e0.25A8Z100	25	0.25	8	100
223-2d25e0.30A5Z80	25	0.30	5	80
223-2d25e0.30A6Z100	25	0.30	6	100
223-2d25e0.30A8Z100	25	0.30	8	100
223-2d25e0.35A5Z80	25	0.35	5	80
223-2d25e0.35A6Z100	25	0.35	6	100
223-2d25e0.35A8Z100	25	0.35	8	100
223-2d25e0.40A5Z80	25	0.40	5	80
223-2d25e0.40A6Z100	25	0.40	6	100
223-2d25e0.40A8Z100	25	0.40	8	100
223-2d25e0.50A5Z80	25	0.50	5	80
223-2d25e0.50A6Z100	25	0.50	6	100
223-2d25e0.50A8Z100	25	0.50	8	100
223-2d25e0.60A5Z80	25	0.60	5	80
223-2d25e0.60A6Z100	25	0.60	6	100
223-2d25e0.60A8Z100	25	0.60	8	100
223-2d25e0.70A5Z80	25	0.70	5	80
223-2d25e0.70A6Z100	25	0.70	6	100
223-2d25e0.70A8Z100	25	0.70	8	100
223-2d25e0.80A5Z80	25	0.80	5	80
223-2d25e0.80A6Z100	25	0.80	6	100
223-2d25e0.80A8Z100	25	0.80	8	100
223-2d25e0.90A5Z80	25	0.90	5	80
223-2d25e0.90A6Z100	25	0.90	6	100
223-2d25e0.90A8Z100	25	0.90	8	100
223-2d25e1.00A5Z80	25	1.00	5	80
223-2d25e1.00A6Z100	25	1.00	6	100
223-2d25e1.00A8Z100	25	1.00	8	100
223-2d25e1.10A5Z80	25	1.10	5	80
223-2d25e1.10A6Z100	25	1.10	6	100
223-2d25e1.10A8Z100	25	1.10	8	100
223-2d25e1.20A5Z80	25	1.20	5	80
223-2d25e1.20A6Z100	25	1.20	6	100
223-2d25e1.20A8Z100	25	1.20	8	100

Slitting saw extra fine pitch

Art. n°	d_1	e	d_2	Z
223-2d25e1.30A5Z80	25	1.30	5	80
223-2d25e1.30A6Z100	25	1.30	6	100
223-2d25e1.30A8Z100	25	1.30	8	100
223-2d25e1.40A5Z80	25	1.40	5	80
223-2d25e1.40A6Z100	25	1.40	6	100
223-2d25e1.40A8Z100	25	1.40	8	100
223-2d25e1.50A5Z80	25	1.50	5	80
223-2d25e1.50A6Z100	25	1.50	6	100
223-2d25e1.50A8Z100	25	1.50	8	100
223-2d25e2.00A5Z80	25	2.00	5	80
223-2d25e2.00A6Z100	25	2.00	6	100
223-2d25e2.00A8Z100	25	2.00	8	100
223-2d25e2.50A5Z80	25	2.50	5	80
223-2d25e2.50A6Z100	25	2.50	6	100
223-2d25e2.50A8Z100	25	2.50	8	100
223-2d25e3.00A5Z80	25	3.00	5	80
223-2d25e3.00A6Z100	25	3.00	6	100
223-2d25e3.00A8Z100	25	3.00	8	100
223-2d30e0.10A8Z100	30	0.10	8	100
223-2d30e0.15A8Z100	30	0.15	8	100
223-2d30e0.20A8Z100	30	0.20	8	100
223-2d30e0.25A8Z100	30	0.25	8	100
223-2d30e0.30A8Z100	30	0.30	8	100
223-2d30e0.35A8Z100	30	0.35	8	100
223-2d30e0.40A8Z100	30	0.40	8	100
223-2d30e0.50A8Z100	30	0.50	8	100
223-2d30e0.60A8Z100	30	0.60	8	100
223-2d30e0.70A8Z100	30	0.70	8	100
223-2d30e0.80A8Z100	30	0.80	8	100
223-2d30e0.90A8Z100	30	0.90	8	100
223-2d30e1.00A8Z100	30	1.00	8	100
223-2d30e1.10A8Z100	30	1.10	8	100
223-2d30e1.20A8Z100	30	1.20	8	100
223-2d30e1.30A8Z100	30	1.30	8	100
223-2d30e1.40A8Z100	30	1.40	8	100
223-2d30e1.50A8Z100	30	1.50	8	100
223-2d30e2.00A8Z100	30	2.00	8	100
223-2d30e2.50A8Z100	30	2.50	8	100
223-2d30e3.00A8Z100	30	3.00	8	100
223-2d32e0.15A8Z80	32	0.15	8	80
223-2d32e0.20A8Z80	32	0.20	8	80
223-2d32e0.25A8Z80	32	0.25	8	80
223-2d32e0.30A8Z80	32	0.30	8	80
223-2d32e0.35A8Z80	32	0.35	8	80
223-2d32e0.40A8Z80	32	0.40	8	80
223-2d32e0.50A8Z80	32	0.50	8	80
223-2d32e0.60A8Z80	32	0.60	8	80
223-2d32e0.70A8Z80	32	0.70	8	80
223-2d32e0.80A8Z80	32	0.80	8	80
223-2d32e0.90A8Z80	32	0.90	8	80
223-2d32e1.00A8Z80	32	1.00	8	80
223-2d32e1.10A8Z80	32	1.10	8	80
223-2d32e1.20A8Z80	32	1.20	8	80
223-2d32e1.30A8Z80	32	1.30	8	80
223-2d32e1.40A8Z80	32	1.40	8	80
223-2d32e1.50A8Z80	32	1.50	8	80
223-2d32e2.00A8Z80	32	2.00	8	80
223-2d32e2.50A8Z80	32	2.50	8	80
223-2d32e3.00A8Z80	32	3.00	8	80
223-2d35e0.15A8Z96	35	0.15	8	96
223-2d35e0.20A8Z96	35	0.20	8	96
223-2d35e0.25A8Z96	35	0.25	8	96
223-2d35e0.30A8Z96	35	0.30	8	96
223-2d35e0.35A8Z96	35	0.35	8	96
223-2d35e0.40A8Z96	35	0.40	8	96
223-2d35e0.50A8Z96	35	0.50	8	96
223-2d35e0.60A8Z96	35	0.60	8	96
223-2d35e0.70A8Z96	35	0.70	8	96
223-2d35e0.80A8Z96	35	0.80	8	96
223-2d35e0.90A8Z96	35	0.90	8	96
223-2d35e1.00A8Z96	35	1.00	8	96
223-2d35e1.10A8Z96	35	1.10	8	96
223-2d35e1.20A8Z96	35	1.20	8	96
223-2d35e1.30A8Z96	35	1.30	8	96
223-2d35e1.40A8Z96	35	1.40	8	96
223-2d35e1.50A8Z96	35	1.50	8	96
223-2d35e2.00A8Z96	35	2.00	8	96
223-2d35e2.50A8Z96	35	2.50	8	96
223-2d35e3.00A8Z96	35	3.00	8	96
223-2d40e0.15A8Z100	40	0.15	8	100
223-2d40e0.15A8Z160	40	0.15	8	160
223-2d40e0.15A10Z100	40	0.15	10	100
223-2d40e0.15A10Z160	40	0.15	10	160
223-2d40e0.20A8Z100	40	0.20	8	100
223-2d40e0.20A8Z160	40	0.20	8	160
223-2d40e0.20A10Z100	40	0.20	10	100
223-2d40e0.20A10Z160	40	0.20	10	160
223-2d40e0.25A8Z100	40	0.25	8	100
223-2d40e0.25A8Z160	40	0.25	8	160
223-2d40e0.25A10Z100	40	0.25	10	100



Available uncoated or coated (see page 61)

Z 48-160

λ 0°

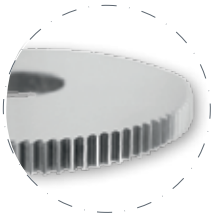
γ 6°

MG10

N

Slitting saw extra fine pitch

Continuation



Available uncoated or coated (see page 61)

Z 48-160

λ 0°

γ 6°

MG10

N

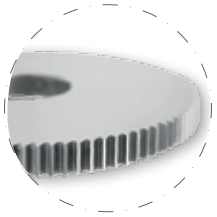
Art. n°	d_1	e	d_2	Z
223-2d40e0.25A10Z160	40	0.25	10	160
223-2d40e0.30A8Z100	40	0.30	8	100
223-2d40e0.30A8Z160	40	0.30	8	160
223-2d40e0.30A10Z100	40	0.30	10	100
223-2d40e0.30A10Z160	40	0.30	10	160
223-2d40e0.35A8Z100	40	0.35	8	100
223-2d40e0.35A8Z160	40	0.35	8	160
223-2d40e0.35A10Z100	40	0.35	10	100
223-2d40e0.35A10Z160	40	0.35	10	160
223-2d40e0.40A8Z100	40	0.40	8	100
223-2d40e0.40A8Z160	40	0.40	8	160
223-2d40e0.40A10Z100	40	0.40	10	100
223-2d40e0.40A10Z160	40	0.40	10	160
223-2d40e0.50A8Z100	40	0.50	8	100
223-2d40e0.50A8Z160	40	0.50	8	160
223-2d40e0.50A10Z100	40	0.50	10	100
223-2d40e0.50A10Z160	40	0.50	10	160
223-2d40e0.60A8Z100	40	0.60	8	100
223-2d40e0.60A8Z160	40	0.60	8	160
223-2d40e0.60A10Z100	40	0.60	10	100
223-2d40e0.60A10Z160	40	0.60	10	160
223-2d40e0.70A8Z100	40	0.70	8	100
223-2d40e0.70A8Z160	40	0.70	8	160
223-2d40e0.70A10Z100	40	0.70	10	100
223-2d40e0.70A10Z160	40	0.70	10	160
223-2d40e0.80A8Z100	40	0.80	8	100
223-2d40e0.80A8Z160	40	0.80	8	160
223-2d40e0.80A10Z100	40	0.80	10	100
223-2d40e0.80A10Z160	40	0.80	10	160
223-2d40e0.90A8Z100	40	0.90	8	100
223-2d40e0.90A8Z160	40	0.90	8	160
223-2d40e0.90A10Z100	40	0.90	10	100
223-2d40e0.90A10Z160	40	0.90	10	160
223-2d40e1.00A8Z100	40	1.00	8	100
223-2d40e1.00A8Z160	40	1.00	8	160
223-2d40e1.00A10Z100	40	1.00	10	100
223-2d40e1.00A10Z160	40	1.00	10	160
223-2d40e1.10A8Z100	40	1.10	8	100
223-2d40e1.10A8Z160	40	1.10	8	160
223-2d40e1.10A10Z100	40	1.10	10	100
223-2d40e1.10A10Z160	40	1.10	10	160
223-2d40e1.20A8Z100	40	1.20	8	100
223-2d40e1.20A8Z160	40	1.20	8	160
223-2d40e1.20A10Z100	40	1.20	10	100
223-2d40e1.20A10Z160	40	1.20	10	160

Art. n°	d_1	e	d_2	Z
223-2d40e1.30A8Z100	40	1.30	8	100
223-2d40e1.30A8Z160	40	1.30	8	160
223-2d40e1.30A10Z100	40	1.30	10	100
223-2d40e1.30A10Z160	40	1.30	10	160
223-2d40e1.40A8Z100	40	1.40	8	100
223-2d40e1.40A8Z160	40	1.40	8	160
223-2d40e1.40A10Z100	40	1.40	10	100
223-2d40e1.40A10Z160	40	1.40	10	160
223-2d40e1.50A8Z100	40	1.50	8	100
223-2d40e1.50A8Z160	40	1.50	8	160
223-2d40e1.50A10Z100	40	1.50	10	100
223-2d40e1.50A10Z160	40	1.50	10	160
223-2d40e2.00A8Z100	40	2.00	8	100
223-2d40e2.00A8Z160	40	2.00	8	160
223-2d40e2.00A10Z100	40	2.00	10	100
223-2d40e2.00A10Z160	40	2.00	10	160
223-2d40e2.50A8Z100	40	2.50	8	100
223-2d40e2.50A8Z160	40	2.50	8	160
223-2d40e2.50A10Z100	40	2.50	10	100
223-2d40e2.50A10Z160	40	2.50	10	160
223-2d40e3.00A8Z100	40	3.00	8	100
223-2d40e3.00A8Z160	40	3.00	8	160
223-2d40e3.00A10Z100	40	3.00	10	100
223-2d40e3.00A10Z160	40	3.00	10	160
223-2d45e0.15A8Z100	45	0.15	8	100
223-2d45e0.15A8Z160	45	0.15	8	160
223-2d45e0.20A8Z100	45	0.20	8	100
223-2d45e0.20A8Z160	45	0.20	8	160
223-2d45e0.25A8Z100	45	0.25	8	100
223-2d45e0.25A8Z160	45	0.25	8	160
223-2d45e0.30A8Z100	45	0.30	8	100
223-2d45e0.30A8Z160	45	0.30	8	160
223-2d45e0.35A8Z100	45	0.35	8	100
223-2d45e0.35A8Z160	45	0.35	8	160
223-2d45e0.40A8Z100	45	0.40	8	100
223-2d45e0.40A8Z160	45	0.40	8	160
223-2d45e0.50A8Z100	45	0.50	8	100
223-2d45e0.50A8Z160	45	0.50	8	160
223-2d45e0.60A8Z100	45	0.60	8	100
223-2d45e0.60A8Z160	45	0.60	8	160
223-2d45e0.70A8Z100	45	0.70	8	100
223-2d45e0.70A8Z160	45	0.70	8	160
223-2d45e0.80A8Z100	45	0.80	8	100
223-2d45e0.80A8Z160	45	0.80	8	160
223-2d45e0.90A8Z100	45	0.90	8	100

Slitting saw extra fine pitch

Art. n°	d_1	e	d_2	Z
223-2d45e0.90A8Z160	45	0.90	8	160
223-2d45e1.00A8Z100	45	1.00	8	100
223-2d45e1.00A8Z160	45	1.00	8	160
223-2d45e1.10A8Z100	45	1.10	8	100
223-2d45e1.10A8Z160	45	1.10	8	160
223-2d45e1.20A8Z100	45	1.20	8	100
223-2d45e1.20A8Z160	45	1.20	8	160
223-2d45e1.30A8Z100	45	1.30	8	100
223-2d45e1.30A8Z160	45	1.30	8	160
223-2d45e1.40A8Z100	45	1.40	8	100
223-2d45e1.40A8Z160	45	1.40	8	160
223-2d45e1.50A8Z100	45	1.50	8	100
223-2d45e1.50A8Z160	45	1.50	8	160
223-2d45e2.00A8Z100	45	2.00	8	100
223-2d45e2.00A8Z160	45	2.00	8	160
223-2d45e2.50A8Z100	45	2.50	8	100
223-2d45e2.50A8Z160	45	2.50	8	160
223-2d45e3.00A8Z100	45	3.00	8	100
223-2d45e3.00A8Z160	45	3.00	8	160
223-2d50e0.20A10Z100	50	0.20	10	100
223-2d50e0.25A10Z100	50	0.25	10	100
223-2d50e0.25A13Z120	50	0.25	13	120
223-2d50e0.30A10Z100	50	0.30	10	100
223-2d50e0.30A13Z120	50	0.30	13	120
223-2d50e0.35A10Z100	50	0.35	10	100
223-2d50e0.35A13Z120	50	0.35	13	120
223-2d50e0.40A10Z100	50	0.40	10	100
223-2d50e0.40A13Z120	50	0.40	13	120
223-2d50e0.50A10Z100	50	0.50	10	100
223-2d50e0.50A13Z120	50	0.50	13	120
223-2d50e0.60A10Z100	50	0.60	10	100
223-2d50e0.60A13Z120	50	0.60	13	120
223-2d50e0.70A10Z100	50	0.70	10	100
223-2d50e0.70A13Z120	50	0.70	13	120
223-2d50e0.80A10Z100	50	0.80	10	100
223-2d50e0.80A13Z120	50	0.80	13	120
223-2d50e0.90A10Z100	50	0.90	10	100
223-2d50e0.90A13Z120	50	0.90	13	120
223-2d50e1.00A10Z100	50	1.00	10	100
223-2d50e1.00A13Z120	50	1.00	13	120
223-2d50e1.10A10Z100	50	1.10	10	100
223-2d50e1.10A13Z120	50	1.10	13	120
223-2d50e1.20A10Z100	50	1.20	10	100
223-2d50e1.20A13Z120	50	1.20	13	120
223-2d50e1.30A10Z100	50	1.30	10	100

Art. n°	d_1	e	d_2	Z
223-2d50e1.30A13Z120	50	1.30	13	120
223-2d50e1.40A10Z100	50	1.40	10	100
223-2d50e1.40A13Z120	50	1.40	13	120
223-2d50e1.50A10Z100	50	1.50	10	100
223-2d50e1.50A13Z120	50	1.50	13	120
223-2d50e2.00A10Z100	50	2.00	10	100
223-2d50e2.00A13Z120	50	2.00	13	120
223-2d50e2.50A10Z100	50	2.50	10	100
223-2d50e2.50A13Z120	50	2.50	13	120
223-2d50e3.00A10Z100	50	3.00	10	100
223-2d50e3.00A13Z120	50	3.00	13	120
223-2d63e0.25A16Z120	63	0.25	16	120
223-2d63e0.30A16Z120	63	0.30	16	120
223-2d63e0.35A16Z120	63	0.35	16	120
223-2d63e0.40A16Z120	63	0.40	16	120
223-2d63e0.50A16Z120	63	0.50	16	120
223-2d63e0.60A16Z120	63	0.60	16	120
223-2d63e0.70A16Z120	63	0.70	16	120
223-2d63e0.80A16Z120	63	0.80	16	120
223-2d63e0.90A16Z120	63	0.90	16	120
223-2d63e1.00A16Z120	63	1.00	16	120
223-2d63e1.10A16Z120	63	1.10	16	120
223-2d63e1.20A16Z120	63	1.20	16	120
223-2d63e1.30A16Z120	63	1.30	16	120
223-2d63e1.40A16Z120	63	1.40	16	120
223-2d63e1.50A16Z120	63	1.50	16	120
223-2d63e2.00A16Z120	63	2.00	16	120
223-2d63e2.50A16Z120	63	2.50	16	120
223-2d63e3.00A16Z120	63	3.00	16	120
223-2d80e0.50A16Z128	80	0.50	16	128
223-2d80e0.60A16Z128	80	0.60	16	128
223-2d80e0.70A16Z128	80	0.70	16	128
223-2d80e0.80A16Z128	80	0.80	16	128
223-2d80e0.90A16Z128	80	0.90	16	128
223-2d80e1.00A16Z128	80	1.00	16	128
223-2d80e1.10A16Z128	80	1.10	16	128
223-2d80e1.20A16Z128	80	1.20	16	128
223-2d80e1.30A16Z128	80	1.30	16	128
223-2d80e1.40A16Z128	80	1.40	16	128
223-2d80e1.50A16Z128	80	1.50	16	128
223-2d80e2.00A16Z128	80	2.00	16	128
223-2d80e2.50A16Z128	80	2.50	16	128
223-2d80e3.00A16Z128	80	3.00	16	128



Available uncoated or coated (see page 61)

Z
48-160

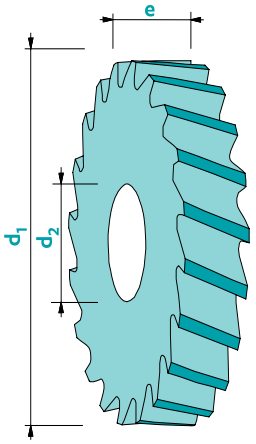
λ
0°

γ
6°

MG10

N

Slitting saw spiral toothing



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	■	□	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 20-100

λ 20°

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z
225d15e1.0A5Z##	15	1.0	5	20 - 24
225d15e1.5A5Z##	15	1.5	5	20 - 24
225d15e2.0A5Z##	15	2.0	5	20 - 24
225d15e2.5A5Z##	15	2.5	5	20 - 24
225d15e3.0A5Z##	15	3.0	5	20 - 24
225d15e3.5A5Z##	15	3.5	5	20 - 24
225d15e4.0A5Z##	15	4.0	5	20 - 24
225d15e4.5A5Z##	15	4.5	5	20 - 24
225d15e5.0A5Z##	15	5.0	5	20 - 24
225d15e5.5A5Z##	15	5.5	5	20 - 24
225d15e6.0A5Z##	15	6.0	5	20 - 24
225d20e1.0A5Z##	20	1.0	5	24 - 32
225d20e1.5A5Z##	20	1.5	5	24 - 32
225d20e2.0A5Z##	20	2.0	5	24 - 32
225d20e2.5A5Z##	20	2.5	5	24 - 32
225d20e3.0A5Z##	20	3.0	5	24 - 32
225d20e3.5A5Z##	20	3.5	5	24 - 32
225d20e4.0A5Z##	20	4.0	5	24 - 32
225d20e4.5A5Z##	20	4.5	5	24 - 32
225d20e5.0A5Z##	20	5.0	5	24 - 32
225d20e5.5A5Z##	20	5.5	5	24 - 32
225d20e6.0A5Z##	20	6.0	5	24 - 32
225d25e1.0A8Z##	25	1.0	8	24 - 32
225d25e1.5A8Z##	25	1.5	8	32 - 48
225d25e2.0A8Z##	25	2.0	8	32 - 48
225d25e2.5A8Z##	25	2.5	8	32 - 48
225d25e3.0A8Z##	25	3.0	8	32 - 48
225d25e3.5A8Z##	25	3.5	8	32 - 48
225d25e4.0A8Z##	25	4.0	8	32 - 48
225d25e4.5A8Z##	25	4.5	8	32 - 48

Art. n°	d_1	e	d_2	Z
225d25e5.0A8Z##	25	5.0	8	32 - 48
225d25e5.5A8Z##	25	5.5	8	32 - 48
225d25e6.0A8Z##	25	6.0	8	32 - 48
225d25e7.0A8Z##	25	7.0	8	32 - 48
225d25e8.0A8Z##	25	8.0	8	32 - 48
225d25e9.0A8Z##	25	9.0	8	32 - 48
225d25e10.0A8Z##	25	10.0	8	32 - 48
225d30e1.0A8Z##	30	1.0	8	32 - 48
225d30e1.5A8Z##	30	1.5	8	32 - 48
225d30e2.0A8Z##	30	2.0	8	32 - 48
225d30e2.5A8Z##	30	2.5	8	32 - 48
225d30e3.0A8Z##	30	3.0	8	32 - 48
225d30e3.5A8Z##	30	3.5	8	32 - 48
225d30e4.0A8Z##	30	4.0	8	32 - 48
225d30e4.5A8Z##	30	4.5	8	32 - 48
225d30e5.0A8Z##	30	5.0	8	32 - 48
225d30e5.5A8Z##	30	5.5	8	32 - 48
225d30e6.0A8Z##	30	6.0	8	32 - 48
225d30e7.0A8Z##	30	7.0	8	32 - 48
225d30e8.0A8Z##	30	8.0	8	32 - 48
225d30e9.0A8Z##	30	9.0	8	32 - 48
225d30e10.0A8Z##	30	10.0	8	32 - 48
225d30e11.0A8Z##	30	11.0	8	32 - 48
225d30e12.0A8Z##	30	12.0	8	32 - 48
225d30e13.0A8Z##	30	13.0	8	32 - 48
225d30e14.0A8Z##	30	14.0	8	32 - 48
225d30e15.0A8Z##	30	15.0	8	32 - 48
225d30e16.0A8Z##	30	16.0	8	32 - 48
225d40e1.0A10Z##	40	1.0	10	48 - 60
225d40e1.5A10Z##	40	1.5	10	48 - 60

Slitting saw spiral toothing

Art. n°	d_1	e	d_2	Z
225d40e2.0A10Z##	40	2.0	10	48 - 60
225d40e2.5A10Z##	40	2.5	10	48 - 60
225d40e3.0A10Z##	40	3.0	10	48 - 60
225d40e3.5A10Z##	40	3.5	10	48 - 60
225d40e4.0A10Z##	40	4.0	10	48 - 60
225d40e4.5A10Z##	40	4.5	10	48 - 60
225d40e5.0A10Z##	40	5.0	10	48 - 60
225d40e5.5A10Z##	40	5.5	10	48 - 60
225d40e6.0A10Z##	40	6.0	10	48 - 60
225d40e7.0A10Z##	40	7.0	10	48 - 60
225d40e8.0A10Z##	40	8.0	10	48 - 60
225d40e9.0A10Z##	40	9.0	10	48 - 60
225d40e10.0A10Z##	40	10.0	10	48 - 60
225d40e11.0A10Z##	40	11.0	10	48 - 60
225d40e12.0A10Z##	40	12.0	10	48 - 60
225d40e13.0A10Z##	40	13.0	10	48 - 60
225d40e14.0A10Z##	40	14.0	10	48 - 60
225d40e15.0A10Z##	40	15.0	10	48 - 60
225d40e16.0A10Z##	40	16.0	10	48 - 60
225d40e17.0A10Z##	40	17.0	10	48 - 60
225d40e18.0A10Z##	40	18.0	10	48 - 60
225d50e1.0A13Z##	50	1.0	13	48 - 60
225d50e1.5A13Z##	50	1.5	13	48 - 60
225d50e2.0A13Z##	50	2.0	13	48 - 60
225d50e2.5A13Z##	50	2.5	13	48 - 60
225d50e3.0A13Z##	50	3.0	13	48 - 60
225d50e3.5A13Z##	50	3.5	13	48 - 60
225d50e4.0A13Z##	50	4.0	13	48 - 60
225d50e4.5A13Z##	50	4.5	13	48 - 60
225d50e5.0A13Z##	50	5.0	13	48 - 60
225d50e5.5A13Z##	50	5.5	13	48 - 60
225d50e6.0A13Z##	50	6.0	13	48 - 60
225d50e7.0A13Z##	50	7.0	13	48 - 60
225d50e8.0A13Z##	50	8.0	13	48 - 60
225d50e9.0A13Z##	50	9.0	13	48 - 60
225d50e10.0A13Z##	50	10.0	13	48 - 60
225d50e11.0A13Z##	50	11.0	13	48 - 60
225d50e12.0A13Z##	50	12.0	13	48 - 60
225d50e13.0A13Z##	50	13.0	13	48 - 60
225d50e14.0A13Z##	50	14.0	13	48 - 60
225d50e15.0A13Z##	50	15.0	13	48 - 60
225d50e16.0A13Z##	50	16.0	13	48 - 60
225d50e17.0A13Z##	50	17.0	13	48 - 60
225d50e18.0A13Z##	50	18.0	13	48 - 60
225d63e1.0A16Z##	63	1.0	16	60 - 80
225d63e1.5A16Z##	63	1.5	16	60 - 80
225d63e2.0A16Z##	63	2.0	16	60 - 80
225d63e2.5A16Z##	63	2.5	16	60 - 80
225d63e3.0A16Z##	63	3.0	16	60 - 80
225d63e3.5A16Z##	63	3.5	16	60 - 80
225d63e4.0A16Z##	63	4.0	16	60 - 80
225d63e4.5A16Z##	63	4.5	16	60 - 80
225d63e5.0A16Z##	63	5.0	16	60 - 80
225d63e5.5A16Z##	63	5.5	16	60 - 80
225d63e6.0A16Z##	63	6.0	16	60 - 80
225d63e7.0A16Z##	63	7.0	16	60 - 80
225d63e8.0A16Z##	63	8.0	16	60 - 80
225d63e9.0A16Z##	63	9.0	16	60 - 80
225d63e10.0A16Z##	63	10.0	16	60 - 80
225d63e11.0A16Z##	63	11.0	16	60 - 80
225d63e12.0A16Z##	63	12.0	16	60 - 80
225d63e13.0A16Z##	63	13.0	16	60 - 80
225d63e14.0A16Z##	63	14.0	16	60 - 80
225d63e15.0A16Z##	63	15.0	16	60 - 80
225d63e16.0A16Z##	63	16.0	16	60 - 80
225d63e17.0A16Z##	63	17.0	16	60 - 80
225d63e18.0A16Z##	63	18.0	16	60 - 80
225d80e1.0A22Z##	80	1.0	22	80 - 100
225d80e1.5A22Z##	80	1.5	22	80 - 100
225d80e2.0A22Z##	80	2.0	22	80 - 100
225d80e2.5A22Z##	80	2.5	22	80 - 100
225d80e3.0A22Z##	80	3.0	22	80 - 100
225d80e3.5A22Z##	80	3.5	22	80 - 100
225d80e4.0A22Z##	80	4.0	22	80 - 100
225d80e4.5A22Z##	80	4.5	22	80 - 100
225d80e5.0A22Z##	80	5.0	22	80 - 100
225d80e5.5A22Z##	80	5.5	22	80 - 100
225d80e6.0A22Z##	80	6.0	22	80 - 100
225d80e7.0A22Z##	80	7.0	22	80 - 100
225d80e8.0A22Z##	80	8.0	22	80 - 100
225d80e9.0A22Z##	80	9.0	22	80 - 100
225d80e10.0A22Z##	80	10.0	22	80 - 100
225d80e11.0A22Z##	80	11.0	22	80 - 100
225d80e12.0A22Z##	80	12.0	22	80 - 100
225d80e13.0A22Z##	80	13.0	22	80 - 100
225d80e14.0A22Z##	80	14.0	22	80 - 100
225d80e15.0A22Z##	80	15.0	22	80 - 100
225d80e16.0A22Z##	80	16.0	22	80 - 100
225d80e17.0A22Z##	80	17.0	22	80 - 100
225d80e18.0A22Z##	80	18.0	22	80 - 100

Available uncoated or coated (see page 61)

Z
48-160

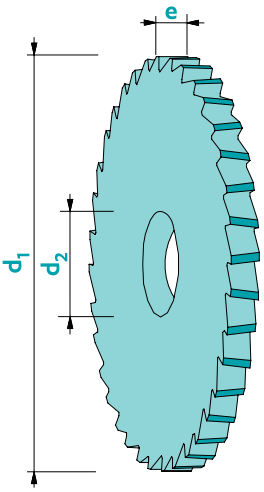
λ
20°

γ
8°

MG10

N

Slitting saw staggered teeth



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel< 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	■	□	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 12-36

λ ALT

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z	Art. n°	d_1	e	d_2	Z
226d15e1.5a5Z##	15	1.5	5	12 - 18	226d25e6.0a8Z##	25	6.0	8	24 - 28
226d15e2.0a5Z##	15	2.0	5	12 - 18	226d25e6.5a8Z##	25	6.5	8	24 - 28
226d15e2.5a5Z##	15	2.5	5	12 - 18	226d25e7.0a8Z##	25	7.0	8	24 - 28
226d15e3.0a5Z##	15	3.0	5	12 - 18	226d25e7.5a8Z##	25	7.5	8	24 - 28
226d15e3.5a5Z##	15	3.5	5	12 - 18	226d25e8.0a8Z##	25	8.0	8	24 - 28
226d15e4.0a5Z##	15	4.0	5	12 - 18	226d30e1.5a8Z##	30	1.5	8	24 - 28
226d15e4.5a5Z##	15	4.5	5	12 - 18	226d30e2.0a8Z##	30	2.0	8	24 - 28
226d15e5.0a5Z##	15	5.0	5	12 - 18	226d30e2.5a8Z##	30	2.5	8	24 - 28
226d15e5.5a5Z##	15	5.5	5	12 - 18	226d30e3.0a8Z##	30	3.0	8	24 - 28
226d15e6.0a5Z##	15	6.0	5	12 - 18	226d30e3.5a8Z##	30	3.5	8	24 - 28
226d20e1.5a5Z##	20	1.5	5	20 - 24	226d30e4.0a8Z##	30	4.0	8	24 - 28
226d20e2.0a5Z##	20	2.0	5	20 - 24	226d30e4.5a8Z##	30	4.5	8	24 - 28
226d20e2.5a5Z##	20	2.5	5	20 - 24	226d30e5.0a8Z##	30	5.0	8	24 - 28
226d20e3.0a5Z##	20	3.0	5	20 - 24	226d30e5.5a8Z##	30	5.5	8	24 - 28
226d20e3.5a5Z##	20	3.5	5	20 - 24	226d30e6.0a8Z##	30	6.0	8	24 - 28
226d20e4.0a5Z##	20	4.0	5	20 - 24	226d30e6.5a8Z##	30	6.5	8	24 - 28
226d20e4.5a5Z##	20	4.5	5	20 - 24	226d30e7.0a8Z##	30	7.0	8	24 - 28
226d20e5.0a5Z##	20	5.0	5	20 - 24	226d30e7.5a8Z##	30	7.5	8	24 - 28
226d20e5.5a5Z##	20	5.5	5	20 - 24	226d30e8.0a8Z##	30	8.0	8	24 - 28
226d20e6.0a5Z##	20	6.0	5	20 - 24	226d30e8.5a8Z##	30	8.5	8	24 - 28
226d25e1.5a8Z##	25	1.5	8	24 - 28	226d30e9.0a8Z##	30	9.0	8	24 - 28
226d25e2.0a8Z##	25	2.0	8	24 - 28	226d30e9.5a8Z##	30	9.5	8	24 - 28
226d25e2.5a8Z##	25	2.5	8	24 - 28	226d30e10.0a8Z##	30	10.0	8	24 - 28
226d25e3.0a8Z##	25	3.0	8	24 - 28	226d40e2.0a10Z##	40	2.0	10	28 - 32
226d25e3.5a8Z##	25	3.5	8	24 - 28	226d40e2.5a10Z##	40	2.5	10	28 - 32
226d25e4.0a8Z##	25	4.0	8	24 - 28	226d40e3.0a10Z##	40	3.0	10	28 - 32
226d25e4.5a8Z##	25	4.5	8	24 - 28	226d40e3.5a10Z##	40	3.5	10	28 - 32
226d25e5.0a8Z##	25	5.0	8	24 - 28	226d40e4.0a10Z##	40	4.0	10	28 - 32
226d25e5.5a8Z##	25	5.5	8	24 - 28	226d40e4.5a10Z##	40	4.5	10	28 - 32

Slitting saw staggered teeth

Art. n°	d_1	e	d_2	Z
226d40e5.0a10Z##	40	5.0	10	28 - 32
226d40e5.5a10Z##	40	5.5	10	28 - 32
226d40e6.0a10Z##	40	6.0	10	28 - 32
226d40e6.5a10Z##	40	6.5	10	28 - 32
226d40e7.0a10Z##	40	7.0	10	28 - 32
226d40e7.5a10Z##	40	7.5	10	28 - 32
226d40e8.0a10Z##	40	8.0	10	28 - 32
226d40e8.5a10Z##	40	8.5	10	28 - 32
226d40e9.0a10Z##	40	9.0	10	28 - 32
226d40e9.5a10Z##	40	9.5	10	28 - 32
226d40e10.0a10Z##	40	10.0	10	28 - 32
226d40e11.0a10Z##	40	11.0	10	28 - 32
226d40e12.0a10Z##	40	12.0	10	28 - 32
226d50e2.0a13Z##	50	2.0	13	28 - 32
226d50e2.5a13Z##	50	2.5	13	28 - 32
226d50e3.0a13Z##	50	3.0	13	28 - 32
226d50e3.5a13Z##	50	3.5	13	28 - 32
226d50e4.0a13Z##	50	4.0	13	28 - 32
226d50e4.5a13Z##	50	4.5	13	28 - 32
226d50e5.0a13Z##	50	5.0	13	28 - 32
226d50e5.5a13Z##	50	5.5	13	28 - 32
226d50e6.0a13Z##	50	6.0	13	28 - 32
226d50e6.5a13Z##	50	6.5	13	28 - 32
226d50e7.0a13Z##	50	7.0	13	28 - 32
226d50e7.5a13Z##	50	7.5	13	28 - 32
226d50e8.0a13Z##	50	8.0	13	28 - 32
226d50e8.5a13Z##	50	8.5	13	28 - 32
226d50e9.0a13Z##	50	9.0	13	28 - 32
226d50e9.5a13Z##	50	9.5	13	28 - 32
226d50e10.0a13Z##	50	10.0	13	28 - 32
226d50e11.0a13Z##	50	11.0	13	28 - 32
226d50e12.0a13Z##	50	12.0	13	28 - 32
226d63e2.0a16Z##	63	2.0	16	28 - 36
226d63e2.5a16Z##	63	2.5	16	28 - 36
226d63e3.0a16Z##	63	3.0	16	28 - 36
226d63e3.5a16Z##	63	3.5	16	28 - 36
226d63e4.0a16Z##	63	4.0	16	28 - 36
226d63e4.5a16Z##	63	4.5	16	28 - 36
226d63e5.0a16Z##	63	5.0	16	28 - 36
226d63e5.5a16Z##	63	5.5	16	28 - 36
226d63e6.0a16Z##	63	6.0	16	28 - 36
226d63e6.5a16Z##	63	6.5	16	28 - 36
226d63e7.0a16Z##	63	7.0	16	28 - 36
226d63e7.5a16Z##	63	7.5	16	28 - 36
226d63e8.0a16Z##	63	8.0	16	28 - 36
226d63e8.5a16Z##	63	8.5	16	28 - 36
226d63e9.0a16Z##	63	9.0	16	28 - 36
226d63e10.0a16Z##	63	10.0	16	28 - 36
226d80e2.0a22Z##	80	2.0	22	28 - 36
226d80e2.5a22Z##	80	2.5	22	28 - 36
226d80e3.0a22Z##	80	3.0	22	28 - 36
226d80e3.5a22Z##	80	3.5	22	28 - 36
226d80e4.0a22Z##	80	4.0	22	28 - 36
226d80e4.5a22Z##	80	4.5	22	28 - 36
226d80e5.0a22Z##	80	5.0	22	28 - 36
226d80e5.5a22Z##	80	5.5	22	28 - 36
226d80e6.0a22Z##	80	6.0	22	28 - 36
226d80e6.5a22Z##	80	6.5	22	28 - 36
226d80e7.0a22Z##	80	7.0	22	28 - 36
226d80e7.5a22Z##	80	7.5	22	28 - 36
226d80e8.0a22Z##	80	8.0	22	28 - 36
226d80e8.5a22Z##	80	8.5	22	28 - 36
226d80e9.0a22Z##	80	9.0	22	28 - 36
226d80e9.5a22Z##	80	9.5	22	28 - 36
226d80e10.0a22Z##	80	10.0	22	28 - 36
226d80e11.0a22Z##	80	11.0	22	28 - 36
226d80e12.0a22Z##	80	12.0	22	28 - 36

Available uncoated or coated (see page 61)

Z
12-36

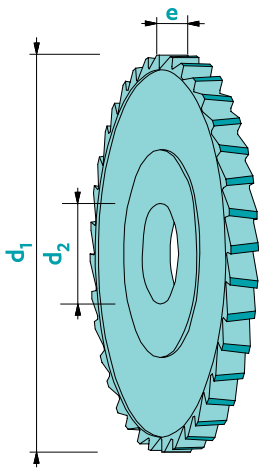
λ
ALT

γ
8°

MG10

N

Slitting saw - staggered teeth - 3 cuts



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	■	□	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 12-36

λ ALT

γ 8°

MG10

N

Art. n°	d_1	e	d_2	Z	Art. n°	d_1	e	d_2	Z
227d15e1.0A5Z##	15	1.0	5	12 - 18	227d25e5.0A8Z##	25	5.0	8	24 - 28
227d15e1.5A5Z##	15	1.5	5	12 - 18	227d25e5.5A8Z##	25	5.5	8	24 - 28
227d15e2.0A5Z##	15	2.0	5	12 - 18	227d25e6.0A8Z##	25	6.0	8	24 - 28
227d15e2.5A5Z##	15	2.5	5	12 - 18	227d25e6.5A8Z##	25	6.5	8	24 - 28
227d15e3.0A5Z##	15	3.0	5	12 - 18	227d25e7.0A8Z##	25	7.0	8	24 - 28
227d15e3.5A5Z##	15	3.5	5	12 - 18	227d25e7.5A8Z##	25	7.5	8	24 - 28
227d15e4.0A5Z##	15	4.0	5	12 - 18	227d25e8.0A8Z##	25	8.0	8	24 - 28
227d15e4.5A5Z##	15	4.5	5	12 - 18	227d30e1.0A8Z##	30	1.0	8	24 - 28
227d15e5.0A5Z##	15	5.0	5	12 - 18	227d30e1.5A8Z##	30	1.5	8	24 - 28
227d15e5.5A5Z##	15	5.5	5	12 - 18	227d30e2.0A8Z##	30	2.0	8	24 - 28
227d15e6.0A5Z##	15	6.0	5	12 - 18	227d30e2.5A8Z##	30	2.5	8	24 - 28
227d20e1.0A5Z##	20	1.0	5	20 - 24	227d30e3.0A8Z##	30	3.0	8	24 - 28
227d20e1.5A5Z##	20	1.5	5	20 - 24	227d30e3.5A8Z##	30	3.5	8	24 - 28
227d20e2.0A5Z##	20	2.0	5	20 - 24	227d30e4.0A8Z##	30	4.0	8	24 - 28
227d20e2.5A5Z##	20	2.5	5	20 - 24	227d30e4.5A8Z##	30	4.5	8	24 - 28
227d20e3.0A5Z##	20	3.0	5	20 - 24	227d30e5.0A8Z##	30	5.0	8	24 - 28
227d20e3.5A5Z##	20	3.5	5	20 - 24	227d30e5.5A8Z##	30	5.5	8	24 - 28
227d20e4.0A5Z##	20	4.0	5	20 - 24	227d30e6.0A8Z##	30	6.0	8	24 - 28
227d20e4.5A5Z##	20	4.5	5	20 - 24	227d30e6.5A8Z##	30	6.5	8	24 - 28
227d20e5.0A5Z##	20	5.0	5	20 - 24	227d30e7.0A8Z##	30	7.0	8	24 - 28
227d20e5.5A5Z##	20	5.5	5	20 - 24	227d30e7.5A8Z##	30	7.5	8	24 - 28
227d20e6.0A5Z##	20	6.0	5	20 - 24	227d30e8.0A8Z##	30	8.0	8	24 - 28
227d25e1.0A8Z##	25	1.0	8	24 - 28	227d30e8.5A8Z##	30	8.5	8	24 - 28
227d25e1.5A8Z##	25	1.5	8	24 - 28	227d30e9.0A8Z##	30	9.0	8	24 - 28
227d25e2.0A8Z##	25	2.0	8	24 - 28	227d30e9.5A8Z##	30	9.5	8	24 - 28
227d25e2.5A8Z##	25	2.5	8	24 - 28	227d30e10.0A8Z##	30	10.0	8	24 - 28
227d25e3.0A8Z##	25	3.0	8	24 - 28	227d30e12.0A8Z##	30	12.0	8	24 - 28
227d25e3.5A8Z##	25	3.5	8	24 - 28	227d40e1.0A10Z##	40	1.0	10	28 - 32
227d25e4.0A8Z##	25	4.0	8	24 - 28	227d40e1.5A10Z##	40	1.5	10	28 - 32
227d25e4.5A8Z##	25	4.5	8	24 - 28	227d40e2.0A10Z##	40	2.0	10	28 - 32

Slitting saw - staggered teeth - 3 cuts

Art. n°	d_1	e	d_2	Z
227d40e2.5A10Z##	40	2.5	10	28 - 32
227d40e3.0A10Z##	40	3.0	10	28 - 32
227d40e3.5A10Z##	40	3.5	10	28 - 32
227d40e4.0A10Z##	40	4.0	10	28 - 32
227d40e4.5A10Z##	40	4.5	10	28 - 32
227d40e5.0A10Z##	40	5.0	10	28 - 32
227d40e5.5A10Z##	40	5.5	10	28 - 32
227d40e6.0A10Z##	40	6.0	10	28 - 32
227d40e6.5A10Z##	40	6.5	10	28 - 32
227d40e7.0A10Z##	40	7.0	10	28 - 32
227d40e7.5A10Z##	40	7.5	10	28 - 32
227d40e8.0A10Z##	40	8.0	10	28 - 32
227d40e8.5A10Z##	40	8.5	10	28 - 32
227d40e9.0A10Z##	40	9.0	10	28 - 32
227d40e9.5A10Z##	40	9.5	10	28 - 32
227d40e10.0A10Z##	40	10.0	10	28 - 32
227d40e12.0A10Z##	40	12.0	10	28 - 32
227d50e1.5A13Z##	50	1.5	13	28 - 32
227d50e2.0A13Z##	50	2.0	13	28 - 32
227d50e2.5A13Z##	50	2.5	13	28 - 32
227d50e3.0A13Z##	50	3.0	13	28 - 32
227d50e3.5A13Z##	50	3.5	13	28 - 32
227d50e4.0A13Z##	50	4.0	13	28 - 32
227d50e4.5A13Z##	50	4.5	13	28 - 32
227d50e5.0A13Z##	50	5.0	13	28 - 32
227d50e5.5A13Z##	50	5.5	13	28 - 32
227d50e6.0A13Z##	50	6.0	13	28 - 32
227d50e6.5A13Z##	50	6.5	13	28 - 32
227d50e7.0A13Z##	50	7.0	13	28 - 32
227d50e7.5A13Z##	50	7.5	13	28 - 32
227d50e8.0A13Z##	50	8.0	13	28 - 32
227d50e8.5A13Z##	50	8.5	13	28 - 32
227d50e9.0A13Z##	50	9.0	13	28 - 32
227d50e9.5A13Z##	50	9.5	13	28 - 32
227d50e10.0A13Z##	50	10.0	13	28 - 32
227d50e12.0A13Z##	50	12.0	13	28 - 32
227d63e1.5A16Z##	63	1.5	16	28 - 36
227d63e2.0A16Z##	63	2.0	16	28 - 36
227d63e2.5A16Z##	63	2.5	16	28 - 36
227d63e3.0A16Z##	63	3.0	16	28 - 36
227d63e3.5A16Z##	63	3.5	16	28 - 36
227d63e4.0A16Z##	63	4.0	16	28 - 36
227d63e4.5A16Z##	63	4.5	16	28 - 36
227d63e5.0A16Z##	63	5.0	16	28 - 36

Art. n°	d_1	e	d_2	Z
227d63e5.5A16Z##	63	5.5	16	28 - 36
227d63e6.0A16Z##	63	6.0	16	28 - 36
227d63e6.5A16Z##	63	6.5	16	28 - 36
227d63e7.0A16Z##	63	7.0	16	28 - 36
227d63e7.5A16Z##	63	7.5	16	28 - 36
227d63e8.0A16Z##	63	8.0	16	28 - 36
227d63e8.5A16Z##	63	8.5	16	28 - 36
227d63e9.0A16Z##	63	9.0	16	28 - 36
227d63e9.5A16Z##	63	9.5	16	28 - 36
227d63e10.0A16Z##	63	10.0	16	28 - 36
227d63e12.0A16Z##	63	12.0	16	28 - 36
227d80e4.0A22Z##	80	4.0	22	28 - 36
227d80e4.5A22Z##	80	4.5	22	28 - 36
227d80e5.0A22Z##	80	5.0	22	28 - 36
227d80e5.5A22Z##	80	5.5	22	28 - 36
227d80e6.0A22Z##	80	6.0	22	28 - 36
227d80e6.5A22Z##	80	6.5	22	28 - 36

Available uncoated or coated (see page 61)

Z
12-36

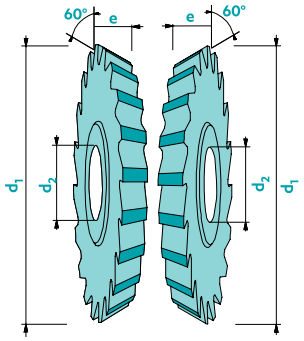
λ
ALT

γ
8°

MG10

N

Angle cutter 60° - 2 cuts



228 G 228 D

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerance e: +0/-0.01
d_2: H5

Right cut: 228D / Left cut: 228G

Art. n°	d_1	e	d_2	Z
228Dd20e1.0 / 228Gd20e1.0	20	1.0	5	20
228Dd20e1.2 / 228Gd20e1.2	20	1.2	5	20
228Dd20e1.5 / 228Gd20e1.5	20	1.5	5	20
228Dd20e2.0 / 228Gd20e2.0	20	2.0	5	20
228Dd25e1.0 / 228Gd25e1.0	25	1.0	8	20
228Dd25e1.5 / 228Gd25e1.5	25	1.5	8	20
228Dd25e2.0 / 228Gd25e2.0	25	2.0	8	20
228Dd30e1.0 / 228Gd30e1.0	30	1.0	8	30
228Dd30e2.0 / 228Gd30e2.0	30	2.0	8	24
228Dd30e2.5 / 228Gd30e2.5	30	2.5	8	24
228Dd30e3.0 / 228Gd30e3.0	30	3.0	8	24
228Dd30e4.0 / 228Gd30e4.0	30	4.0	8	24
228Dd30e5.0 / 228Gd30e5.0	30	5.0	8	24
228Dd40e2.0 / 228Gd40e2.0	40	2.0	10	32
228Dd40e3.0 / 228Gd40e3.0	40	3.0	10	32
228Dd40e4.0 / 228Gd40e4.0	40	4.0	10	32
228Dd40e6.0 / 228Gd40e6.0	40	6.0	10	32
228Dd50e3.0 / 228Gd50e3.0	50	3.0	13	32
228Dd50e4.0 / 228Gd50e4.0	50	4.0	13	32
228Dd63e4.0 / 228Gd63e4.0	63	4.0	16	40
228Dd63e5.0 / 228Gd63e5.0	63	5.0	16	40

Z 20-40

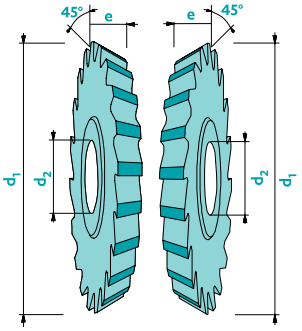
λ 0°

MG10 N

Angle cutter 45° - 2 cuts

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■



228-1 G 228-1 D

Available uncoated or coated (see page 61)

Tolerance e: +0/-0.01
d_2: H5

Right cut: 228-1D / Left cut: 228-1G

Art. n°	d_1	e	d_2	Z
228-1Dd20e1.0 / 228-1Gd20e1.0	20	1.0	5	20
228-1Dd20e1.2 / 228-1Gd20e1.2	20	1.2	5	20
228-1Dd20e1.5 / 228-1Gd20e1.5	20	1.5	5	20
228-1Dd20e2.0 / 228-1Gd20e2.0	20	2.0	5	20
228-1Dd25e1.0 / 228-1Gd25e1.0	25	1.0	8	20
228-1Dd25e1.5 / 228-1Gd25e1.5	25	1.5	8	20
228-1Dd25e2.0 / 228-1Gd25e2.0	25	2.0	8	20
228-1Dd30e1.0 / 228-1Gd30e1.0	30	1.0	8	30
228-1Dd30e2.0 / 228-1Gd30e2.0	30	2.0	8	24
228-1Dd30e2.5 / 228-1Gd30e2.5	30	2.5	8	24
228-1Dd30e3.0 / 228-1Gd30e3.0	30	3.0	8	24
228-1Dd30e4.0 / 228-1Gd30e4.0	30	4.0	8	24
228-1Dd30e5.0 / 228-1Gd30e5.0	30	5.0	8	24
228-1Dd40e2.0 / 228-1Gd40e2.0	40	2.0	10	32
228-1Dd40e3.0 / 228-1Gd40e3.0	40	3.0	10	32
228-1Dd40e4.0 / 228-1Gd40e4.0	40	4.0	10	32
228-1Dd40e6.0 / 228-1Gd40e6.0	40	6.0	10	32
228-1Dd50e3.0 / 228-1Gd50e3.0	50	3.0	13	32
228-1Dd50e4.0 / 228-1Gd50e4.0	50	4.0	13	32
228-1Dd63e4.0 / 228-1Gd63e4.0	63	4.0	16	40
228-1Dd63e5.0 / 228-1Gd63e5.0	63	5.0	16	40

Z 20-40

λ 0°

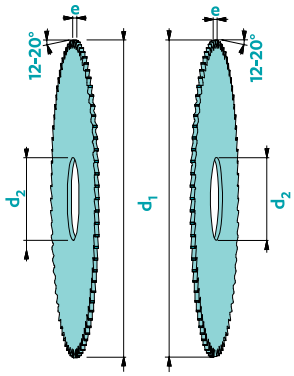
γ 8°

MG10

N

228-2

Angle cutter 12° to 20°



228-2 D 228-2 G

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	120	□	■	Trio
Steel > 700 N/mm²	60	100	□	■	Trio
Stainless steel	60	100	□	■	Trio
Cast iron	50	90	□	■	Nemo
Copper	200	300	□	■	Solo
Brass - Bronze	200	300	■	□	Solo
Aluminium	250	400	□	■	Solo
Gold - Silver	150	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	20	40	□	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerance e: +0/-0.01
d_2: H5

Right cut: 228-2 D / Left cut: 228-2 G

Art. n°	d_1	e	d_2	Z	a
228-2Dd30e0.5a##° / 228-2Gd30e0.5a##°	30	0.5	8	64	12-20°
228-2Dd30e0.7a##° / 228-2Gd30e0.7a##°	30	0.7	8	64	12-20°
228-2Dd30e0.8a##° / 228-2Gd30e0.8a##°	30	0.8	8	64	12-20°
228-2Dd30e1.0a##° / 228-2Gd30e1.0a##°	30	1.0	8	64	12-20°
228-2Dd30e1.5a##° / 228-2Gd30e1.5a##°	30	1.5	8	48	12-20°
228-2Dd40e0.5a##° / 228-2Gd40e0.5a##°	40	0.5	10	80	12-20°
228-2Dd40e0.8a##° / 228-2Gd40e0.8a##°	40	0.8	10	64	12-20°
228-2Dd40e1.0a##° / 228-2Gd40e1.0a##°	40	1.0	10	64	12-20°
228-2Dd50e0.5a##° / 228-2Gd50e0.5a##°	50	0.5	13	100	12-20°
228-2Dd50e0.8a##° / 228-2Gd50e0.8a##°	50	0.8	13	100	12-20°
228-2Dd50e1.0a##° / 228-2Gd50e1.0a##°	50	1.0	13	100	12-20°
228-2Dd63e0.5a##° / 228-2Gd63e0.5a##°	63	0.5	16	100	12-20°
228-2Dd63e0.7a##° / 228-2Gd63e0.7a##°	63	0.7	16	100	12-20°
228-2Dd63e0.8a##° / 228-2Gd63e0.8a##°	63	0.8	16	100	12-20°
228-2Dd63e1.0a##° / 228-2Gd63e1.0a##°	63	1.0	16	100	12-20°
228-2Dd80e0.5a##° / 228-2Gd80e0.5a##°	80	0.5	22	128	12-20°
228-2Dd80e0.8a##° / 228-2Gd80e0.8a##°	80	0.8	22	128	12-20°
228-2Dd80e1.0a##° / 228-2Gd80e1.0a##°	80	1.0	22	100	12-20°
228-2Dd100e0.6a##° / 228-2Gd100e0.6a##°	100	0.6	22	128	12-20°
228-2Dd100e0.7a##° / 228-2Gd100e0.7a##°	100	0.7	22	128	12-20°
228-2Dd100e0.8a##° / 228-2Gd100e0.8a##°	100	0.8	22	128	12-20°
228-2Dd100e1.0a##° / 228-2Gd100e1.0a##°	100	1.0	22	128	12-20°

Z 64-128

λ 0°

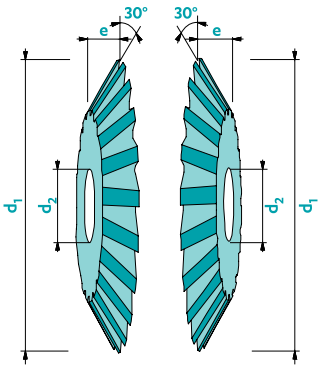
MG10

N

Angle cutter 30° - 1 cut

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■



228-3 D 228-3 G

Available uncoated or coated (see page 61)

Tolerance e: +0/-0.01
d_2: H5

Right cut: 228-3D / Left cut: 228-3G

Art. n°	d_1	e	d_2	Z
228-3Dd20e2.0 / 228-3Gd20e2.0	20	2.0	5	20
228-3Dd20e2.5 / 228-3Gd20e2.5	20	2.5	5	20
228-3Dd20e3.0 / 228-3Gd20e3.0	20	3.0	5	20
228-3Dd30e2.0 / 228-3Gd30e2.0	30	2.0	8	30
228-3Dd30e2.5 / 228-3Gd30e2.5	30	2.5	8	30
228-3Dd30e3.0 / 228-3Gd30e3.0	30	3.0	8	30
228-3Dd40e2.0 / 228-3Gd40e2.0	40	2.0	10	40
228-3Dd40e2.5 / 228-3Gd40e2.5	40	2.5	10	40
228-3Dd40e3.0 / 228-3Gd40e3.0	40	3.0	10	40
228-3Dd50e2.0 / 228-3Gd50e2.0	50	2.0	13	50
228-3Dd50e2.5 / 228-3Gd50e2.5	50	2.5	13	50
228-3Dd50e3.0 / 228-3Gd50e3.0	50	3.0	13	50

Z 20-50

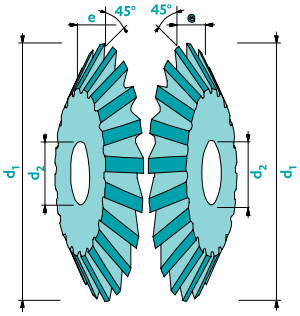
λ 0°

MG10

N

228-4

Angle cutter 45° - 1 cut



228-4 D 228-4 G

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerance e: +0/-0.01
d_2: H5

Right cut: 228-4D / Left cut: 228-4G

Art. n°	d_1	e	d_2	Z
228-4Dd20e2.0Z## / 228-4Gd20e2.0Z##	20	2.0	5	20-30
228-4Dd20e2.5Z## / 228-4Gd20e2.5Z##	20	2.5	5	20-30
228-4Dd20e3.0Z## / 228-4Gd20e3.0Z##	20	3.0	5	20-30
228-4Dd30e2.0Z## / 228-4Gd30e2.0Z##	30	2.0	8	30-40
228-4Dd30e2.5Z## / 228-4Gd30e2.5Z##	30	2.5	8	30-40
228-4Dd30e3.0Z## / 228-4Gd30e3.0Z##	30	3.0	8	30-40
228-4Dd30e4.0Z## / 228-4Gd30e4.0Z##	30	4.0	8	30-40
228-4Dd30e5.0Z## / 228-4Gd30e5.0Z##	30	5.0	8	30-40
228-4Dd30e6.0Z## / 228-4Gd30e6.0Z##	30	6.0	8	30-40
228-4Dd40e2.0Z## / 228-4Gd40e2.0Z##	40	2.0	10	40-50
228-4Dd40e3.0Z## / 228-4Gd40e3.0Z##	40	3.0	10	40-50
228-4Dd40e4.0Z## / 228-4Gd40e4.0Z##	40	4.0	10	40-50
228-4Dd40e5.0Z## / 228-4Gd40e5.0Z##	40	5.0	10	40-50
228-4Dd40e6.0Z## / 228-4Gd40e6.0Z##	40	6.0	10	30-40

Z 20-50

λ 0°

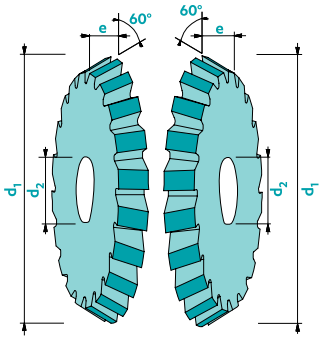
MG10

N

Angle cutter 60° - 1 cut

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■



228-5 D 228-5 G

Available uncoated or coated (see page 61)

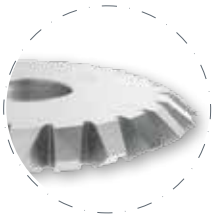
Tolerance e: +0/-0.01
d_2: H5

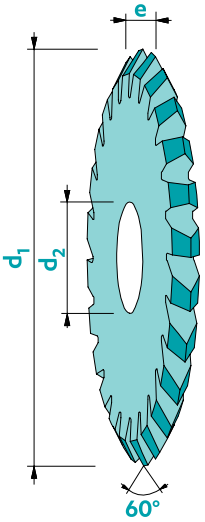
Right cut: 228-5D / Left cut: 228-5G

Art. n°	d_1	e	d_2	Z
228-5Dd20e2.0Z## / 228-5Gd20e2.0Z##	20	2.0	5	20-30
228-5Dd20e2.5Z## / 228-5Gd20e2.5Z##	20	2.5	5	20-30
228-5Dd20e3.0Z## / 228-5Gd20e3.0Z##	20	3.0	5	20-30
228-5Dd30e2.0Z## / 228-5Gd30e2.0Z##	30	2.0	8	30-40
228-5Dd30e2.5Z## / 228-5Gd30e2.5Z##	30	2.5	8	30-40
228-5Dd30e3.0Z## / 228-5Gd30e3.0Z##	30	3.0	8	30-40
228-5Dd30e4.0Z## / 228-5Gd30e4.0Z##	30	4.0	8	30-40
228-5Dd30e5.0Z## / 228-5Gd30e5.0Z##	30	5.0	8	30-40
228-5Dd30e6.0Z## / 228-5Gd30e6.0Z##	30	6.0	8	30-40
228-5Dd40e2.0Z## / 228-5Gd40e2.0Z##	40	2.0	10	40-50
228-5Dd40e3.0Z## / 228-5Gd40e3.0Z##	40	3.0	10	40-50
228-5Dd40e4.0Z## / 228-5Gd40e4.0Z##	40	4.0	10	40-50
228-5Dd40e5.0Z## / 228-5Gd40e5.0Z##	40	5.0	10	40-50
228-5Dd40e6.0Z## / 228-5Gd40e6.0Z##	40	6.0	10	30-40

229-1

Bioconical cutter 60°





Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 20-48

λ 0°

MG10

N

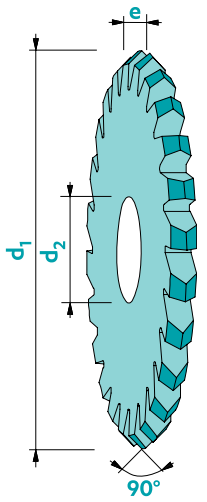
Art. n°	d_1	e	d_2	Z
229-1d20e0.5	20	0.5	5	20
229-1d20e1.0	20	1.0	5	20
229-1d20e1.5	20	1.5	5	20
229-1d20e2.0	20	2.0	5	20
229-1d25e1.0	25	1.0	8	20
229-1d25e1.5	25	1.5	8	20
229-1d25e2.0	25	2.0	8	20
229-1d30e2.0	30	2.0	8	24
229-1d30e2.5	30	2.5	8	24
229-1d30e3.0	30	3.0	8	24
229-1d30e4.0	30	4.0	8	24
229-1d30e5.0	30	5.0	8	24
229-1d40e2.0	40	2.0	10	32
229-1d40e3.0	40	3.0	10	32
229-1d40e4.0	40	4.0	10	32
229-1d40e5.0	40	5.0	10	32
229-1d50e2.0	50	2.0	13	32
229-1d50e3.0	50	3.0	13	32
229-1d50e4.0	50	4.0	13	32
229-1d50e5.0	50	5.0	13	32
229-1d50e6.0	50	6.0	13	32
229-1d63e2.0	63	2.0	16	40
229-1d63e3.0	63	3.0	16	40
229-1d63e4.0	63	4.0	16	40
229-1d63e5.0	63	5.0	16	40
229-1d63e6.0	63	6.0	16	40
229-1d80e2.0	80	2.0	22	48
229-1d80e3.0	80	3.0	22	48
229-1d80e4.0	80	4.0	22	48
229-1d80e5.0	80	5.0	22	48
229-1d80e6.0	80	6.0	22	48

Bioconical cutter 90°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5



Available uncoated or coated (see page 61)

Art. n°	d_1	e	d_2	Z
229-2d20e0.5	20	0.5	5	20
229-2d20e1.0	20	1.0	5	20
229-2d20e1.5	20	1.5	5	20
229-2d20e2.0	20	2.0	5	20
229-2d25e1.0	25	1.0	8	20
229-2d25e1.5	25	1.5	8	20
229-2d25e2.0	25	2.0	8	20
229-2d30e2.0	30	2.0	8	24
229-2d30e2.5	30	2.5	8	24
229-2d30e3.0	30	3.0	8	24
229-2d30e4.0	30	4.0	8	24
229-2d30e5.0	30	5.0	8	24
229-2d40e2.0	40	2.0	10	32
229-2d40e3.0	40	3.0	10	32
229-2d40e4.0	40	4.0	10	32
229-2d40e5.0	40	5.0	10	32
229-2d50e2.0	50	2.0	13	32
229-2d50e3.0	50	3.0	13	32
229-2d50e4.0	50	4.0	13	32
229-2d50e5.0	50	5.0	13	32
229-2d50e6.0	50	6.0	13	32
229-2d63e2.0	63	2.0	16	40
229-2d63e3.0	63	3.0	16	40
229-2d63e4.0	63	4.0	16	40
229-2d63e5.0	63	5.0	16	40
229-2d63e6.0	63	6.0	16	40
229-2d80e2.0	80	2.0	22	48
229-2d80e3.0	80	3.0	22	48
229-2d80e4.0	80	4.0	22	48

Art. n°	d_1	e	d_2	Z
229-2d80e5.0	80	5.0	22	48
229-2d80e6.0	80	6.0	22	48

Z 20-48

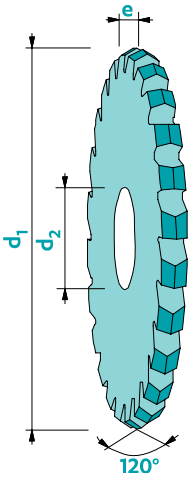
λ 0°

MG10

N

229-3

Bioconical cutter 120°



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 20-48

λ 0°

MG10 **N**

Art. n°	d_1	e	d_2	Z
229-3d20e0.5	20	0.5	5	20
229-3d20e1.0	20	1.0	5	20
229-3d20e1.5	20	1.5	5	20
229-3d20e2.0	20	2.0	5	20
229-3d25e1.0	25	1.0	8	20
229-3d25e1.5	25	1.5	8	20
229-3d25e2.0	25	2.0	8	20
229-3d30e2.0	30	2.0	8	24
229-3d30e2.5	30	2.5	8	24
229-3d30e3.0	30	3.0	8	24
229-3d30e4.0	30	4.0	8	24
229-3d30e5.0	30	5.0	8	24
229-3d40e2.0	40	2.0	10	32
229-3d40e3.0	40	3.0	10	32
229-3d40e4.0	40	4.0	10	32
229-3d40e5.0	40	5.0	10	32
229-3d50e2.0	50	2.0	13	32
229-3d50e3.0	50	3.0	13	32
229-3d50e4.0	50	4.0	13	32
229-3d50e5.0	50	5.0	13	32
229-3d50e6.0	50	6.0	13	32
229-3d63e2.0	63	2.0	16	40
229-3d63e3.0	63	3.0	16	40
229-3d63e4.0	63	4.0	16	40
229-3d63e5.0	63	5.0	16	40
229-3d63e6.0	63	6.0	16	40
229-3d80e2.0	80	2.0	22	48
229-3d80e3.0	80	3.0	22	48

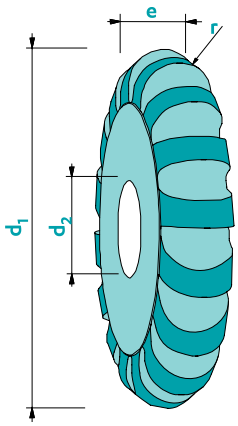
Art. n°	d_1	e	d_2	Z
229-3d80e4.0	80	4.0	22	48
229-3d80e5.0	80	5.0	22	48
229-3d80e6.0	80	6.0	22	48

Radius cutter convex

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5



Available uncoated or coated (see page 61)

Z 8-80

λ 0°

MG10

N

Art. n°	d_1	e	d_2	r	Z
232d10r0.10Z##	10	0.2	3	0.10	15
232d10r0.25Z##	10	0.5	3	0.25	15
232d10r0.50Z##	10	1.0	3	0.50	15
232d10r0.75Z##	10	1.5	3	0.75	15
232d10r1.00Z##	10	2.0	3	1.00	8
232d10r1.50Z##	10	3.0	3	1.50	8
232d10r2.00Z##	10	4.0	3	2.00	8
232d15r0.10Z##	15	0.2	5	0.10	20
232d15r0.25Z##	15	0.5	5	0.25	20
232d15r0.50Z##	15	1.0	5	0.50	20
232d15r0.75Z##	15	1.5	5	0.75	12
232d15r1.00Z##	15	2.0	5	1.00	12 - 16
232d15r1.50Z##	15	3.0	5	1.50	10
232d15r1.75Z##	15	3.5	5	1.75	10
232d15r2.00Z##	15	4.0	5	2.00	10
232d15r2.50Z##	15	5.0	5	2.50	10
232d20r0.10Z##	20	0.2	5	0.10	20 - 24
232d20r0.15Z##	20	0.3	5	0.15	20 - 24
232d20r0.20Z##	20	0.4	5	0.20	20 - 24
232d20r0.25Z##	20	0.5	5	0.25	18 - 20
232d20r0.30Z##	20	0.6	5	0.30	18 - 20
232d20r0.35Z##	20	0.7	5	0.35	18 - 20
232d20r0.40Z##	20	0.8	5	0.40	18 - 20
232d20r0.45Z##	20	0.9	5	0.45	18 - 20
232d20r0.50Z##	20	1.0	5	0.50	20 - 24
232d20r0.55Z##	20	1.1	5	0.55	20 - 24
232d20r0.60Z##	20	1.2	5	0.60	16 - 20
232d20r0.65Z##	20	1.3	5	0.65	16 - 20
232d20r0.70Z##	20	1.4	5	0.70	16 - 20

Art. n°	d_1	e	d_2	r	Z
232d20r0.75Z##	20	1.5	5	0.75	16 - 20
232d20r0.80Z##	20	1.6	5	0.80	16 - 20
232d20r0.85Z##	20	1.7	5	0.85	16 - 20
232d20r0.90Z##	20	1.8	5	0.90	16 - 20
232d20r0.95Z##	20	1.9	5	0.95	16 - 20
232d20r1.00Z##	20	2.0	5	1.00	16 - 20
232d20r1.05Z##	20	2.1	5	1.05	16
232d20r1.10Z##	20	2.2	5	1.10	16
232d20r1.15Z##	20	2.3	5	1.15	16
232d20r1.20Z##	20	2.4	5	1.20	16
232d20r1.25Z##	20	2.5	5	1.25	16
232d20r1.30Z##	20	2.6	5	1.30	16
232d20r1.35Z##	20	2.7	5	1.35	16
232d20r1.40Z##	20	2.8	5	1.40	16
232d20r1.45Z##	20	2.9	5	1.45	16
232d20r1.50Z##	20	3.0	5	1.50	16
232d20r1.75Z##	20	3.5	5	1.75	16
232d20r2.00Z##	20	4.0	5	2.00	16
232d20r2.25Z##	20	4.5	5	2.25	16
232d20r2.50Z##	20	5.0	5	2.50	12 - 16
232d20r3.00Z##	20	6.0	5	3.00	12 - 16
232d25r0.10Z##	25	0.2	8	0.10	30
232d25r0.15Z##	25	0.3	8	0.15	30
232d25r0.20Z##	25	0.4	8	0.20	30
232d25r0.25Z##	25	0.5	8	0.25	20 - 30
232d25r0.30Z##	25	0.6	8	0.30	20 - 30
232d25r0.35Z##	25	0.7	8	0.35	20 - 30
232d25r0.40Z##	25	0.8	8	0.40	20 - 30
232d25r0.45Z##	25	0.9	8	0.45	20 - 30

Radius cutter convex

Available uncoated or coated (see page 61)

Z 8-80

λ 0°

MG10

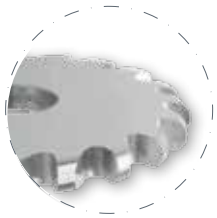
N

Art. n°	d_1	e	D	L	Z
232d25r0.50Z##	25	1.0	8	0.50	20 - 30
232d25r0.55Z##	25	1.1	8	0.55	20 - 30
232d25r0.60Z##	25	1.2	8	0.60	20 - 30
232d25r0.65Z##	25	1.3	8	0.65	20 - 30
232d25r0.70Z##	25	1.4	8	0.70	20 - 30
232d25r0.75Z##	25	1.5	8	0.75	16 - 20
232d25r0.80Z##	25	1.6	8	0.80	16 - 20
232d25r0.85Z##	25	1.7	8	0.85	16 - 20
232d25r0.90Z##	25	1.8	8	0.90	16 - 20
232d25r0.95Z##	25	1.9	8	0.95	16 - 20
232d25r1.00Z##	25	2.0	8	1.00	20 - 24
232d25r1.05Z##	25	2.1	8	1.05	20 - 24
232d25r1.10Z##	25	2.2	8	1.10	20 - 24
232d25r1.15Z##	25	2.3	8	1.15	20 - 24
232d25r1.20Z##	25	2.4	8	1.20	20 - 24
232d25r1.25Z##	25	2.5	8	1.25	20 - 24
232d25r1.30Z##	25	2.6	8	1.30	20 - 24
232d25r1.35Z##	25	2.7	8	1.35	20 - 24
232d25r1.40Z##	25	2.8	8	1.40	20 - 24
232d25r1.45Z##	25	2.9	8	1.45	20 - 24
232d25r1.50Z##	25	3.0	8	1.50	16
232d25r1.75Z##	25	3.5	8	1.75	16
232d25r2.00Z##	25	4.0	8	2.00	16
232d25r2.25Z##	25	4.5	8	2.25	16
232d25r2.50Z##	25	5.0	8	2.50	16
232d25r3.00Z##	25	6.0	8	3.00	16
232d30r0.10Z##	30	0.2	8	0.10	30
232d30r0.25Z##	30	0.5	8	0.25	24 - 30
232d30r0.50Z##	30	1.0	8	0.50	24 - 30
232d30r0.55Z##	30	1.1	8	0.55	20 - 24
232d30r0.60Z##	30	1.2	8	0.60	20 - 24
232d30r0.65Z##	30	1.3	8	0.65	20 - 24
232d30r0.70Z##	30	1.4	8	0.70	20 - 24
232d30r0.75Z##	30	1.5	8	0.75	20 - 24
232d30r0.80Z##	30	1.6	8	0.80	20 - 24
232d30r0.85Z##	30	1.7	8	0.85	20 - 24
232d30r0.90Z##	30	1.8	8	0.90	20 - 24
232d30r0.95Z##	30	1.9	8	0.95	20 - 24
232d30r1.00Z##	30	2.0	8	1.00	20 - 24
232d30r1.05Z##	30	2.1	8	1.05	20 - 24
232d30r1.10Z##	30	2.2	8	1.10	20 - 24
232d30r1.15Z##	30	2.3	8	1.15	20 - 24
232d30r1.20Z##	30	2.4	8	1.20	20 - 24
232d30r1.25Z##	30	2.5	8	1.25	20 - 24
232d30r1.30Z##	30	2.6	8	1.30	20 - 24
232d30r1.35Z##	30	2.7	8	1.35	20 - 24
232d30r1.40Z##	30	2.8	8	1.40	20 - 24
232d30r1.45Z##	30	2.9	8	1.45	20 - 24
232d30r1.50Z##	30	3.0	8	1.50	15 - 20
232d30r1.75Z##	30	3.5	8	1.75	15 - 20
232d30r2.00Z##	30	4.0	8	2.00	15 - 20
232d30r2.25Z##	30	4.5	8	2.25	15 - 20
232d30r2.50Z##	30	5.0	8	2.50	15 - 20
232d30r3.00Z##	30	6.0	8	3.00	15 - 20
232d30r3.05Z##	30	6.1	8	3.05	15 - 20
232d40r0.10Z##	40	0.2	10	0.10	40
232d40r0.25Z##	40	0.5	10	0.25	40
232d40r0.30Z##	40	0.6	10	0.30	40
232d40r0.35Z##	40	0.7	10	0.35	40
232d40r0.40Z##	40	0.8	10	0.40	40
232d40r0.45Z##	40	0.9	10	0.45	40
232d40r0.50Z##	40	1.0	10	0.50	28 - 40
232d40r0.55Z##	40	1.1	10	0.55	24 - 30
232d40r0.60Z##	40	1.2	10	0.60	24 - 30
232d40r0.65Z##	40	1.3	10	0.65	24 - 30
232d40r0.70Z##	40	1.4	10	0.70	24 - 30
232d40r0.75Z##	40	1.5	10	0.75	24 - 30
232d40r0.80Z##	40	1.6	10	0.80	24 - 30
232d40r0.85Z##	40	1.7	10	0.85	24 - 30
232d40r0.90Z##	40	1.8	10	0.90	24 - 30
232d40r0.95Z##	40	1.9	10	0.95	24 - 30
232d40r1.00Z##	40	2.0	10	1.00	24 - 30
232d40r1.05Z##	40	2.1	10	1.05	24 - 30
232d40r1.10Z##	40	2.2	10	1.10	24 - 30
232d40r1.15Z##	40	2.3	10	1.15	24 - 30
232d40r1.20Z##	40	2.4	10	1.20	24 - 30
232d40r1.25Z##	40	2.5	10	1.25	24 - 30
232d40r1.30Z##	40	2.6	10	1.30	24 - 30
232d40r1.35Z##	40	2.7	10	1.35	24 - 30
232d40r1.40Z##	40	2.8	10	1.40	24 - 30
232d40r1.45Z##	40	2.9	10	1.45	24 - 30
232d40r1.50Z##	40	3.0	10	1.50	24
232d40r1.75Z##	40	3.5	10	1.75	24
232d40r2.00Z##	40	4.0	10	2.00	24
232d40r2.25Z##	40	4.5	10	2.25	24
232d40r2.50Z##	40	5.0	10	2.50	24
232d40r3.00Z##	40	6.0	10	3.00	24
232d50r0.10Z##	50	0.2	13	0.10	50
232d50r0.25Z##	50	0.5	13	0.25	50
232d50r0.30Z##	50	0.6	13	0.30	50

Radius cutter convex

Art. n°	d_1	e	d_2	r	Z
232d50r0.35Z##	50	0.7	13	0.35	50
232d50r0.40Z##	50	0.8	13	0.40	50
232d50r0.45Z##	50	0.9	13	0.45	50
232d50r0.50Z##	50	1.0	13	0.50	50
232d50r0.55Z##	50	1.1	13	0.55	40
232d50r0.60Z##	50	1.2	13	0.60	40
232d50r0.65Z##	50	1.3	13	0.65	40
232d50r0.70Z##	50	1.4	13	0.70	40
232d50r0.75Z##	50	1.5	13	0.75	40
232d50r0.80Z##	50	1.6	13	0.80	40
232d50r0.85Z##	50	1.7	13	0.85	40
232d50r0.90Z##	50	1.8	13	0.90	40
232d50r0.95Z##	50	1.9	13	0.95	40
232d50r1.00Z##	50	2.0	13	1.00	40
232d50r1.05Z##	50	2.1	13	1.05	40
232d50r1.10Z##	50	2.2	13	1.10	40
232d50r1.15Z##	50	2.3	13	1.15	40
232d50r1.20Z##	50	2.4	13	1.20	40
232d50r1.25Z##	50	2.5	13	1.25	40
232d50r1.30Z##	50	2.6	13	1.30	40
232d50r1.35Z##	50	2.7	13	1.35	40
232d50r1.40Z##	50	2.8	13	1.40	40
232d50r1.45Z##	50	2.9	13	1.45	40
232d50r1.50Z##	50	3.0	13	1.50	30
232d50r1.75Z##	50	3.5	13	1.75	30
232d50r2.00Z##	50	4.0	13	2.00	30
232d50r2.25Z##	50	4.5	13	2.25	30
232d50r2.50Z##	50	5.0	13	2.50	30
232d50r3.00Z##	50	6.0	13	3.00	30
232d63r0.25Z##	63	0.5	16	0.25	60
232d63r0.50Z##	63	1.0	16	0.50	60
232d63r0.75Z##	63	1.5	16	0.75	40
232d63r1.00Z##	63	2.0	16	1.00	40
232d63r1.25Z##	63	2.5	16	1.25	40
232d63r1.50Z##	63	3.0	16	1.50	40
232d63r1.75Z##	63	3.5	16	1.75	40
232d63r2.00Z##	63	4.0	16	2.00	30
232d63r2.25Z##	63	4.5	16	2.25	30
232d63r2.50Z##	63	5.0	16	2.50	30
232d63r3.00Z##	63	6.0	16	3.00	30
232d80r0.25Z##	80	0.5	22	0.25	80
232d80r0.50Z##	80	1.0	22	0.50	80
232d80r0.75Z##	80	1.5	22	0.75	60
232d80r1.00Z##	80	2.0	22	1.00	60
232d80r1.25Z##	80	2.5	22	1.25	60

Art. n°	d_1	e	d_2	r	Z
232d80r1.50Z##	80	3.0	22	1.50	40
232d80r1.75Z##	80	3.5	22	1.75	40
232d80r2.00Z##	80	4.0	22	2.00	40
232d80r2.25Z##	80	4.5	22	2.25	40
232d80r2.50Z##	80	5.0	22	2.50	40
232d80r3.00Z##	80	6.0	22	3.00	40
232d100r0.25Z##	100	0.5	22	0.25	80
232d100r0.50Z##	100	1.0	22	0.50	80
232d100r0.75Z##	100	1.5	22	0.75	80
232d100r1.00Z##	100	2.0	22	1.00	60
232d100r1.50Z##	100	3.0	22	1.50	60
232d100r1.75Z##	100	3.5	22	1.75	60
232d100r2.00Z##	100	4.0	22	2.00	50
232d100r2.25Z##	100	4.5	22	2.25	50
232d100r2.50Z##	100	5.0	22	2.50	50
232d100r3.00Z##	100	6.0	22	3.00	50



Available uncoated or coated (see page 61)

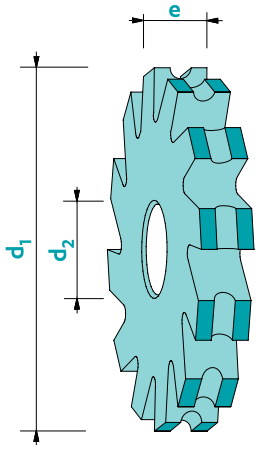
Z 8-80

λ 0°

MG10

N

Radius cutter concave



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	64	96	□	■	Trio
Steel > 700 N/mm²	48	80	□	■	Trio
Stainless steel	48	80	□	■	Trio
Cast iron	40	72	□	■	Nemo
Copper	160	240	□	■	Solo
Brass - Bronze	160	240	■	□	Solo
Aluminium	200	320	□	■	Solo
Gold - Silver	120	240	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	16	32	□	■	Trio
Titanium	32	48	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerance e: +0/-0.01
d_2: H5

Available uncoated or coated (see page 61)

Z 8-26

λ 0°

MG10 N

Art. n°	d_1	e	d_2	r	Z
234d20e1.0r#.#Z##	20	1.0	5	0.1 - 0.2	12 - 14
234d20e1.5r#.#Z##	20	1.5	5	0.3 - 0.4	12 - 14
234d20e2.0r#.#Z##	20	2.0	5	0.5 - 0.6	12 - 14
234d20e3.0r#.#Z##	20	3.0	5	0.7 - 1.0	10 - 12
234d20e4.0r#.#Z##	20	4.0	5	1.1 - 1.5	10 - 12
234d20e5.0r#.#Z##	20	5.0	5	1.6 - 1.8	10 - 12
234d20e6.0r#.#Z##	20	6.0	5	1.9 - 2.3	8 - 10
234d25e1.0r#.#Z##	25	1.0	8	0.1 - 0.2	15 - 16
234d25e1.5r#.#Z##	25	1.5	8	0.3 - 0.4	15 - 16
234d25e2.0r#.#Z##	25	2.0	8	0.5 - 0.6	14 - 16
234d25e3.0r#.#Z##	25	3.0	8	0.7 - 1.0	14 - 16
234d25e4.0r#.#Z##	25	4.0	8	1.1 - 1.5	12 - 14
234d25e5.0r#.#Z##	25	5.0	8	1.6 - 1.8	12 - 14
234d25e6.0r#.#Z##	25	6.0	8	1.9 - 2.3	12 - 14
234d25e7.0r#.#Z##	25	7.0	8	2.4 - 2.8	12 - 14
234d25e8.0r#.#Z##	25	8.0	8	2.9 - 3.3	10 - 12
234d25e9.0r#.#Z##	25	9.0	8	3.4 - 3.5	10 - 12
234d30e1.0r#.#Z##	30	1.0	8	0.1 - 0.3	16 - 18
234d30e1.5r#.#Z##	30	1.5	8	0.3 - 0.4	16 - 18
234d30e2.0r#.#Z##	30	2.0	8	0.5 - 0.6	16 - 18
234d30e3.0r#.#Z##	30	3.0	8	0.7 - 1.0	16 - 18
234d30e4.0r#.#Z##	30	4.0	8	1.1 - 1.5	15 - 16
234d30e5.0r#.#Z##	30	5.0	8	1.6 - 1.8	15 - 16
234d30e6.0r#.#Z##	30	6.0	8	1.9 - 2.3	14 - 16
234d30e7.0r#.#Z##	30	7.0	8	2.4 - 2.8	12 - 14
234d30e8.0r#.#Z##	30	8.0	8	2.9 - 3.3	12 - 14
234d30e9.0r#.#Z##	30	9.0	8	3.4 - 3.5	12 - 14
234d30e10.0r#.#Z##	30	10.0	8	3.6 - 4.0	12 - 14
234d40e1.0r#.#Z##	40	1.0	10	0.1 - 0.2	18 - 20

Radius cutter concave

Art. n°	d_1	e	d_2	r	Z
234d40e1.5r#.#Z##	40	1.5	10	0.3 - 0.4	18 - 20
234d40e2.0r#.#Z##	40	2.0	10	0.5 - 0.6	18 - 20
234d40e3.0r#.#Z##	40	3.0	10	0.7 - 1.0	18 - 20
234d40e4.0r#.#Z##	40	4.0	10	1.1 - 1.5	16 - 18
234d40e5.0r#.#Z##	40	5.0	10	1.6 - 1.8	16 - 18
234d40e6.0r#.#Z##	40	6.0	10	1.9 - 2.3	16 - 18
234d40e7.0r#.#Z##	40	7.0	10	2.4 - 2.8	16 - 18
234d40e8.0r#.#Z##	40	8.0	10	2.9 - 3.3	16 - 18
234d40e9.0r#.#Z##	40	9.0	10	3.4 - 3.5	15 - 16
234d40e10.0r#.#Z##	40	10.0	10	3.6 - 4.0	15 - 16
234d40e11.0r#.#Z##	40	11.0	10	4.1 - 4.5	14 - 16
234d40e12.0r#.#Z##	40	12.0	10	4.6 - 5.0	12
234d50e1.5r#.#Z##	50	1.5	13	0.3 - 0.4	22
234d50e2.0r#.#Z##	50	2.0	13	0.5 - 0.6	22
234d50e3.0r#.#Z##	50	3.0	13	0.7 - 1.0	22
234d50e4.0r#.#Z##	50	4.0	13	1.1 - 1.5	22
234d50e5.0r#.#Z##	50	5.0	13	1.6 - 1.8	22
234d50e6.0r#.#Z##	50	6.0	13	1.9 - 2.3	20
234d50e8.0r#.#Z##	50	8.0	13	2.4 - 3.3	20
234d50e10.0r#.#Z##	50	10.0	13	3.4 - 4.0	20
234d50e12.0r#.#Z##	50	12.0	13	4.1 - 5.0	18
234d63e1.5r#.#Z##	63	1.5	16	0.3 - 0.4	26
234d63e2.0r#.#Z##	63	2.0	16	0.5 - 0.6	24
234d63e3.0r#.#Z##	63	3.0	16	0.7 - 1.0	24
234d63e4.0r#.#Z##	63	4.0	16	1.1 - 1.5	24
234d63e5.0r#.#Z##	63	5.0	16	1.6 - 1.8	24
234d63e6.0r#.#Z##	63	6.0	16	1.9 - 2.3	24
234d63e8.0r#.#Z##	63	8.0	16	2.4 - 3.3	22
234d63e10.0r#.#Z##	63	10.0	16	3.4 - 4.0	22
234d63e12.0r#.#Z##	63	12.0	16	4.1 - 5.0	22

Available uncoated or coated (see page 61)

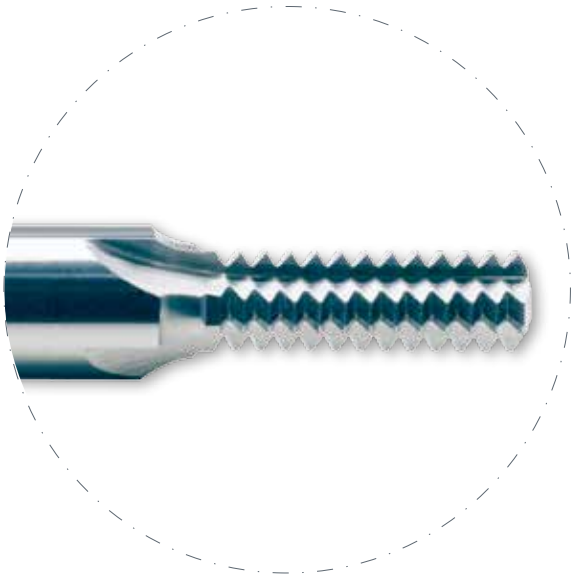
Z 8-26

λ 0°

MG10

N

9. Thread tools



Index - Thread tools

Thread tools
Table of Contents

Thread tools in solid carbide

PCD thread mill

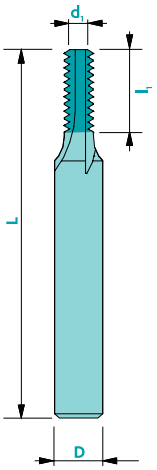
Whirling tools

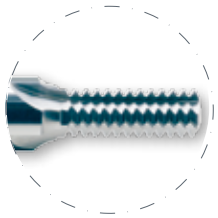
Thread mill - ISO 60°

Internal and external threading

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	100	□	■	Trio
Steel > 700 N/mm²	60	80	□	■	Trio
Stainless steel	40	60	□	■	Trio
Cast iron	70	50	□	■	Trio
Copper	150	180	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	250	□	■	Solo
Gold - Silver	140	180	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	Trio
Titanium	40	-	■	-	Rico

not adapted - adapted □ highly adapted ■





Available uncoated or coated (see page 61)

Tolerances $d_1 \leq 1mm$ ▶ +0/-0.01 D: h5
$d_1 > 1mm$ ▶ +0/-0.02
$d_1 = D$ ▶ d_1:e8

Art. n°	Ø nominal	Pitch	d_1	l_1	D	L	Z
5200M1.20	M1.20	0.25	0.85	2.4	3	38	2
5200M1.40	M1.40	0.30	1.00	2.8	3	38	3
5200M1.60/1.80	M1.60/1.80	0.35	1.10	3.6	3	38	3
5200M2.00	M2.00	0.40	1.40	4.0	3	38	3
5200M2.50	M2.50	0.45	1.80	5.0	3	38	3
5200M3.00	M3.00	0.50	2.30	6.0	3	38	3
5200M4.00	M4.00	0.70	3.00	8.0	6	57	3
5200M5.00	M5.00	0.80	3.80	10.0	6	57	4
5200M6.00	M6.00	1.00	4.50	12.0	6	57	4
5200M8.00	M8.00	1.25	5.00	16.0	6	57	4
5200M10.00	M10.00	1.50	6.00	20.0	6	57	5

Z2-5

λ 0°

γ 8°

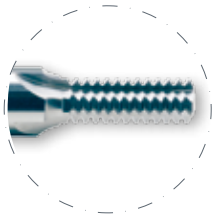
MG10

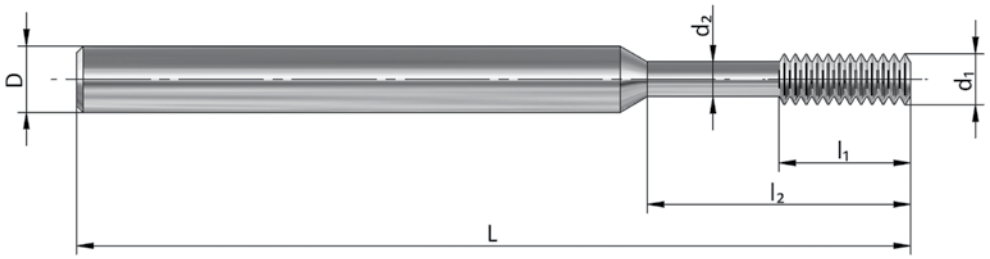
N

Thread mill - ISO 60°

Internal and external threading

Upon request





Available uncoated or coated (see page 61)

Z2-5

λ **0°**

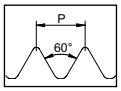
γ **8°**

MG10

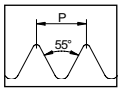
N

☐ **Order** ☐ **Quotation request**

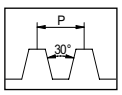
Norm :

☐ 

ISO 60°

☐ 

ISO 55°

☐ 

ISO trapezoidale

☐ Other :

_____

Dimensions :

d_1 : _____ l_1 : _____

d_2 : _____ l_2 : _____

D* : _____ L* : _____

Coating :

☐ Coated** :

_____

☐ Uncoated

Machined material :

_____

Order No :

_____

Quantity :

_____

Contact person :

_____

Company's stamp & date :

_____

*Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

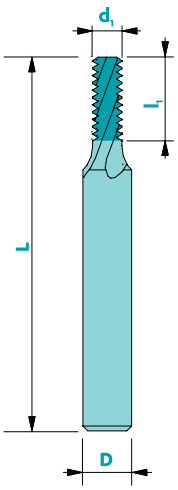
** Without information, the most suitable coating will be applied.

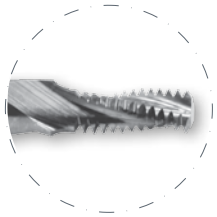
Helical thread mill - ISO 60°

Internal and external threading

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	80	100	□	■	Trio
Steel > 700 N/mm²	60	80	□	■	Trio
Stainless steel	40	60	□	■	Trio
Cast iron	70	50	□	■	Trio
Copper	150	180	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	250	□	■	Solo
Gold - Silver	140	180	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	Trio
Titanium	40	-	■	-	Rico

not adapted - adapted □ highly adapted ■





Available uncoated or coated (see page 61)

Tolerances

$d_1 \leq 1mm$ ▶ +0/-0.01 D: h5
$d_1 > 1mm$ ▶ +0/-0.02
$d_1 = D$ ▶ d_1:e8

Art. n°	Ø nominal	Pitch	d_1	l_1	D	L	Z
5300M1.20	M1.20	0.25	0.85	2.4	3	38	2
5300M1.40	M1.40	0.30	1.00	2.8	3	38	3
5300M1.60/1.80	M1.60/1.80	0.35	1.10	3.6	3	38	3
5300M2.00	M2.00	0.40	1.40	4.0	3	38	3
5300M2.50	M2.50	0.45	1.80	5.0	3	38	3
5300M3.00	M3.00	0.50	2.30	6.0	3	38	3
5300M4.00	M4.00	0.70	3.00	8.0	6	57	3
5300M5.00	M5.00	0.80	3.80	10.0	6	57	4
5300M6.00	M6.00	1.00	4.50	12.0	6	57	4
5300M8.00	M8.00	1.25	5.00	16.0	6	57	4
5300M10.00	M10.00	1.50	6.00	20.0	6	57	5

Z2-5

λ 20°

γ 8°

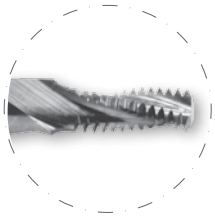
MG10

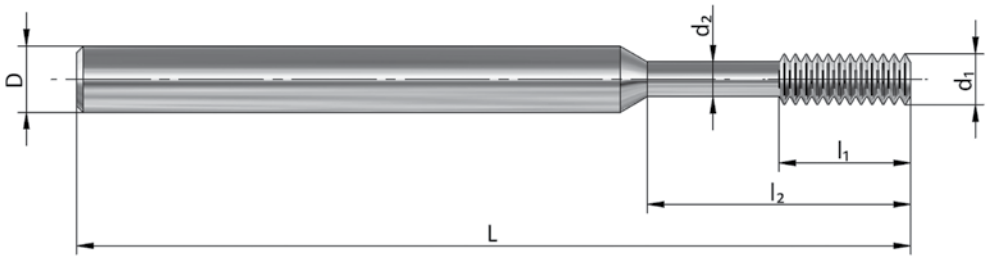
N

Helical thread mill - ISO 60°

Internal and external threading

Upon request





Available uncoated or coated (see page 61)

Z2-5

λ **20°**

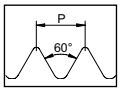
γ **8°**

MG10

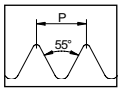
N

☐ **Order** ☐ **Quotation request**

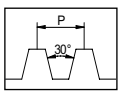
Norm :

☐ 

ISO 60°

☐ 

ISO 55°

☐ 

ISO trapézoïdal

☐ Other : _____

Dimensions :

d_1 : _____ l_1 : _____

d_2 : _____ l_2 : _____

D* : _____ L* : _____

Coating :

☐ Coated** : _____

☐ Uncoated

Machined material : _____

Order No : _____

Quantity : _____

Contact person : _____

Company's stamp & date : _____

*Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

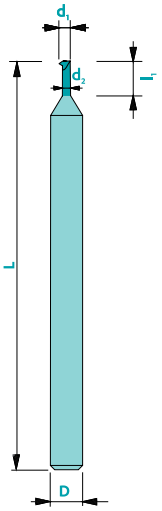
** Without information, the most suitable Coating will be applied.

Whirling tools Z1 - NIHS norm 06-02

Material	Vc	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	Max spindle speed	□	■	Nemo
Steel > 700 N/mm²	Max spindle speed	□	■	Nemo
Stainless steel	Max spindle speed	□	■	Nemo
Cast iron	Max spindle speed	□	■	Nemo
Copper	Max spindle speed	□	■	Solo
Brass - Bronze	Max spindle speed	■	□	Solo
Aluminium	Max spindle speed	■	■	Solo
Gold - Silver	Max spindle speed	□	□	Solo
Platinum - Palladium	Max spindle speed	-	□	Solo
Superalloys	Max spindle speed	-	■	Nemo
Titanium	Max spindle speed	■	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5



Available uncoated or coated (see page 61)

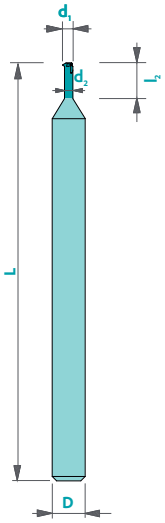
Art. n°	Ø nominal	Pitch	d_1	l_1	d_2	D	L
5500S0.30	S0.30	0.080	0.21	0.80	0.12	3	38
5500S0.35	S0.35	0.090	0.25	0.90	0.15	3	38
5500S0.40	S0.40	0.100	0.30	1.00	0.19	3	38
5500S0.50	S0.50	0.125	0.38	1.25	0.24	3	38
5500S0.60	S0.60	0.150	0.46	1.50	0.29	3	38
5500S0.70	S0.70	0.175	0.54	1.75	0.34	3	38
5500S0.80	S0.80	0.200	0.60	2.00	0.37	3	38
5500S0.90	S0.90	0.225	0.68	2.25	0.43	3	38
5500S1.00	S1.00	0.250	0.76	2.50	0.48	3	38
5500S1.20	S1.20	0.250	0.94	2.50	0.66	3	38
5500S1.40	S1.40	0.300	1.10	3.00	0.76	3	38

Z1

SUB-CARFINE

N

5600 Whirling tools Z3 - NIHS norm 06-02 & 06-03



Material	Vc	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	Max spindle speed	□	■	Nemo
Steel > 700 N/mm²	Max spindle speed	□	■	Nemo
Stainless steel	Max spindle speed	□	■	Nemo
Cast iron	Max spindle speed	□	■	Nemo
Copper	Max spindle speed	□	■	Solo
Brass - Bronze	Max spindle speed	■	□	Solo
Aluminium	Max spindle speed	■	■	Solo
Gold - Silver	Max spindle speed	□	□	Solo
Platinum - Palladium	Max spindle speed	-	□	Solo
Superalloys	Max spindle speed	-	■	Nemo
Titanium	Max spindle speed	■	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5

Available uncoated or coated (see page 61)

Z3

SUB-CARFINE **N**

Art. n°	Ø nominal	Pitch	d_1	l_2	d_2	D	L
5600S0.80	S0.80	0.200	0.60	2.00	0.38	3	38
5600S0.90	S0.90	0.225	0.68	2.25	0.43	3	38
5600S1.00	S1.00	0.250	0.76	2.50	0.48	3	38
5600S1.20	S1.20	0.250	0.94	2.50	0.66	3	38
5600S1.40	S1.40	0.300	1.10	3.00	0.76	3	38
5600M1.00	M1.00	0.250	0.76	2.50	0.48	3	38
5600M1.20	M1.20	0.250	0.94	2.50	0.66	3	38
5600M1.40	M1.40	0.300	1.10	3.00	0.76	3	38
5600M1.60	M1.60	0.350	1.25	3.50	0.85	3	38
5600M1.80	M1.80	0.350	1.45	3.50	1.05	3	38
5600M2.20	M2.20	0.450	1.70	4.50	1.19	3	38
5600M2.50	M2.50	0.450	2.00	5.00	1.49	3	38
5600M3.00	M3.00	0.500	2.40	4.50	1.84	3	38

Double profile whirling tool NIHS norm 06-02 et 06-03

Material	Vc	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	Max spindle speed	□	■	Nemo
Steel > 700 N/mm²	Max spindle speed	□	■	Nemo
Stainless steel	Max spindle speed	□	■	Nemo
Cast iron	Max spindle speed	□	■	Nemo
Copper	Max spindle speed	□	■	Solo
Brass - Bronze	Max spindle speed	■	□	Solo
Aluminium	Max spindle speed	■	■	Solo
Gold - Silver	Max spindle speed	□	□	Solo
Platinum - Palladium	Max spindle speed	-	□	Solo
Superalloys	Max spindle speed	-	■	Nemo
Titanium	Max spindle speed	■	□	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5

Available uncoated or coated (see page 61)

Art. n°	Ø nominal	Pitch	d_1	l_2	d_2	D	L
5700S0.80	S0.80	0.200	0.60	2.00	0.38	3	38
5700S0.90	S0.90	0.225	0.68	2.25	0.43	3	38
5700S1.00	S1.00	0.250	0.76	2.50	0.48	3	38
5700S1.20	S1.20	0.250	0.94	2.50	0.66	3	38
5700S1.40	S1.40	0.300	1.10	3.00	0.76	3	38
5700M1.00	M1.00	0.250	0.76	2.50	0.48	3	38
5700M1.20	M1.20	0.250	0.94	2.50	0.66	3	38
5700M1.40	M1.40	0.300	1.10	3.00	0.76	3	38
5700M1.60	M1.60	0.350	1.25	3.50	0.85	3	38
5700M1.80	M1.80	0.350	1.45	3.50	1.05	3	38
5700M2.20	M2.20	0.450	1.70	4.50	1.19	3	38
5700M2.50	M2.50	0.450	2.00	5.00	1.49	3	38
5700M3.00	M3.00	0.500	2.40	4.50	1.84	3	38

Z3

SUB-CARFINE

N