CUTTING TOOLS FOR SOFT MATERIALS

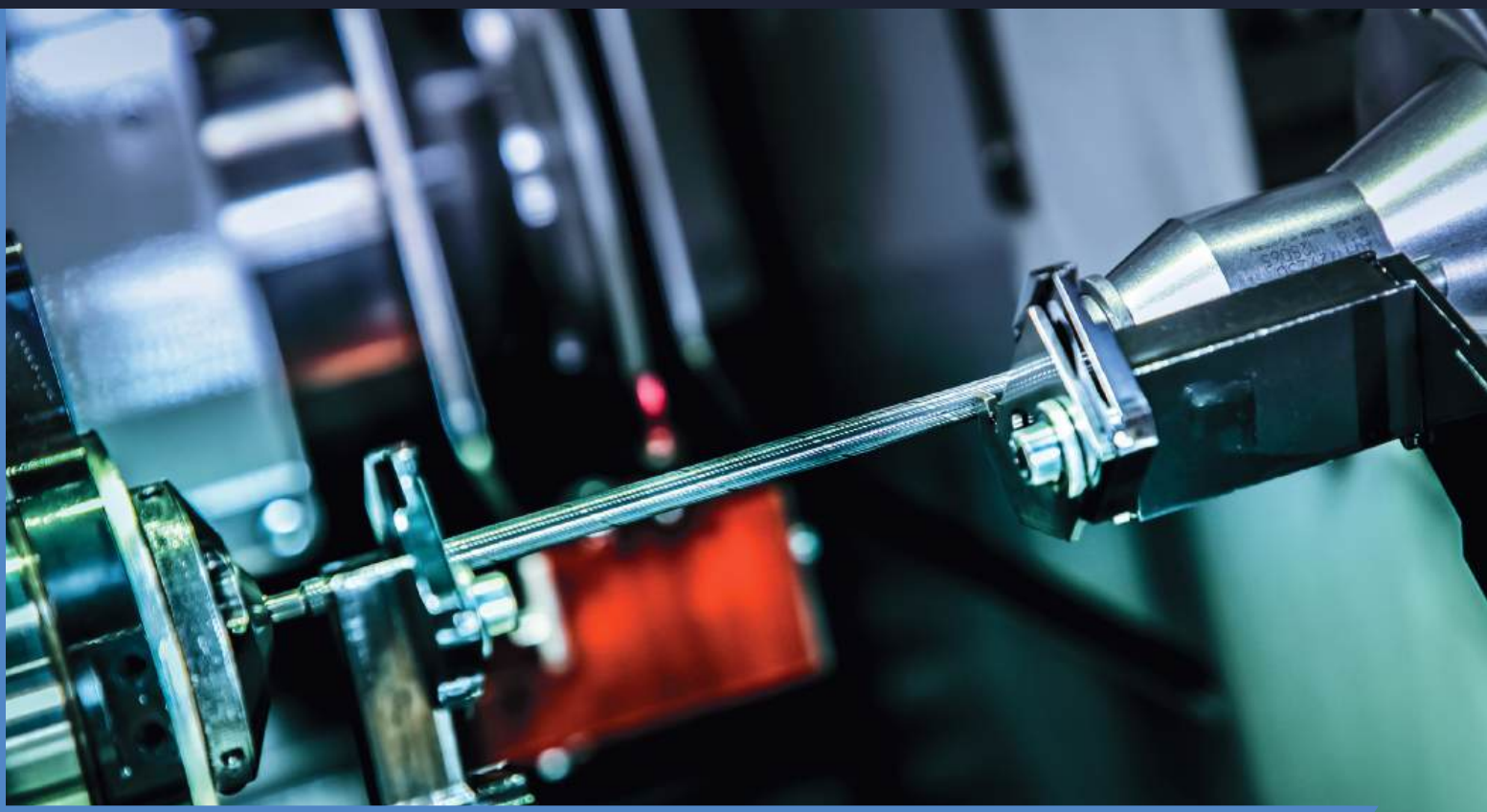
SPECIFICALLY FOR PLASTICS, ALUMINIUM, WOOD, COMPOSITES, ETC...

FABRICATION FRANÇAISE

FIND OUR PRODUCTS ONLINE
SHOP.DIAGER-INDUSTRIE.COM

DIAGER® INDUSTRIE

DIAGER®
INDUSTRIE



For almost 70 years, Diager Industrie has operated as a specialised French designer and manufacturer of rotary carbide cutting tools. Located in Poligny in the Jura region of eastern France, the company develops special and standard single-piece cutting tools.

Diager Industrie draws on the synergies generated by a group structure to design high-quality tools for manufacturers. The company has fostered strong partnerships with leading players in the engineering, aeronautics, space and automotive industries and focuses its expertise on a range of high-quality products.

RESEARCH & DEVELOPMENT:
TAKING THE COMPANY TO THE NEXT LEVEL

We invest heavily in research, development and innovation. Our goal is to meet all your machining requirements. Our investments enable us to develop comprehensive and innovative solutions to meet these needs. For all your drilling, milling and boring operations, our experts develop not only cutting tools but also the optimal process for your application, as we are first and foremost a supplier of solutions.

To facilitate this, we have set up a team tasked with finding solutions that optimise your manufacturing strategy and industrial logistics. We also have testing platforms designed to be compatible with customer equipment, allowing us to validate our machining processes in real-life conditions. These resources enable us to accurately measure the productivity achievable with our cutting tools and thus provide you with a complete picture of the costs associated with our solutions and the production times they allow. As a result, we can accurately meet the most demanding specifications and guarantee the performance of our cutting tools.

Our pool of 135 machining tools, 45 of which are numerically controlled, gives us total control over our processes and tools to make them even more efficient.

A MOTIVATED AND COMMITTED COMPANY

Diager Industrie's ethos is founded on excellent customer service and a guarantee of high-quality products. Thanks to modern technologies and significant investment in human resources, we do everything we can to reduce our impact on the environment. By adhering to a comprehensive environmental policy, we guarantee control over our activities and products. Caring for the environment is a constant priority, and informs all the activities performed by the company.

PROCEDURES AND ACCREDITATIONS:

ISO 9001 and 14001 certified

Quality

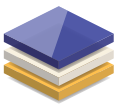
Compliance with standards, respect for the environment

Awarded CRS (ISO) 26000 by AFNOR and certified at the "CONFIRMED" level.

Our CSR policy drives our actions and guides our strategy. Our compliance with CSR principles indicates that our organisation takes responsibility for the impacts of its decisions and is committed to the sustainable development of its activities. We are proud of our certification which recognises our commitments to the well-being of our staff, our respect for the environment and product quality.

Diager Industrie solutions come with the additional benefits of comprehensive support and optimal technical follow-up. Our teams are ready to work with you to ensure your success.

MATERIALS

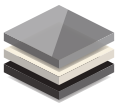


THERMOSET PLASTICS

THERMOSET PLASTICS
(PUR, Epoxy, DAP, PI, PF)

THERMO-PLASTICS

THERMOPLASTICS
(PMMA, PE, PP, ABS, PC, POM, PET, PEEK, PS, PA)

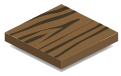


SOFT PLASTICS

SOFT PLASTICS
(PVC, PP, HDPE, Foamlite®, nylon, etc.)

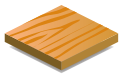
EXPANDED PVC

EXPANDED PVC



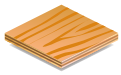
HARD WOODS

HARDWOODS
(Oak, beech, chestnut, elm, acacia, etc.)



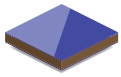
SOFT WOODS

SOFTWOODS
(Pine, birch, larch, spruce, etc.)



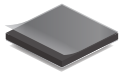
COMPOSITE WOODS

COMPOSITE WOOD PRODUCTS
(MDF, melamine, plywood, etc.)



COMPACT LAMINATES

COMPACT LAMINATES
(TRESPA©, FunderMAX©, etc.)

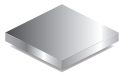


PHENOLIC MATERIALS

PHENOLIC MATERIALS

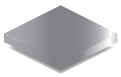
NON FERROUS METALS

NON-FERROUS METALS
(Aluminium, brass)



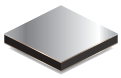
STEEL

STEEL



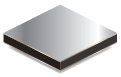
STAINLESS STEEL

STAINLESS STEEL



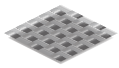
ALUMINIUM FACED COMPOSITE PANELS

ALUMINIUM-FACED COMPOSITE PANELS
(Dibond©, Alucobond©)



STEEL-FACED COMPOSITE PANELS

STEEL-FACED COMPOSITE PANELS
(Steelbond©)

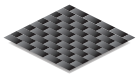


GLASS-FILLED PLASTICS

GLASS-FILLED PLASTICS

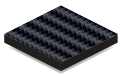
GLASS-FILLED PLASTICS (<40%)

GLASS-FILLED PLASTICS (<40% glass fibres)



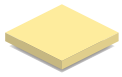
CARBON FIBER REINFORCED POLYMERS

CARBON FIBRE REINFORCED POLYMERS



KEVLAR

KEVLAR

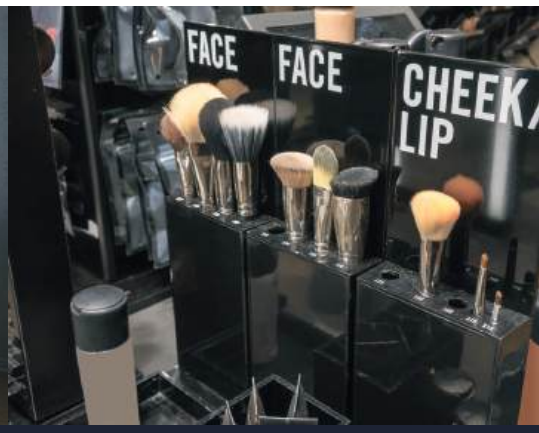


FOAM

FOAM

APPLICATIONS

POS ADVERTISING
SIGNAGE
FACADES
JOINERY ITEMS
ACCESSORIES
STANDS



RINGED CUTTERS

DIAGER INDUSTRIE NOW OFFERS A RANGE OF RINGED TOOLS FOR PLASTICS AND COMPOSITES ON CUTTERS WITH A 6 MM SHANK.

COMPATIBLE WITH AUTO-LOADER ZÜND MACHINES, THE NEW RANGE OF DIAGER INDUSTRIE TOOLS OFFERS COMPREHENSIVE CHOICE, HIGH QUALITY AND OUTSTANDING PERFORMANCE FOR ALL YOUR MACHINING NEEDS.
(FOR OTHER BRANDS, PLEASE CONTACT US)

FIND THE RINGED TOOL YOU REQUIRE:

Example with reference:

- standard without ring: 4013--0400C
- with ring: 4013--0400C-B

Add “-B” to the end of your usual reference

FIND THE REFERENCES IN OUR PRODUCT LISTS:

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**	Standard coating	With Zünd type ring**	Upgraded coating	With Zünd type ring**
4	**6***	10	50	1	4023--0400	4023--0400-B	4023-X0400	4023-X0400-B	4023-NHC0400B	4023-NHC0400-B
5	**6***	12	50	1	4023--0500	4023--0500-B	4023-X0500	4023-X0500-B	4023-NHC0500B	4023-NHC0500-B

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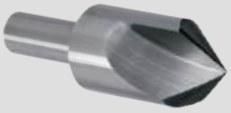

THERMOSET PLASTICS · THERMO-PLASTICS · EXPANDED PVC · HARD WOODS · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES · PHENOLIC MATERIALS

4042 CONICAL CUTTERS

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THERMOSET PLASTICS · EXPANDED PVC · HARD WOODS · COMPOSITE WOODS · COMPACT LAMINATES

4043 CONICAL CUTTERS

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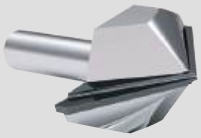


THERMO-PLASTICS · EXPANDED PVC · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES · FOAM

4070 CONICAL ENGRAVING CUTTERS

P. 46

THERMOSET PLASTICS · THERMO-PLASTICS · EXPANDED PVC · HARD WOODS · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES · NON FERROUS METALS · ALUMINIUM FACED COMPOSITE PANELS · STEEL-FACED COMPOSITE PANELS

4550 PCD SUPERFINISH ENGRAVING CUTTERS

P. 47

NEW

THERMOSET PLASTICS · THERMO-PLASTICS · EXPANDED PVC · HARD WOODS · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES · NON FERROUS METALS · ALUMINIUM FACED COMPOSITE PANELS · PHENOLIC MATERIALS · GLASS-FILLED PLASTICS (<40%) · CARBON FIBER REINFORCED POLYMERS

4080 FACE MILLING CUTTERS

P. 48

THERMOSET PLASTICS · THERMO-PLASTICS · EXPANDED PVC · HARD WOODS · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES

4110 SLITTING SAW CUTTERS ON A SHANK

P. 49

THERMOSET PLASTICS · THERMO-PLASTICS · EXPANDED PVC · HARD WOODS · SOFT WOODS · COMPOSITE WOODS · COMPACT LAMINATES

4500 PCD SUPERFINISH CUTTERS

P. 50

NEW

THERMOSET PLASTICS · THERMO-PLASTICS · NON FERROUS METALS

4600 PCD SUPERFINISH CUTTERS

P. 51

NEW

THERMOSET PLASTICS · THERMO-PLASTICS · NON FERROUS METALS

ONE-FLUTE UPCUT CUTTERS

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


FOAM

Possible uses:


COMPACT LAMINATES


ALUMINIUM FACED COMPOSITE PANELS


GLASS-FILLED PLASTICS (<40%)

THE MOST VERSATILE RANGE

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

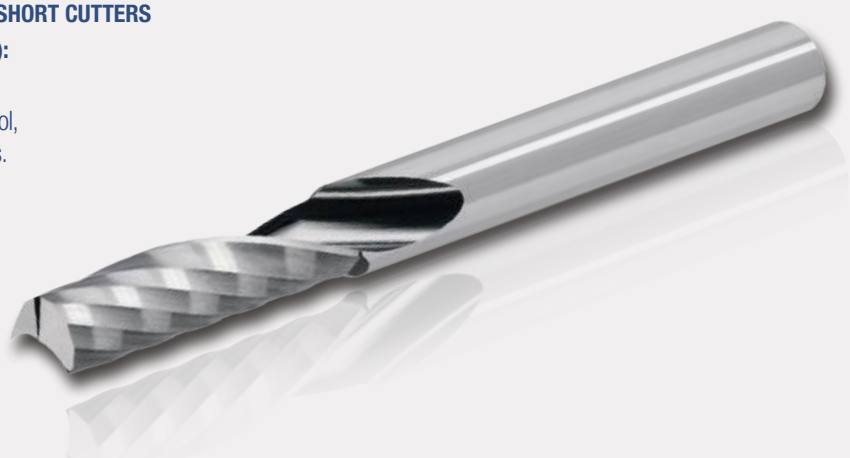
UPCUT TOOL, UPWARD CHIP REMOVAL:

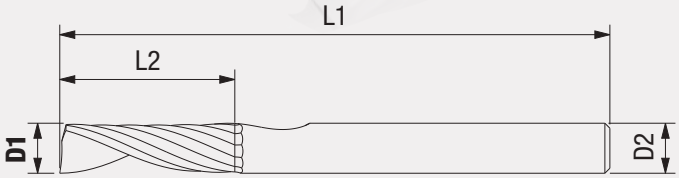
Chips evacuated efficiently.
The most commonly used cutter.

WHEN POSSIBLE, SELECT SHORT CUTTERS

(CUTTING LENGTH = 2 X Ø):

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.





SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
1	**3***	4	30	1	4013--0100	
1.5	**3***	6	30	1	4013--0150	
2	2	4	30	1	4013--0200	
2	**6***	4	50	1	4013--0200A	4013--0200A-B
2	2	8	30	1	4013--0200B	
2	2	8	60	1	4013--0200C	
2	**3***	8	30	1	4013--0200D	
2	**6***	8	50	1	4013--0200E	4013--0200E-B
2.5	2.5	8	40	1	4013--0250	
2.5	2.5	8	60	1	4013--0250A	
3	3	6	40	1	4013--0300	
3	**6***	6	50	1	4013--0300A	4013--0300A-B
3	3	10	40	1	4013--0300B	
3	3	10	60	1	4013--0300C	
3	**6***	10	50	1	4013--0300D	4013--0300D-B
3	3	12	40	1	4013--0300E	
3	**6***	12	50	1	4013--0300F	4013--0300F-B
3	3	15	40	1	4013--0300G	
3	3	20	60	1	4013--0300H	
3	**6***	20	60	1	4013--0300J	4013--0300J-B
3	3	22	60	1	4013--0300K	
3.17	3.17	12.7	50.8	1	4013--0317	
3.17	**6.35***	12.7	50.8	1	4013--0317A	
4	4	8	50	1	4013--0400	
4	**6***	8	50	1	4013--0400A	4013--0400A-B
4	4	12	50	1	4013--0400B	
4	**6***	12	50	1	4013--0400C	4013--0400C-B
4	4	14	50	1	4013--0400D	
4	**6***	14	50	1	4013--0400E	4013--0400E-B

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
4	4	22	60	1	4013--0400F	
4	**6***	22	60	1	4013--0400G	4013--0400G-B
4	4	30	70	1	4013--0400H	
4.76	4.76	15.87	50.8	1	4013--0476	
4.76	**6.35***	15.87	50.8	1	4013--0476A	
4.76	**6.35***	31.75	76.2	1	4013--0476B	
5	5	16	60	1	4013--0500	
5	**6***	16	50	1	4013--0500A	4013--0500A-B
5	5	22	60	1	4013--0500B	
5	**6***	22	60	1	4013--0500C	4013--0500C-B
5	5	30	70	1	4013--0500D	
6	6	14	50	1	4013--0600	4013--0600-B
6	6	22	60	1	4013--0600A	4013--0600A-B
6	6	32	70	1	4013--0600B	4013--0600B-B
6	6	38	80	1	4013--0600C	4013--0600C-B
6.35	6.35	19.05	50.8	1	4013--0635	
6.35	6.35	28.57	76.2	1	4013--0635A	
6.35	6.35	38.1	76.2	1	4013--0635B	
8	8	22	60	1	4013--0800	
8	8	32	70	1	4013--0800A	
8	8	38	80	1	4013--0800B	
8	8	42	80	1	4013--0800C	
10	10	32	75	1	4013--1000	
10	10	45	85	1	4013--1000A	
12	12	32	75	1	4013--1200	
12	12	42	100	1	4013--1200A	
12	12	52	105	1	4013--1200B	
14	14	62	120	1	4013--1400	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

VERSATILE RANGE

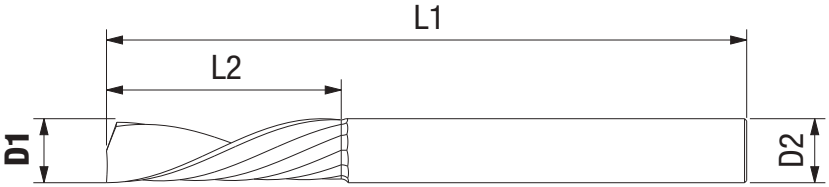
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
DOWNCUT TOOL, DOWNWARD CHIP REMOVAL

- Workpieces held better due to downwards force,
- Limits delamination of the upper face,
- Suited to thin materials,
- Milling thermoformed parts on CNC robots, reduction of vibrations.

CHIPS POORLY EVACUATED:

Provide clear space underneath or good suction of chips.

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
1	**3***	4	30	1	4012--0100	
1.5	**3***	6	30	1	4012--0150	
2	2	8	30	1	4012--0200	
2	2	8	60	1	4012--0200A	
2	**3***	8	30	1	4012--0200B	
2	**6***	8	50	1	4012--0200C	4012--0200C-B
2.5	2.5	8	40	1	4012--0250	
2.5	2.5	8	60	1	4012--0250A	
3	3	10	40	1	4012--0300	
3	3	10	60	1	4012--0300A	
3	**6***	10	50	1	4012--0300B	4012--0300B-B
3.17	**6.35***	12.7	50.8	1	4012--0317	
4	4	12	50	1	4012--0400	
4	**6***	12	50	1	4012--0400A	4012--0400A-B
4	4	20	60	1	4012--0400B	

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
4	4	22	60	1	4012--0400D	
4	4	30	70	1	4012--0400C	
4.76	**6.35***	15.87	50.8	1	4012--0476	
5	5	16	60	1	4012--0500	
5	**6***	16	50	1	4012--0500A	4012--0500A-B
5	5	30	70	1	4012--0500B	
6	6	20	60	1	4012--0600	4012--0600-B
6	6	30	70	1	4012--0600A	4012--0600A-B
6	6	38	80	1	4012--0600B	4012--0600B-B
6.35	6.35	19.05	50.8	1	4012--0635	
8	8	22	60	1	4012--0800	
8	8	38	80	1	4012--0800A	
10	10	30	75	1	4012--1000	
12	12	30	75	1	4012--1200	

***Strengthened shank**

****Contact us for ringed cutters of other brands**

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


FOAM

Possible uses:


COMPACT LAMINATES


ALUMINIUM FACED COMPOSITE PANELS


GLASS-FILLED PLASTICS (<40%)

ONE-FLUTE UPCUT CUTTERS WITH FLAT TIP FOR FINISH

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


FOAM

Possible uses:

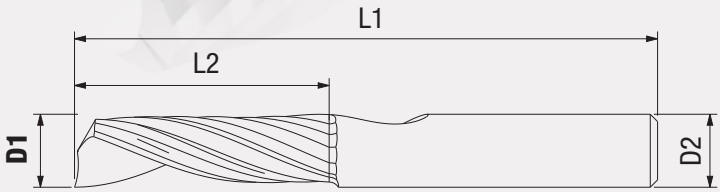

COMPACT LAMINATES


ALUMINIUM FACED COMPOSITE PANELS


GLASS-FILLED PLASTICS (<40%)

CUTTER DERIVED FROM THE 4013 WITH FLAT TIP FOR FINISH.

IMPROVES THE SURFACE FINISH AT THE BOTTOM OF THE POCKET.
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.
UPCUT TOOL, UPWARD CHIP REMOVAL.
CHIPS EVACUATED EFFICIENTLY.



SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

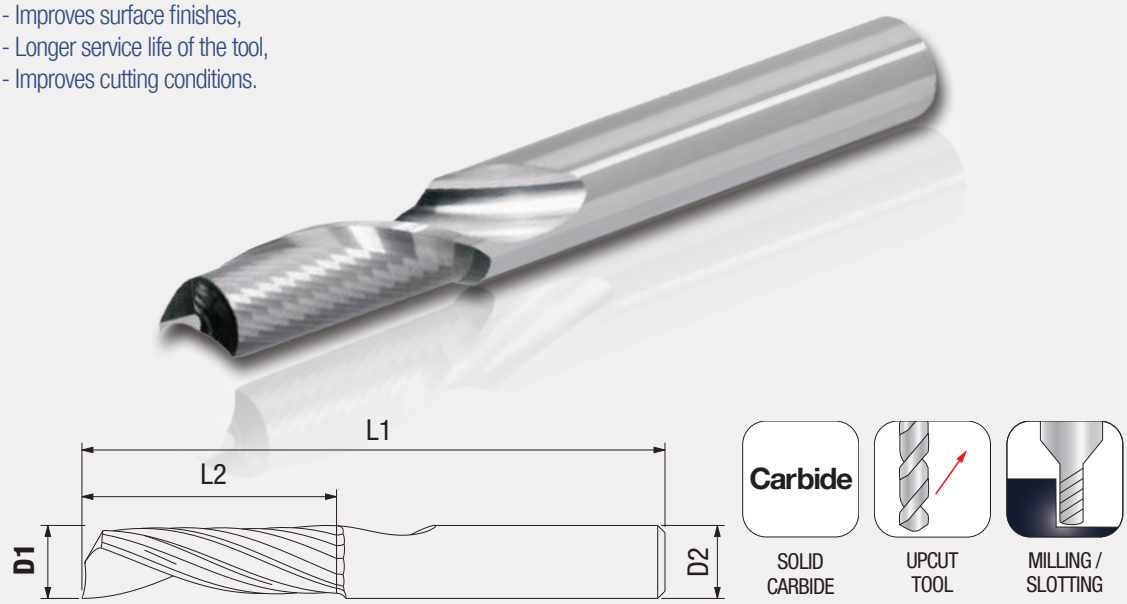
Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	**6**	10	50	1	4013S--0300	4013S--0300-B
4	**6**	12	50	1	4013S--0400	4013S--0400-B
5	**6**	16	50	1	4013S--0500	4013S--0500-B
6	6	22	60	1	4013S--0600	4013S--0600-B
8	8	22	60	1	4013S--0800	
10	10	32	75	1	4013S--1000	
12	12	32	75	1	4013S--1200	

****Contact us for ringed cutters of other brands**

THE GEOMETRY OF THIS RANGE HAS BEEN SPECIALLY DEVELOPED TO PRODUCE A BETTER SURFACE FINISH IN PMMA, POLYCARBONATE, PA6, CORIAN AND COMPACT LAMINATES.

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.
UPCUT TOOL, UPWARD CHIP REMOVAL.
MORE RESISTANT TO ABRASION.

WHERE POSSIBLE, SELECT SHORT CUTTERS (CUTTING LENGTH = 2 X Ø):
- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
2	**3***	4	30	1	4053--0200	
2	**6***	4	50	1	4053--0200A	4053--0200A-B
2	**6***	6	50	1	4053--0200B	4053--0200B-B
2	**3***	8	30	1	4053--0200C	
3	3	6	40	1	4053--0300	
3	**6***	6	50	1	4053--0300A	4053--0300A-B
3	3	9	40	1	4053--0300B	
3	**6***	9	50	1	4053--0300C	4053--0300C-B
4	4	8	50	1	4053--0400	
4	**6***	8	50	1	4053--0400A	4053--0400A-B
4	4	13	50	1	4053--0400B	
4	**6***	13	50	1	4053--0400C	4053--0400C-B
4.76	4.76	12.7	50.8	1	4053--0476	
5	5	16	60	1	4053--0500	
5	**6***	16	50	1	4053--0500A	4053--0500A-B
6	6	16	50	1	4053--0600	4053--0600-B
6	6	22	60	1	4053--0600A	4053--0600A-B
6	6	32	70	1	4053--0600B	4053--0600B-B
6.35	6.35	15.87	50.8	1	4053--0635	
8	8	22	60	1	4053--0800	
8	8	32	70	1	4053--0800A	
9.52	9.52	25.4	60.3	1	4053--0952	
10	10	23	60	1	4053--1000	
10	10	32	75	1	4053--1000A	
12	12	42	100	1	4053--1200	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


COMPACT LAMINATES


NON FERROUS METALS


ALUMINIUM FACED COMPOSITE PANELS

Possible uses:


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


GLASS-FILLED PLASTICS (<40%)

ONE-FLUTE UPCUT CUTTERS FOR ALUMINIUM

MATERIALS:

NON FERROUS METALS

ALUMINIUM FACED COMPOSITE PANELS

Possible uses:

THERMOSET PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARD WOODS

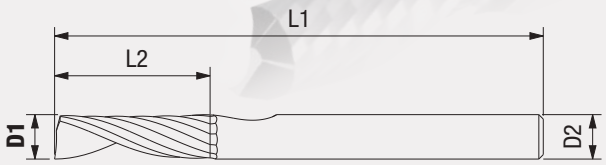
SOFT WOODS

COMPOSITE WOODS

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
UPCUT TOOL, UPWARD CHIP REMOVAL.

UNCOATED CUTTER, LUBRICATION RECOMMENDED.
COATED VERSION FOR MACHINING WITHOUT LUBRICATION.



Carbide

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**	Standard coating	With Zünd type ring	Upgraded coating	With Zünd type ring**
1.5	**3***	4	30	1	4023--0150		4023-X0150		4023-NHC0150	
2	**3***	5	30	1	4023--0200		4023-X0200		4023-NHC0200	
2.5	**3***	6	30	1	4023--0250		4023-X0250		4023-NHC0250	
3	3	8	40	1	4023--0300		4023-X0300		4023-NHC0300	
3.17	3.17	7.93	38.1	1	4023--0317		4023-X0317		4023-NHC0317	
3.17	**6.35***	7.93	50.8	1	4023--0317A		4023-X0317A		4023-NHC0317A	
4	**6***	10	50	1	4023--0400	4023--0400-B	4023-X0400	4023-X0400-B	4023-NHC0400	4023-NHC0400-B
4	4	12	60	1	4023--0400A		4023-X0400A		4023-NHC0400A	
4	4	20	60	1	4023--0400B		4023-X0400B		4023-NHC0400B	
4	4	30	70	1	4023--0400C		4023-X0400C		4023-NHC0400C	
4.76	4.76	12.7	50.8	1	4023--0476		4023-X0476		4023-NHC0476	
4.76	**6.35***	12.7	50.8	1	4023--0476A		4023-X0476A		4023-NHC0476A	
5	**6***	12	50	1	4023--0500	4023--0500-B	4023-X0500	4023-X0500-B	4023-NHC0500	4023-NHC0500-B
5	5	16	60	1	4023--0500A		4023-X0500A		4023-NHC0500A	
5	**8***	25	70	1	4023--0500B		4023-X0500B		4023-NHC0500B	
5	5	30	70	1	4023--0500C		4023-X0500C		4023-NHC0500C	
5	**8***	35	80	1	4023--0500D		4023-X0500D		4023-NHC0500D	
6	6	15	50	1	4023--0600	4023--0600-B	4023-X0600	4023-X0600-B	4023-NHC0600	4023-NHC0600-B
6	6	15	70	1	4023--0600A	4023--0600A-B	4023-X0600A	4023-X0600A-B	4023-NHC0600A	4023-NHC0600A-B
6	6	20	60	1	4023--0600B	4023--0600B-B	4023-X0600B	4023-X0600B-B	4023-NHC0600B	4023-NHC0600B-B
6	6	30	70	1	4023--0600C	4023--0600C-B	4023-X0600C	4023-X0600C-B	4023-NHC0600C	4023-NHC0600C-B
6	**8***	30	80	1	4023--0600D		4023-X0600D		4023-NHC0600D	
6	6	38	80	1	4023--0600E	4023--0600E-B	4023-X0600E	4023-X0600E-B	4023-NHC0600E	4023-NHC0600E-B
6.35	6.35	15.87	50.8	1	4023--0635		4023-X0635		4023-NHC0635	
8	8	20	60	1	4023--0800		4023-X0800		4023-NHC0800	
8	8	20	80	1	4023--0800A		4023-X0800A		4023-NHC0800A	
8	8	38	80	1	4023--0800B		4023-X0800B		4023-NHC0800B	
10	10	23	60	1	4023--1000		4023-X1000		4023-NHC1000	
10	10	23	100	1	4023--1000A		4023-X1000A		4023-NHC1000A	
10	10	30	75	1	4023--1000B		4023-X1000B		4023-NHC1000B	

***Strengthened shank**

****Contact us for ringed cutters of other brands**

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
DOWNCUT TOOL, DOWNWARD CHIP REMOVAL

- Workpieces held better due to downwards force.
- Limits delamination of the upper face.
- Suited to thin materials.
- Milling thermoformed parts on CNC robots, reduction of vibrations.

UNCOATED CUTTER, LUBRICATION RECOMMENDED.
COATED VERSION FOR MACHINING WITHOUT LUBRICATION.

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING

MATERIALS:


NON FERROUS METALS


ALUMINIUM FACED COMPOSITE PANELS

Possible uses:


THERMOSET PLASTICS

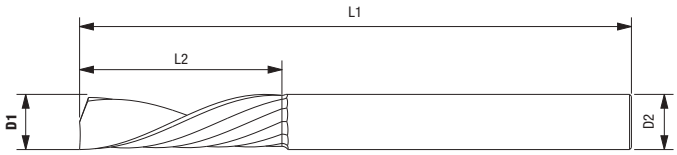

THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**	Standard coating	With Zünd type ring**	Upgraded coating	With Zünd type ring**
1.5	**3***	4	30	1	4022--0150		4022-X0150		4022-NHC0150	
2	**3***	5	30	1	4022--0200		4022-X0200		4022-NHC0200	
2.5	**3***	6	30	1	4022--0250		4022-X0250		4022-NHC0250	
3	3	8	40	1	4022--0300		4022-X0300		4022-NHC0300	
3.17	**6.35***	7.93	50.8	1	4022--0317		4022-X0317		4022-NHC0317	
4	**6***	10	50	1	4022--0400	4022--0400-B	4022-X0400	4022-X0400-B	4022-NHC0400	4022-NHC0400-B
4	4	12	60	1	4022--0400A		4022-X0400A		4022-NHC0400A	
4.76	**6.35***	12.7	50.8	1	4022--0476A		4022-X0476A		4022-NHC0476A	
5	**6***	12	50	1	4022--0500	4022--0500-B	4022-X0500	4022-X0500-B	4022-NHC0500	4022-NHC0500-B
5	5	16	60	1	4022--0500A		4022-X0500A		4022-NHC0500A	
6	6	15	60	1	4022--0600	4022--0600-B	4022-X0600	4022-X0600-B	4022-NHC0600	4022-NHC0600-B
6.35	6.35	15.87	50.8	1	4022--0635		4022-X0635		4022-NHC0635	
8	8	20	60	1	4022--0800		4022-X0800		4022-NHC0800	
10	10	23	60	1	4022--1000		4022-X1000		4022-NHC1000	

***Strengthened shank**

****Contact us for ringed cutters of other brands**

FOR CUTTERS 4022 AND 4023, THE TWO COATED VERSIONS ARE SUITED TO MACHINING WITHOUT LUBRICATION.

THE UPGRADED COATING OFFERS GREATER RESISTANCE TO ABRASION.

SHORT ONE-FLUTE UPCUT CUTTERS FOR ALUMINIUM

MATERIALS:

NON FERROUS METALS

ALUMINIUM FACED COMPOSITE PANELS

Possible uses:

THERMOSET PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARD WOODS

SOFT WOODS

COMPOSITE WOODS

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND©TYPE TAC AND ACM
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
UPCUT TOOL, UPWARD CHIP REMOVAL. SHORT CUTTER SERIES, HIGH RIGIDITY

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.

UNCOATED CUTTER, LUBRICATION RECOMMENDED

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	3	4.5	40	1	4001--0300	
3	**6***	4.5	50	1	4001--0300A	4001--0300A-B
4	4	6	50	1	4001--0400	
4	**6***	6	50	1	4001--0400A	4001--0400A-B
5	5	7.5	50	1	4001--0500	
5	**6***	7.5	50	1	4001--0500A	4001--0500A-B
6	6	9	50	1	4001--0600	4001--0600-B
8	8	12	60	1	4001--0800	
10	10	15	65	1	4001--1000	
12	12	18	65	1	4001--1200	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND©TYPE TAC AND ACM
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS
UPCUT TOOL, UPWARD CHIP REMOVAL.

SHORT CUTTER SERIES, HIGH RIGIDITY

- Improves surface finishes,
- Longer service life of the tool,
- Improves cutting conditions.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | COATED TOOL | DRY CUTTING

Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**	Upgraded coating	With Zünd type ring**
2	**6***	3	50	1	4001-X0200	4001-X0200-B	4001-NHC0200	4001-NHC0200-B
3	3	4.5	40	1	4001-X0300		4001-NHC0300	
3	**6***	4.5	50	1	4001-X0300A	4001-X0300A-B	4001-NHC0300A	4001-NHC0300A-B
4	4	6	50	1	4001-X0400		4001-NHC0400	
4	**6***	6	50	1	4001-X0400A	4001-X0400A-B	4001-NHC0400A	4001-NHC0400A-B
5	5	7.5	50	1	4001-X0500		4001-NHC0500	
5	**6***	7.5	50	1	4001-X0500A	4001-X0500A-B	4001-NHC0500A	4001-NHC0500A-B
6	6	9	50	1	4001-X0600	4001-X0600-B	4001-NHC0600	4001-NHC0600-B
8	8	12	60	1	4001-X0800		4001-NHC0800	
10	10	15	65	1	4001-X1000		4001-NHC1000	
12	12	18	65	1	4001-X1200		4001-NHC1200	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

THE UPGRADED COATING OFFERS GREATER RESISTANCE TO ABRASION.

MATERIALS:


NON FERROUS METALS


ALUMINIUM FACED COMPOSITE PANELS

Possible uses:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.)

PARTICULARLY RECOMMENDED FOR DIBOND© TYPE TAC AND ACM

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

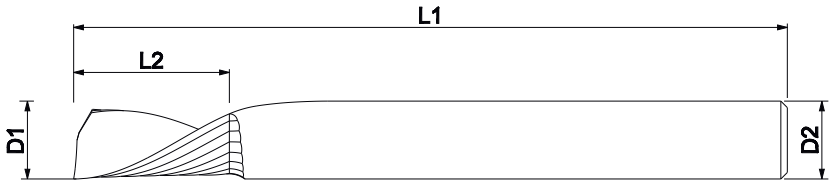
Coated cutter, for use without lubrication.

MATERIALS:

NON FERROUS METALS

ALUMINIUM FACED COMPOSITE PANELS

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING | COATED TOOL | DRY CUTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**	Upgraded coating	Coated with Zünd type ring
2	**3***	3	30	1	4002-X0200		4002-NHC0200	
3	**6***	4.5	50	1	4002-X0300	4002-X0300-B	4002-NHC0300	4002-NHC0300-B
4	**6***	6	50	1	4002-X0400	4002-X0400-B	4002-NHC0400	4002-NHC0400-B

***Strengthened shank** ****Contact us for ringed cutters of other brands**

DOWNCUT TOOL, DOWNWARD CHIP REMOVAL

Workpieces held better due to downwards force.

- Limits delamination of the upper face.
- Suited to thin materials.

SHORT CUTTER SERIES, HIGH RIGIDITY

- Improves surface finishes.
- Improves service life.
- Improves cutting conditions.

ONE-FLUTE CUTTERS WITH CHAMFER FOR PLASTICS

MATERIALS:

THERMOSET PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARD WOODS

SOFT WOODS

COMPOSITE WOODS

Possible uses:

COMPACT LAMINATES

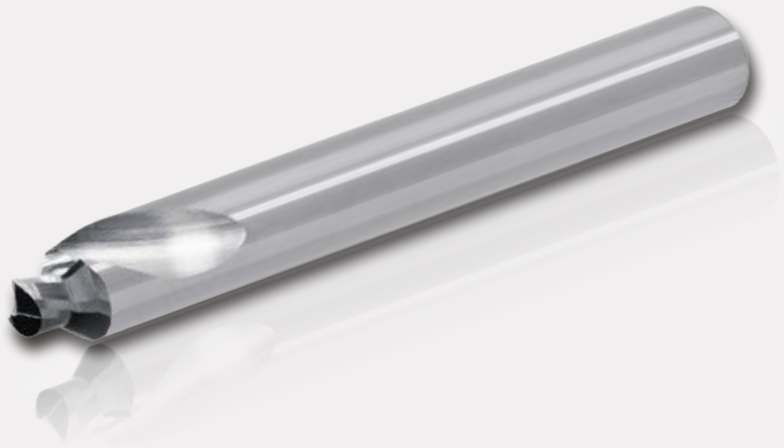
NON FERROUS METALS

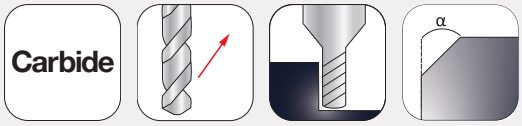
ALUMINIUM FACED COMPOSITE PANELS

RANGE SPECIFICALLY DESIGNED FOR PLASTICS

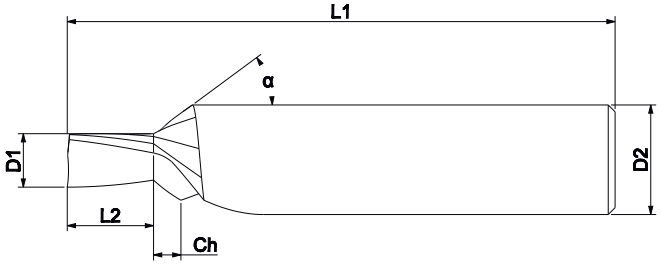
CUTS OUT AND CHAMFERS THE MATERIAL AS A SINGLE OPERATION

CAUTION: Ensure that the material is flat!





SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch mm	α °	z	Part ref.
4	**8***	4.3	60	2	45°	1	4202--0400A
4	**8***	6.3	60	2	45°	1	4202--0400B

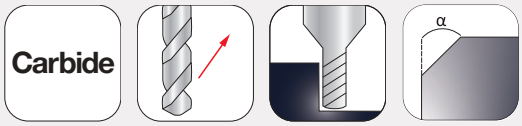
***Strengthened shank**

RANGE SPECIFICALLY DESIGNED FOR NON-FERROUS METALS (ALUMINIUM, BRASS, COPPER, ETC.).
ALSO RECOMMENDED FOR DIBOND© TYPE TAC AND ACM
CUTS OUT AND CHAMFERS THE MATERIAL AS A SINGLE OPERATION.

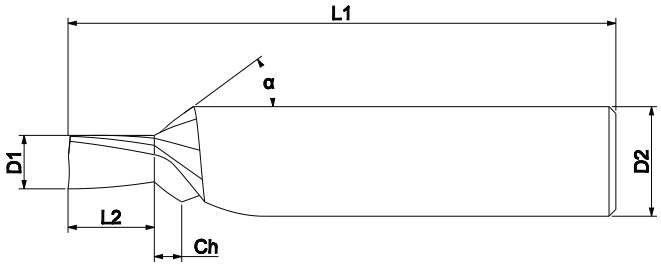
CAUTION: ensure that the material is flat!

Uncoated cutter. Lubrication is strongly recommended when used on aluminium.

COATING ON REQUEST.



SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch mm	α °	z	Part ref.	With Zünd type ring**
4	**6***	1.9	50	1	45°	1	4203--0400A	4203--0400A-B
4	**6***	2.3	50	1	45°	1	4203--0400B	4203--0400B-B
4	**6***	2.9	50	1	45°	1	4203--0400C	4203--0400C-B
4	**6***	3.3	50	1	45°	1	4203--0400D	4203--0400D-B

***Strengthened shank** ****Contact us for ringed cutters of other brands**

MATERIALS:


NON FERROUS METALS


ALUMINIUM FACED COMPOSITE PANELS

Possible uses:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES

TWO-FLUTE UPCUT CUTTERS

MATERIALS:

EXPANDED PVC

HARD WOODS

SOFT WOODS

COMPOSITE WOODS

FOAM

Possible uses:

THERMOSET PLASTICS

THERMO-PLASTICS

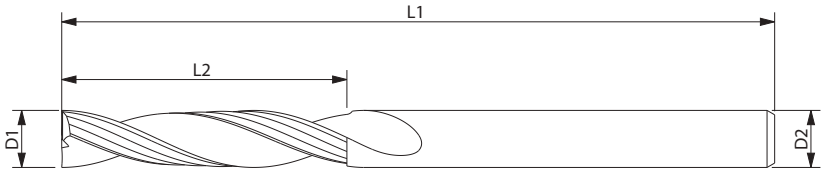
CUTTERS DERIVED FROM THE 4013 BUT WITH TWO FLUTES

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Improves the surface finish when used on foamed materials and woods compared with a one-flute cutter.

UPCUT TOOL, UPWARD CHIP REMOVAL.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	3	10	40	2	4015--0300	
3	**6***	10	50	2	4015--0300A	4015--0300A-B
4	4	12	60	2	4015--0400	
4	**6***	12	50	2	4015--0400A	4015--0400A-B
5	5	20	70	2	4015--0500	
6	6	22	80	2	4015--0600	4015--0600-B
8	8	22	80	2	4015--0800	
8	8	32	80	2	4015--0800A	
10	10	32	75	2	4015--1000	
10	10	42	85	2	4015--1000A	
12	12	35	84	2	4015--1200	

***Strengthened shank**
****Contact us for ringed cutters of other brands**

CUTTERS DERIVED FROM THE 4012 BUT WITH TWO FLUTES

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Improves the surface finish when used on foamed materials and woods compared with a one-flute cutter.

DOWNCUT TOOL, DOWNWARD CHIP REMOVAL

Workpieces held better due to downwards force.

- Limits delamination of the upper face.
- Suited to thin materials.

SOLID CARBIDE | DOWNCUT TOOL | MILLING / SLOTTING

MATERIALS:


EXPANDED PVC


HARD WOODS


SOFT WOODS

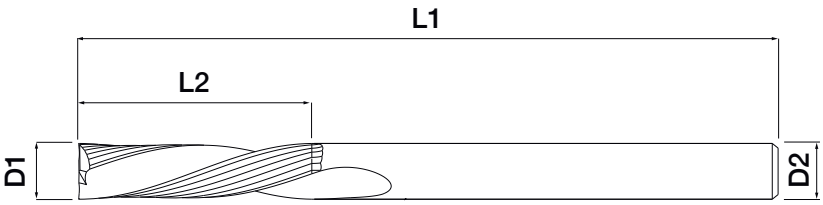

COMPOSITE WOODS


FOAM

Possible uses:


THERMOSET PLASTICS


THERMO-PLASTICS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	3	10	40	2	4014--0300	
3	**6***	10	50	2	4014--0300A	4014--0300A-B
4	4	12	60	2	4014--0400	
4	**6***	12	50	2	4014--0400A	4014--0400A-B
5	5	16	60	2	4014--0500	
6	6	22	60	2	4014--0600	4014--0600-B
8	8	25	80	2	4014--0800	
10	10	32	75	2	4014--1000	

***Strengthened shank**
****Contact us for ringed cutters of other brands**

TWO-FLUTE CUTTERS FOR SOFT PLASTICS

MATERIALS:

SOFT PLASTICS

TWO-FLUTE CUTTERS SPECIFICALLY DESIGNED FOR SOFT PLASTICS: PVC, PP, HDPE, FOAMLITE®, NYLON, ETC.

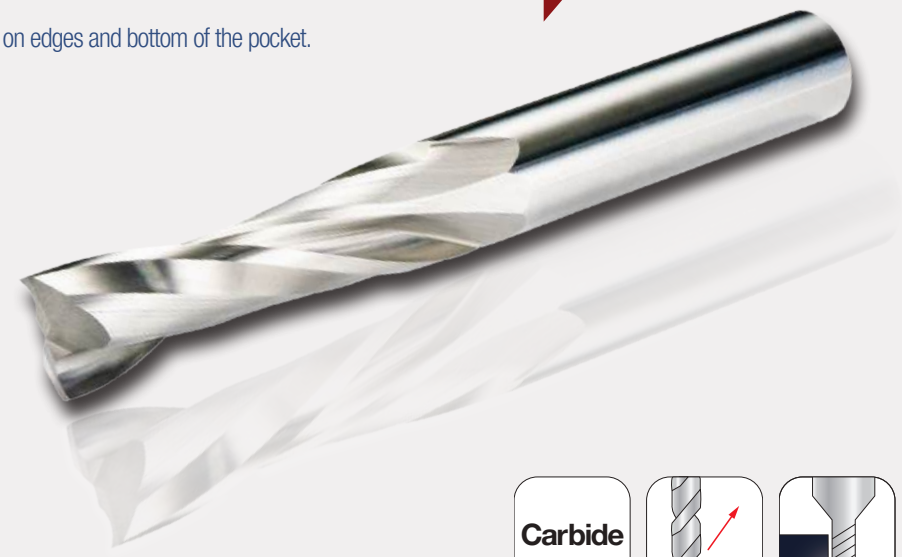
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.

UPCUT TOOL, UPWARD CHIP REMOVAL.

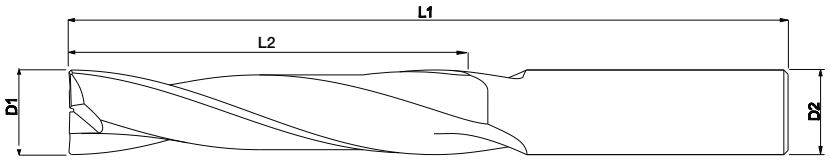
High cutting speed.

Quality of surface finishes on edges and bottom of the pocket.

NEW

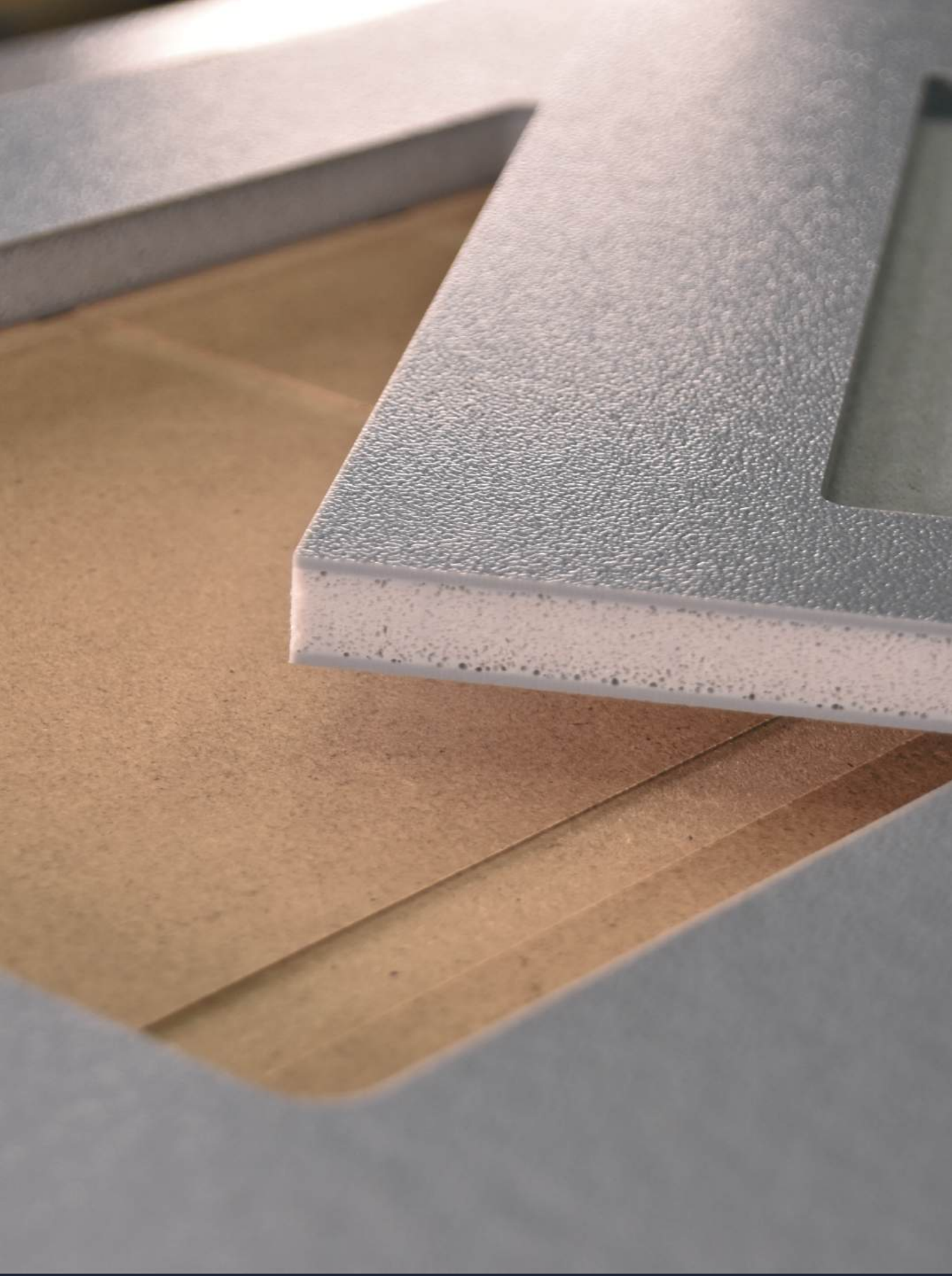


SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	NEW Part ref.	NEW With Zünd type ring**
4	4	12	60	2	4052--0400	
4	**6**	12	60	2	4052--0400A	4052--0400A-B
6	6	22	60	2	4052--0600	4052--0600-B
8	8	22	70	2	4052--0800	
8	8	32	80	2	4052--0800A	
10	10	32	75	2	4052--1000	
10	10	42	85	2	4052--1000A	
12	12	55	100	2	4052--1200	
16	16	65	130	2	4052--1600	
16	16	85	150	2	4052--1600A	

****Contact us for ringed cutters of other brands**



STRAIGHT TWO-FLUTE CUTTERS

MATERIALS:


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS

Possible uses:

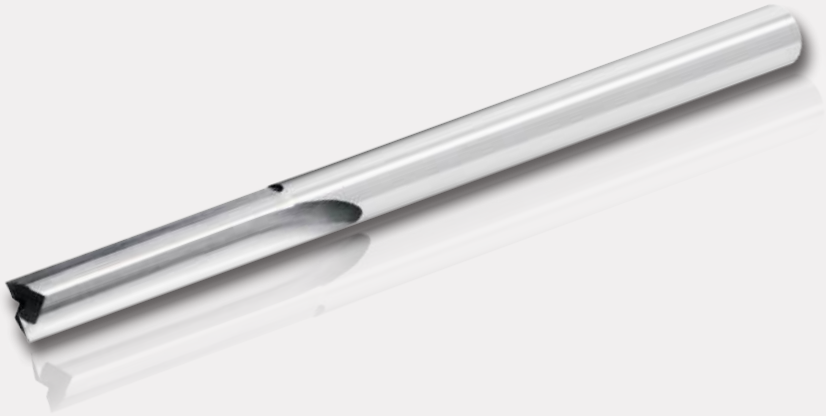

THERMOSET PLASTICS

STRAIGHT-FLUTED CUTTERS

NO CHIP REMOVAL DIRECTION.

Used mainly for wood.

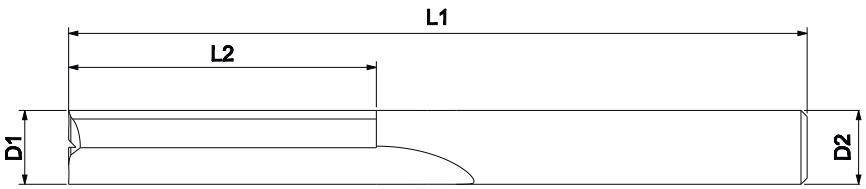
This cutter may also be used to produce a finished surface on certain thermoplastics, with a final cut of a few hundredths of a millimetre.



SOLID CARBIDE

STRAIGHT CUT

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	3	15	60	2	4120--0300	
4	4	20	60	2	4120--0400	
5	5	20	60	2	4120--0500	
6	6	25	60	2	4120--0600	4120--0600-B
8	8	35	80	2	4120--0800	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

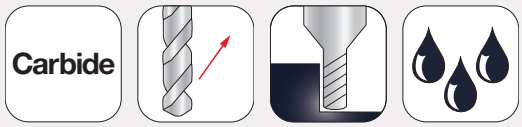
TWO-FLUTE CUTTERS FOR NON-FERROUS METALS WITH A SMALL PROTECTIVE CHAMFER

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

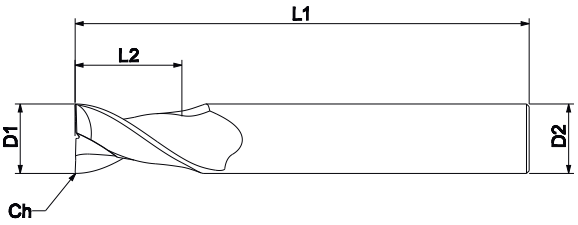
Cuts slots in certain plastics, resins, compact laminates and Corian®.

Improves surface finishes at the bottom of a pocket.

Coating on request.



SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Ch 45° mm	z	Part ref.	With Zünd type ring**
2	**6***	6	50	0.1	2	4003--0200	4003--0200-B
3	**6***	7	50	0.1	2	4003--0300	4003--0300-B
4	**6***	8	50	0.1	2	4003--0400	4003--0400-B
5	**6***	10	50	0.2	2	4003--0500	4003--0500-B
6	6	10	50	0.2	2	4003--0600	4003--0600-B
8	8	15	60	0.2	2	4003--0800	
10	10	18	60	0.25	2	4003--1000	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

MATERIALS:

NON FERROUS METALS

Possible uses:

THERMOSET PLASTICS

THERMO-PLASTICS

HARD WOODS

COMPACT LAMINATES

MATERIALS:

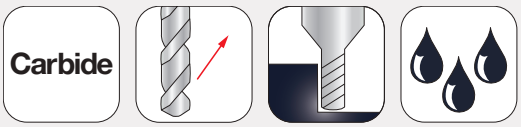
STEEL

STAINLESS STEEL

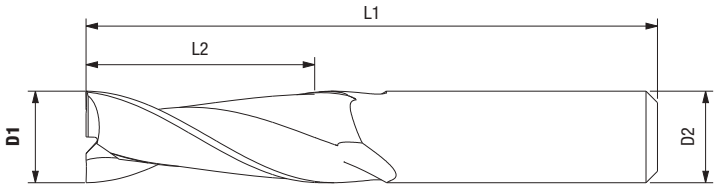
TWO-FLUTE CUTTERS FOR MACHINING METALS

UNCOATED VERSION

COATED VERSION EXTENDS SERVICE LIFE



SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Z	Part ref.	TIALNX coated
1	1	4	35	2	2350--0100	2350-X0100
1.5	1.5	4	35	2	2350--0150	2350-X0150
2	2	8	35	2	2350--0200	2350-X0200
2.5	2.5	8	38	2	2350--0250	2350-X0250
3	3	8	38	2	2350--0300	2350-X0300
3.5	3.5	10	43	2	2350--0350	2350-X0350
4	4	11	43	2	2350--0400	2350-X0400
4.5	4.5	13	47	2	2350--0450	2350-X0450
5	5	13	47	2	2350--0500	2350-X0500
5.5	5.5	13	57	2	2350--0550	2350-X0550
6	6	13	57	2	2350--0600	2350-X0600
6.5	6.5	16	63	2	2350--0650	2350-X0650
7	7	16	63	2	2350--0700	2350-X0700
8	8	19	63	2	2350--0800	2350-X0800
9	9	19	72	2	2350--0900	2350-X0900
10	10	22	72	2	2350--1000	2350-X1000
12	12	22	76	2	2350--1200	2350-X1200
14	14	26	83	2	2350--1400	2350-X1400
16	16	32	89	2	2350--1600	2350-X1600
18	18	32	92	2	2350--1800	2350-X1800
20	20	38	101	2	2350--2000	2350-X2000

COATED THREE-FLUTE CUTTERS FOR MACHINING METALS

PARTICULARLY SUITED TO THE MACHINING OF STEEL-FACED COMPOSITE PANELS (SUCH AS STEELBOND© OR KÖMASTEEL©).

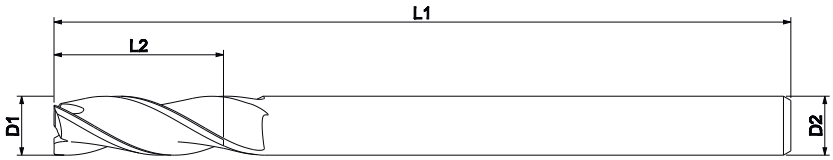
MATERIALS:


STEEL-FACED COMPOSITE PANELS


STEEL


STAINLESS STEEL

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING | COATED TOOL | USE COOLANT



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Z	Part ref.
1	1	4	35	3	2352-X0100
1.5	1.5	4	35	3	2352-X0150
2	2	8	35	3	2352-X0200
2.5	2.5	8	38	3	2352-X0250
3	3	8	38	3	2352-X0300
3.5	**4***	10	43	3	2352-X0350
4	4	11	43	3	2352-X0400
4.5	**5***	13	47	3	2352-X0450
5	5	13	47	3	2352-X0500
5.5	**6***	13	57	3	2352-X0550
6	6	13	57	3	2352-X0600
6.5	**8***	16	63	3	2352-X0650
7	**8***	16	63	3	2352-X0700
8	8	19	63	3	2352-X0800
9	**10***	19	72	3	2352-X0900
10	10	22	72	3	2352-X1000
12	12	22	76	3	2352-X1200
14	14	26	83	3	2352-X1400
16	16	32	89	3	2352-X1600
18	18	32	92	3	2352-X1800
20	20	38	101	3	2352-X2000

*** Strengthened shank**

THREE-FLUTE CUTTERS FOR HIGH-PRESSURE LAMINATES (HPL)

MATERIALS:


COMPACT LAMINATES


PHENOLIC MATERIALS


GLASS-FILLED PLASTICS (<40%)

Possible uses:


HARD WOODS


SOFT WOODS


COMPOSITE WOODS

RANGE SPECIFICALLY DESIGNED FOR HPL (TRESPA©, FUNDERMAX©)

UPCUT TOOL, UPWARD CHIP REMOVAL

Chip breaker to improve ventilation and reduce heating.

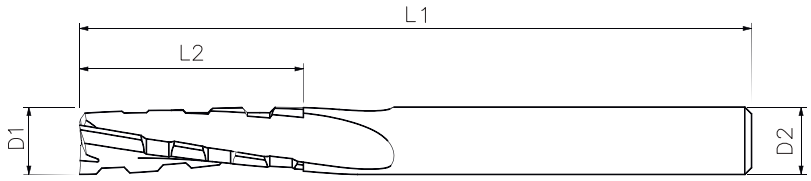
COATING ON REQUEST.

The use of a coating extends the service life (contact us for details).

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
6	6	15	58	3	4050--0600	4050--0600-B
8	8	12	64	3	4050--0800	
8	8	20	64	3	4050--0800A	
10	10	22	73	3	4050--1000	
12	12	32	80	3	4050--1200	

****Contact us for ringed cutters of other brands**

RANGE SPECIFICALLY DESIGNED FOR FOAMED MATERIALS AND WOOD

SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

Upcut tool, upward chip removal.

SOLID CARBIDE | UPCUT TOOL | MILLING / SLOTTING

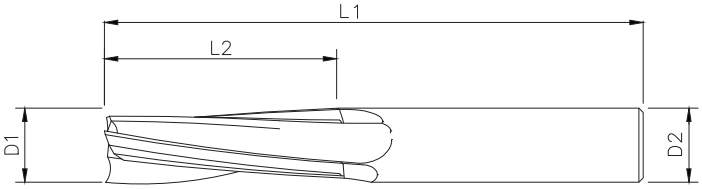
MATERIALS:

FOAM

HARD WOODS

SOFT WOODS

COMPOSITE WOODS



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
6	6	25	80	3	4060--0600	4060--0600-B
8	8	25	80	3	4060--0800	
10	10	35	85	3	4060--1000	
12	12	45	100	3	4060--1200	

****Contact us for ringed cutters of other brands**

LONG THREE-FLUTE CUTTERS FOR FOAMED MATERIALS

MATERIALS:


FOAM


EXPANDED PVC

SPECIAL LONG RANGE FOR FOAMED MATERIALS

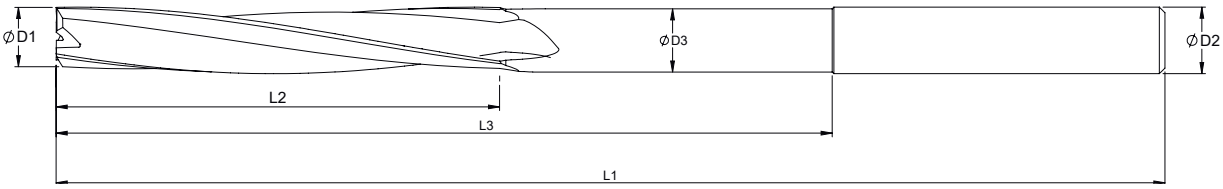
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS.

Upcut tool, upward chip removal

SOLID CARBIDE

UPCUT TOOL

MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	Ø D3 mm	L2 mm	L3 mm	L1 mm	z	Part ref.
3	3	2.7	20	40	75	3	4061--0300
4	4	3.7	30	45	75	3	4061--0400
5	5	4.7	25	45	78	3	4061--0500
6	6		50		80	3	4061--0600
6	6	5.7	40	70	100	3	4061--0600A
8	8	7.6	40	70	100	3	4061--0800
8	8		50		80	3	4061--0800A
8	8	7.6	40	115	150	3	4061--0800B
10	10	9.6	40	70	100	3	4061--1000
10	10	9.6	50	85	120	3	4061--1000A
10	10	9.6	50	115	150	3	4061--1000B
12	12	11.6	50	85	120	3	4061--1200


FANUC Robot
LR Mate 200iD

WOODSPEED
COATED COMPRESSION CUTTERS

MATERIALS:


HARD WOODS


SOFT WOODS

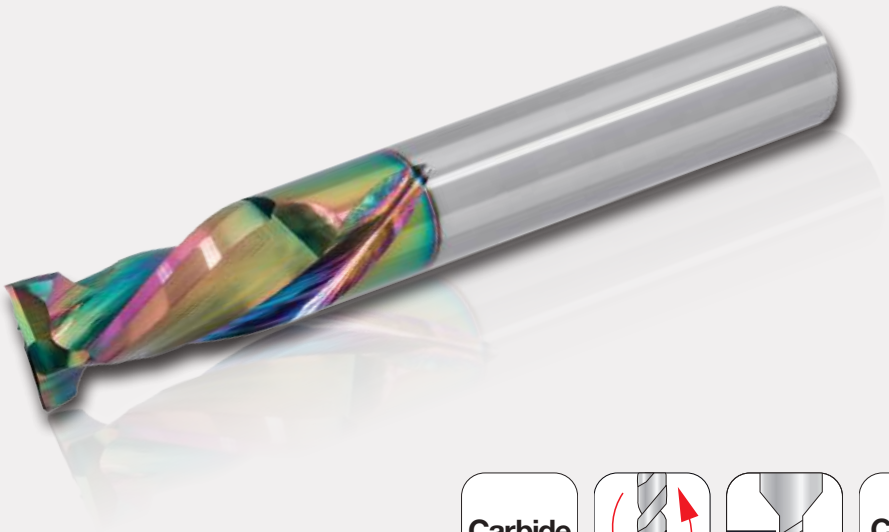

COMPOSITE WOODS

COMPRESSION CUTTERS FOR CONTOUR MILLING OF WOODEN BOARDS

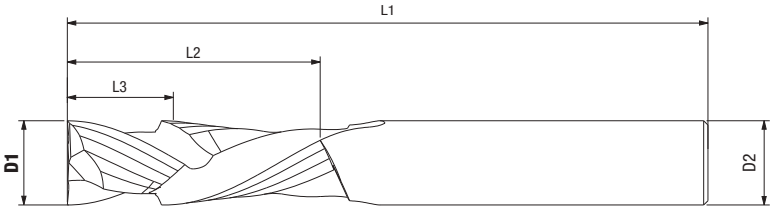
THE DOUBLE-FLUTE CONFIGURATION - PRODUCING AN UPCUT AT THE TIP AND THEN A DOWNCUT - PREVENTS DELAMINATION OF THE TWO FACES OF THE MATERIAL

The cutting geometry allows high-speed machining and a perfect surface finish.

Long service life thanks to the specific carbide used and the coating.



SOLID CARBIDE | COMPRESSION | MILLING / SLOTTING | COATED TOOL



Ø D1 mm	Ø D2 mm	L2 mm	L3 mm	L1 mm	z	Part ref.	With Zünd type ring**
6	6	14	4	60	2+2	4030--0600	4030--0600-B
6	6	22	4	60	2+2	4030--0600A	4030--0600A-B
8	8	22	4	70	2+2	4030--0800	
10	10	22	4	80	2+2	4030--1000	
10	10	32	4	80	2+2	4030--1000A	
12	12	32	8	80	2+2	4030--1200	
12	12	42	12	100	2+2	4030--1200A	

****Contact us for ringed cutters of other brands**

GEOMETRY SPECIALLY DESIGNED TO SHEAR FIBRES (KEVLAR/ARAMIDE, ETC.)

ALSO PERFECTLY SUITED TO THIN PLYWOOD

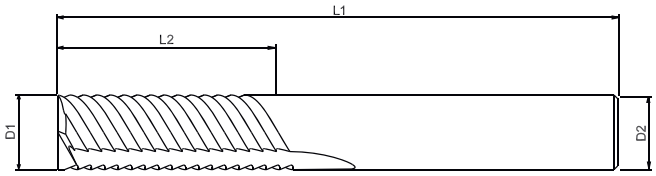
MATERIALS:

KEVLAR

Possible uses:

COMPOSITE WOODS

SOLID CARBIDE | COMPRESSION | MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.	With Zünd type ring**
3	3	12	60	2	4100--0300	
3	**6***	12	60	2	4100--0300A	4100--0300A-B
4	4	15	60	2	4100--0400	
4	**6***	15	60	2	4100--0400A	4100--0400A-B
6	6	25	75	2	4100--0600	4100--0600-B
8	8	25	75	2	4100--0800	
10	10	25	75	2	4100--1000	
12	12	25	75	2	4100--1200	

***Strengthened shank** ****Contact us for ringed cutters of other brands**

SPHERICAL TWO-FLUTE CUTTERS

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES

Possible uses:


NON FERROUS METALS


STEEL-FACED COMPOSITE PANELS


STEEL


STAINLESS STEEL


PHENOLIC MATERIALS

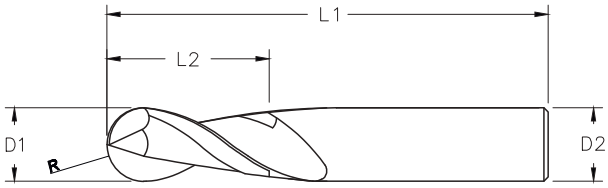

FOAM

FORM MILLING AND 3D MACHINING.

SOLID CARBIDE

MILLING / SLOTTING

FORM MILLING



D1 mm	D2 mm	L2 mm	L1 mm	R mm	Z	Part ref.
2	2	8	35	1	2	2344--0200
2.5	2.5	8	38	1.25	2	2344--0250
3	3	8	38	1.5	2	2344--0300
4	4	11	43	2	2	2344--0400
5	5	13	47	2.5	2	2344--0500
6	6	13	57	3	2	2344--0600
7	7	16	63	3.5	2	2344--0700
8	8	19	63	4	2	2344--0800
9	9	19	72	4.5	2	2344--0900
10	10	22	72	5	2	2344--1000
12	12	22	76	6	2	2344--1200
14	14	26	83	7	2	2344--1400
16	16	32	83	8	2	2344--1600

HIGH-SPEED CUTTER FOR SLOT CUTTING - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

Very good surface finish
Improves evacuation of chips
High working speed

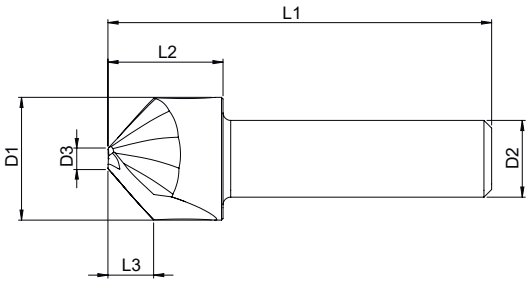
UPCUT TOOL, UPWARD CHIP REMOVAL

Coating on request.

MATERIALS:

ALUMINIUM FACED COMPOSITE PANELS

SOLID CARBIDE | MILLING / SLOTTING | MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part ref.	With Zünd type ring**
10	6	2	3.6	20	60	95°	2	4045--10-095°	4045--10-095°-B
12	12	2	4.7	-	60	95°	2	4045--12-095°	
16	**10**	3	6.1	15	50	95°	2	4045--16-095°	
20	**10**	2	5.2	20	50	108°	2	4045--20-108°	
20	**10**	2	3.7	20	50	135°	2	4045--20-135°	

CONICAL ONE-FLUTE CUTTERS FOR SLOT CUTTING - FOLDING

MATERIALS:

ALUMINIUM FACED COMPOSITE PANELS

Possible uses:

NON FERROUS METALS

COMPACT LAMINATES

CUTTERS FOR CUTTING SLOTS - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

Very good surface finish.

Improves evacuation of chips

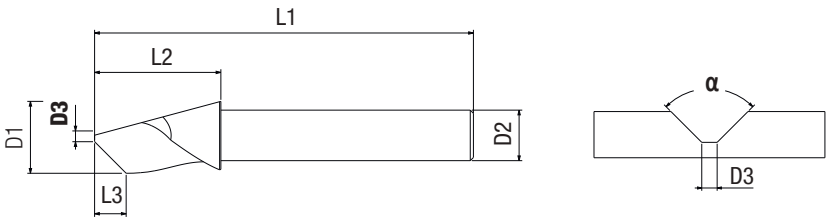
SMOOTH AND POLISHED FLUTE, LIMITED BUILT-UP EDGE EFFECTS

UPCUT TOOL, UPWARD CHIP REMOVAL.

Coating on request.

Machining of non-ferrous metals with spraying or coating.

SOLID CARBIDE | MILLING / SLOTTING | MILLING WITH CHAMFER



Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part ref.	With Zünd type ring**
6	6	0.3	2.3	-	60	100°	1	4041--06P0030-100°	4041--06P0030-100°-B
8	8	0.5	3.1	-	60	100°	1	4041--08P0050-100°	
10	**6***	2	3.6	20	60	95°	1	4041--10P0200-095°	4041--10P0200-095°-B

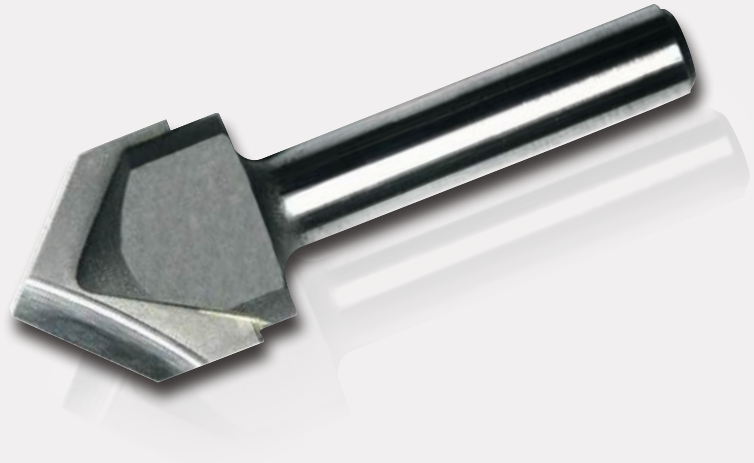
Smaller shank diameter*Contact us for ringed cutters of other brands**

CUTTERS FOR SLOT CUTTING - FOLDING

SPECIALLY DESIGNED FOR ACM AND TAC (DIBOND©, ALUCOBOND©)

MATERIALS:

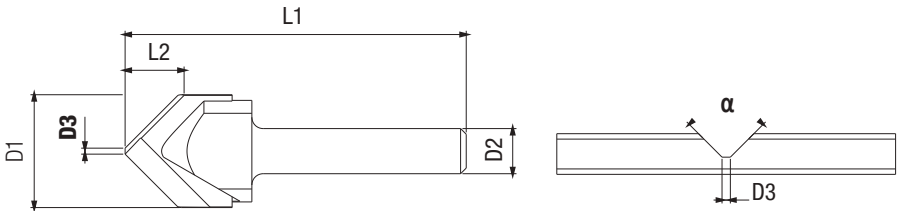
ALUMINIUM FACED COMPOSITE PANELS



CARBIDE TIPPED STEEL BODY

MILLING / SLOTTING

MILLING WITH CHAMFER



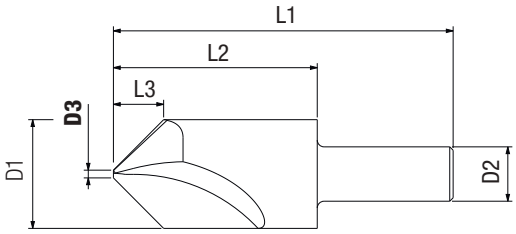
Ø D1 mm	Ø D2 mm	Ø D3 mm	L2 mm	L1 mm	α °	z	Part ref.
20	8	3	8.5	60	90°	2	4040--090°
20	8	2	3.7	60	135°	2	4040--135°

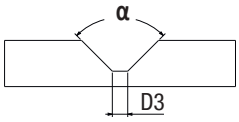

Code du produit
Code du lot
CUT 17.0070
DIA 17.0057
MAX 17.0054
NOUT 0.0013
POS -44.785
PRESET
0.000
-44.785
ax peut être non significatif !
sultez le tableau pour plus de détails
RÉGEL
TX
RX
XACTUM
WARNING

VERY GOOD SURFACE FINISH

SOLID CARBIDE TOOL, HIGH RIGIDITY

SOLID CARBIDE | MILLING / SLOTTING | MILLING WITH CHAMFER





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part ref.	With Zünd type ring**
8	8	0.2	3.9	-	50	90°	2	4044--08P0020-090°	
10	**6***	0.2	4.9	25	50	90°	2	4044--10P0020-090°	4044--10P0020-090°-B
12	12	0.2	5.9	-	50	90°	2	4044--12P0020-090°	
16	**8***	0.2	7.9	12	50	90°	2	4044--16P0020-090°	

***Smaller shank diameter** ****Contact us for ringed cutters of other brands**

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES


PHENOLIC MATERIALS

Possible uses:


ALUMINIUM FACED COMPOSITE PANELS

CUTTERS FOR SLOT CUTTING - CHAMFERING

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


COMPOSITE WOODS


COMPACT LAMINATES

Possible uses:

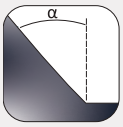

SOFT WOODS


FOAM

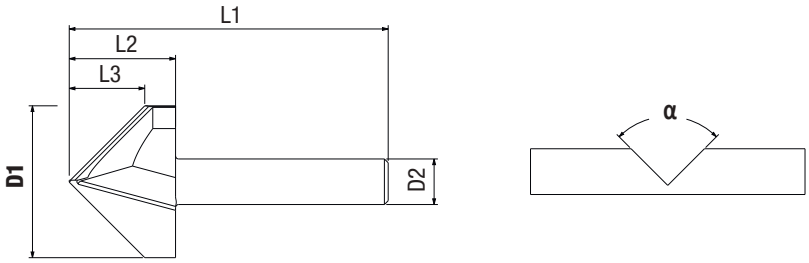
SPECIFICALLY DESIGNED FOR HARDER MATERIALS (PMMA, CORIAN, POLYCARBONATES, HARDWOODS, ETC.)

CARBIDE TIPPED STEEL BODY


MILLING / SLOTTING

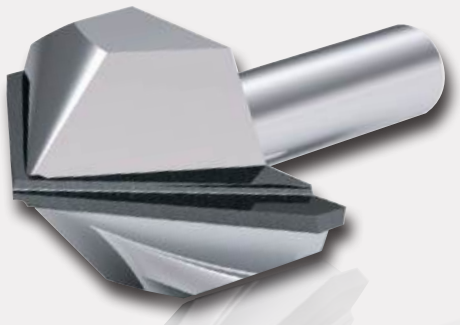


MILLING WITH CHAMFER



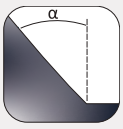
Ø D1 mm	Ø D2 mm	L3 mm	L2 mm	L1 mm	α °	z	Part ref.
20	6	17.3	20.5	48	60°	2	4042--20-060°
20	6	10	14	42	90°	2	4042--20-090°
20	6	5.8	9.8	38	120°	2	4042--20-120°

SPECIFICALLY DESIGNED FOR SOFT MATERIALS (SOFTWOODS, COMPOSITE WOOD PRODUCTS, FOAMED MATERIALS, ETC.)

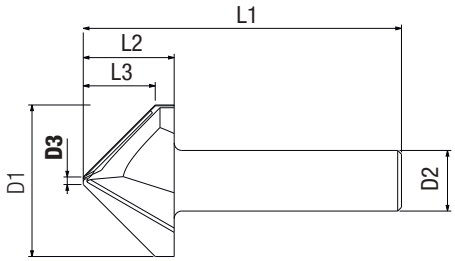


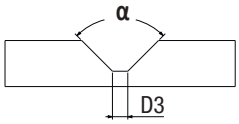
Carbide Steel
CARBIDE TIPPED STEEL BODY


MILLING / SLOTTING



MILLING WITH CHAMFER





Ø D1 mm	Ø D2 mm	Ø D3 mm	L3 mm	L2 mm	L1 mm	α °	z	Part ref.
32	8	0.5	27.3	32	62	60°	2	4043--32P0050-060°
32	8	0.5	15.75	20	50	90°	2	4043--32P0050-090°
32	8	0.5	13.2	20	50	100°	2	4043--32P0050-100°
32	8	0.5	9.1	18	42	120°	2	4043--32P0050-120°

MATERIALS:


THERMO-PLASTICS


EXPANDED PVC


SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES


FOAM

Possible uses:


THERMOSET PLASTICS


HARD WOODS

CONICAL ENGRAVING CUTTERS

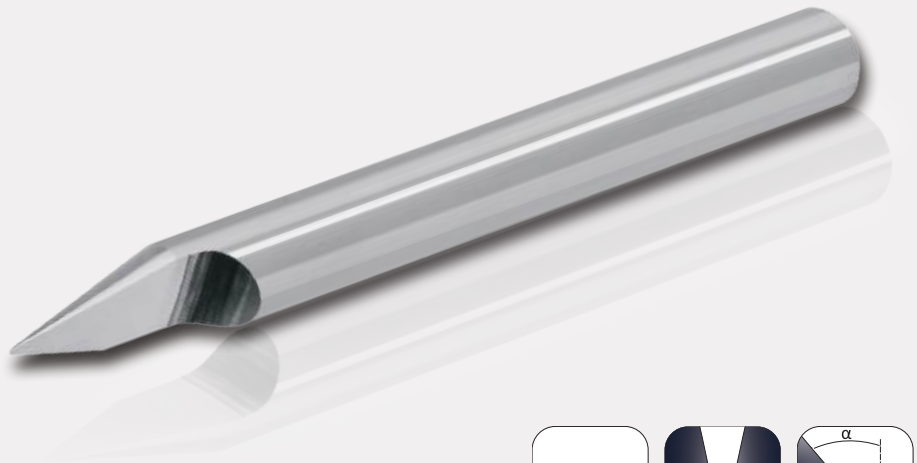
MATERIALS:

- THERMOSET PLASTICS
- THERMO-PLASTICS
- EXPANDED PVC
- HARD WOODS
- SOFT WOODS
- COMPACT LAMINATES
- NON FERROUS METALS
- ALUMINIUM FACED COMPOSITE PANELS
- STEEL-FACED COMPOSITE PANELS

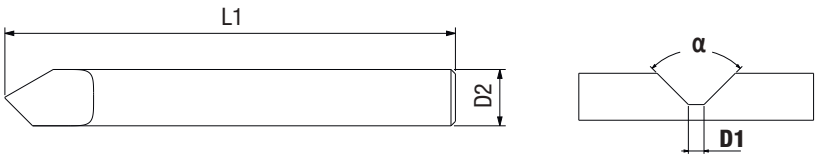
Possible uses:

- PHENOLIC MATERIALS
- GLASS-FILLED PLASTICS (<40%)

CONICAL, MULTI-MATERIAL ENGRAVING CUTTERS



SOLID CARBIDE | ENGRAVING | MILLING WITH CHAMFER



ØD1 mm	Ø D2 mm	L1 mm	α °	Z	Part ref.	With Zünd type ring**
0.3	3	30	30°	1	4070--03P0030-030°	
0.1	4	60	30°	1	4070--04P0010-030°	
0.3	4	60	30°	1	4070--04P0030-030°	
0.1	6	60	30°	1	4070--06P0010-030°	4070--06P0010-030°-B
0.5	6	60	30°	1	4070--06P0050-030°	4070--06P0050-030°-B
0.1	3	30	40°	1	4070--03P0010-040°	
0.3	3	30	40°	1	4070--03P0030-040°	
0.3	4	60	40°	1	4070--04P0030-040°	
0.5	6	60	40°	1	4070--06P0050-040°	4070--06P0050-040°-B
0.1	3	30	60°	1	4070--03P0010-060°	
0.2	4	60	60°	1	4070--04P0020-060°	
0.4	6	60	60°	1	4070--06P0040-060°	4070--06P0040-060°-B
0.1	4	60	90°	1	4070--04P0010-090°	
0.1	6	60	90°	1	4070--06P0010-090°	4070--06P0010-090°-B

****Contact us for ringed cutters of other brands**

SUPERFINISH ENGRAVING CUTTER FOR PMMA, PC, ETC.

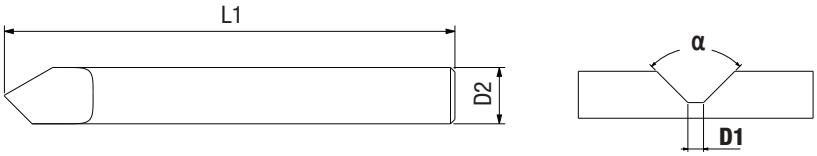
DIAMOND (PCD) INSERT ON STEEL BODY

- Specific sharpening
- Produces a translucent surface finish

Contact us for the appropriate machining strategy.

NEW

ENGRAVING | MILLING WITH CHAMFER | PCD | SUPER FINISHING



ØD1 mm	Ø D2 mm	L1 mm	α °	Z	Part ref.
0.2	4	60	60°	1	4550--060
0.1	4	60	90°	1	4550--090

MATERIALS:

- THERMOSET PLASTICS
- THERMO-PLASTICS
- EXPANDED PVC
- HARD WOODS
- SOFT WOODS
- COMPOSITE WOODS
- COMPACT LAMINATES
- NON FERROUS METALS
- ALUMINIUM FACED COMPOSITE PANELS
- PHENOLIC MATERIALS
- GLASS-FILLED PLASTICS (<40%)
- CARBON FIBER REINFORCED POLYMERS

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


EXPANDED PVC


HARD WOODS


SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES

Possible uses:


FOAM

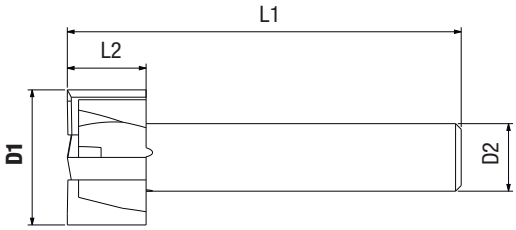

PHENOLIC MATERIALS


GLASS-FILLED PLASTICS (<40%)

FACE MILLING CUTTERS
(FACE MILLING ON SACRIFICIAL PANELS, ETC.)

Carbide Steel
CARBIDE TIPPED STEEL BODY


MILLING / SLOTTING



Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	z	Part ref.
20	6	7	35	4	4080--2000
30	8	8	35	6	4080--3000

SLITTING SAW CUTTERS WITH CARBIDE INSERTS ON A STEEL SHANK

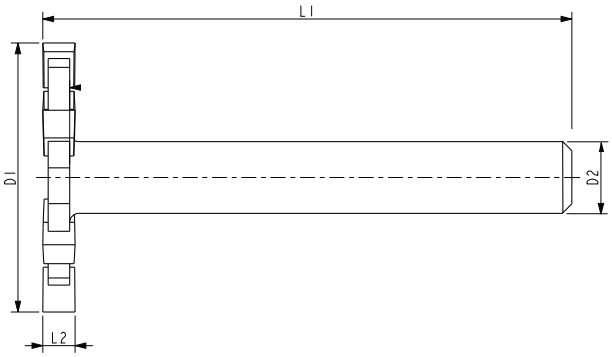
MACHINING OF SLOTS AND SLITS

Cutting out thermoformed parts

Carbide Steel

CARBIDE TIPPED STEEL BODY

MILLING / SLOTTING



ØD1	Ø D2	L2	L1	Z	Part ref.
25	8	1	62	6	4110--25-0100A
25	6	2	62	6	4110--25-0200
25	8	2	62	6	4110--25-0200A
35	6	2	62	8	4110--35-0200
50	10	3	62	8	4110--50-0300

MATERIALS:

THERMOSET PLASTICS

THERMO-PLASTICS

EXPANDED PVC

HARD WOODS

SOFT WOODS

COMPOSITE WOODS

COMPACT LAMINATES

Possible uses:

NON FERROUS METALS

FOAM

GLASS-FILLED PLASTICS (<40%)

PCD SUPERFINISH CUTTERS

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


NON FERROUS METALS

Possible uses:


HARD WOODS

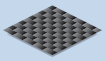

SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES


PHENOLIC MATERIALS


GLASS-FILLED PLASTICS (<40%)


CARBON FIBER REINFORCED POLYMERS

SUPERFINISH CUTTER FOR PMMA, PC, ETC.

DIAMOND (PCD) INSERT ON CARBIDE BODY

- Specific sharpening,
- Produces a translucent surface finish,
- For edges (machined but non-translucent pocket).

FINISHING CUTTER, ROUGHING WITH CARBIDE CUTTER FIRST, CONTACT US FOR MACHINING STRATEGY

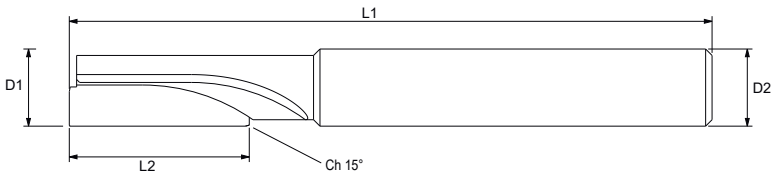
NEW


STRAIGHT CUT


MILLING / SLOTTING


PCD


SUPER FINISHING



Ø D1	Ø D2	L2	L1	Z	Part ref.
3	**6**	6	50	1	4500--0300
4	**6**	10	50	1	4500--0400
6	6	14	50	1	4500--0600
8	8	18	50	1	4500--0800
10	10	22	60	1	4500--1000

***Strengthened shank**

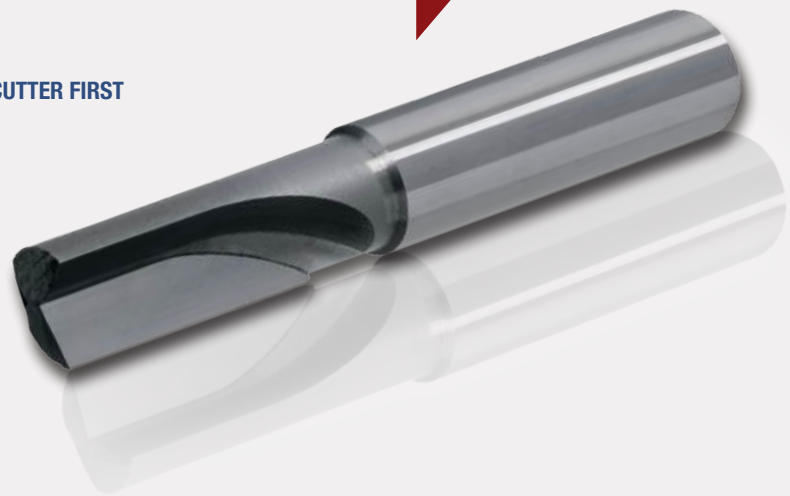
SUPERFINISH CUTTER FOR PMMA, PC, ETC.

DIAMOND (PCD) INSERT ON CARBIDE BODY

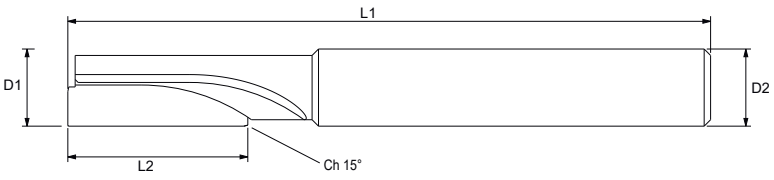
- Specific sharpening,
- Produces a translucent surface finish,
- For translucent edges and pockets.

FINISHING CUTTER, ROUGHING WITH CARBIDE CUTTER FIRST
CONTACT US FOR MACHINING STRATEGY

NEW



STRAIGHT CUT | MILLING / SLOTTING | PCD | SUPER FINISHING



Ø D1	Ø D2	L2	L1	Z	Part ref.
3	**6**	6	50	1	4600--0300
4	**6**	10	50	1	4600--0400
6	6	14	50	1	4600--0600
8	8	18	50	1	4600--0800
10	10	22	60	1	4600--1000
12	12	22	60	1	4600--1200

***Strengthened shank**

MATERIALS:


THERMOSET PLASTICS


THERMO-PLASTICS


NON FERROUS METALS

Possible uses:


HARD WOODS

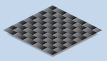

SOFT WOODS


COMPOSITE WOODS


COMPACT LAMINATES


PHENOLIC MATERIALS


GLASS-FILLED PLASTICS (<40%)


CARBON FIBER REINFORCED POLYMERS

FINE-TOOTHED ROUTERS FOR COMPOSITES

MATERIALS:

PHENOLIC MATERIALS

GLASS-FILLED PLASTICS

CARBON FIBER REINFORCED POLYMERS

FINE-TOOTHED CARBIDE ROUTER CUTTER.

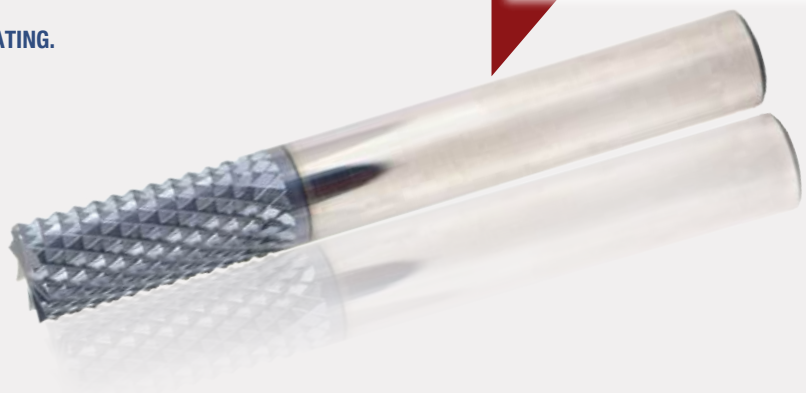
AVAILABLE WITH:

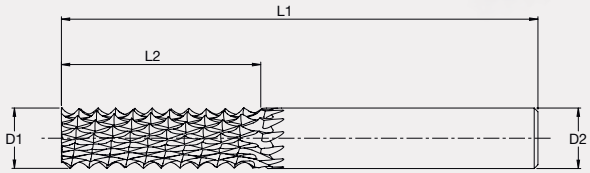
- 4 FRONT CUT VERSIONS

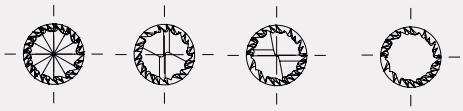
- WITH OR WITHOUT ALTIN OR DIAMOND COATING.

Cylindrical shank.

NEW







BURR FRONT CUT | DRILL POINT | END MILL Z2 | NO END CUT

MILLING / SLOTTING | DIAMOND COATED | COATED TOOL | SHORT TOOL | DIAGER STANDARD

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
Drill point	Uncoated	3	3	10	45	83240-0300
Drill point	Uncoated	4	4	12	50	83240-0400A
Drill point	Uncoated	4	4	18	60	83240-0400B
Drill point	Uncoated	6	6	18	55	83240-0600A
Drill point	Uncoated	6	6	25	70	83240-0600B
Drill point	Uncoated	8	8	22	60	83240-0800A
Drill point	Uncoated	8	8	25	80	83240-0800B
Drill point	Uncoated	10	10	25	80	83240-1000A
Drill point	Uncoated	10	10	30	90	83240-1000B
Drill point	Uncoated	12	12	30	90	83240-1200A
Drill point	Uncoated	12	12	35	100	83240-1200B
Drill point	ALTIN	3	3	10	45	83240A0300
Drill point	ALTIN	4	4	12	50	83240A0400A
Drill point	ALTIN	4	4	18	60	83240A0400B
Drill point	ALTIN	6	6	18	55	83240A0600A
Drill point	ALTIN	6	6	25	70	83240A0600B
Drill point	ALTIN	8	8	22	60	83240A0800A
Drill point	ALTIN	8	8	25	80	83240A0800B
Drill point	ALTIN	10	10	25	80	83240A1000A
Drill point	ALTIN	10	10	30	90	83240A1000B
Drill point	ALTIN	12	12	30	90	83240A1200A
Drill point	ALTIN	12	12	35	100	83240A1200B
Drill point	Diamond	3	3	10	45	83240D0300
Drill point	Diamond	4	4	12	50	83240D0400A
Drill point	Diamond	4	4	18	60	83240D0400B
Drill point	Diamond	6	6	18	55	83240D0600A

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
Drill point	Diamond	6	6	25	70	83240D0600B
Drill point	Diamond	8	8	22	60	83240D0800A
Drill point	Diamond	8	8	25	80	83240D0800B
Drill point	Diamond	10	10	25	80	83240D1000A
Drill point	Diamond	10	10	30	90	83240D1000B
Drill point	Diamond	12	12	30	90	83240D1200A
Drill point	Diamond	12	12	35	100	83240D1200B
End mill	Uncoated	3	3	10	45	83250-0300
End mill	Uncoated	4	4	12	50	83250-0400A
End mill	Uncoated	4	4	18	60	83250-0400B
End mill	Uncoated	6	6	18	55	83250-0600A
End mill	Uncoated	6	6	25	70	83250-0600B
End mill	Uncoated	8	8	22	60	83250-0800A
End mill	Uncoated	8	8	25	80	83250-0800B
End mill	Uncoated	10	10	25	80	83250-1000A
End mill	Uncoated	10	10	30	90	83250-1000B
End mill	Uncoated	12	12	30	90	83250-1200A
End mill	Uncoated	12	12	35	100	83250-1200B
End mill	ALTIN	3	3	10	45	83250A0300
End mill	ALTIN	4	4	12	50	83250A0400A
End mill	ALTIN	4	4	18	60	83250A0400B
End mill	ALTIN	6	6	18	55	83250A0600A
End mill	ALTIN	6	6	25	70	83250A0600B
End mill	ALTIN	8	8	22	60	83250A0800A
End mill	ALTIN	8	8	25	80	83250A0800B
End mill	ALTIN	10	10	25	80	83250A1000A

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
End mill	ALTIN	10	10	30	90	83250A1000B
End mill	ALTIN	12	12	30	90	83250A1200A
End mill	ALTIN	12	12	35	100	83250A1200B
End mill	Diamond	3	3	10	45	83250D0300
End mill	Diamond	4	4	12	50	83250D0400A
End mill	Diamond	4	4	18	60	83250D0400B
End mill	Diamond	6	6	18	55	83250D0600A
End mill	Diamond	6	6	25	70	83250D0600B
End mill	Diamond	8	8	22	60	83250D0800A
End mill	Diamond	8	8	25	80	83250D0800B
End mill	Diamond	10	10	25	80	83250D1000A
End mill	Diamond	10	10	30	90	83250D1000B
End mill	Diamond	12	12	30	90	83250D1200A
End mill	Diamond	12	12	35	100	83250D1200B
Burr front cut	Uncoated	3	3	10	45	83260-0300
Burr front cut	Uncoated	4	4	12	50	83260-0400A
Burr front cut	Uncoated	4	4	18	60	83260-0400B
Burr front cut	Uncoated	6	6	18	55	83260-0600A
Burr front cut	Uncoated	6	6	25	70	83260-0600B
Burr front cut	Uncoated	8	8	22	60	83260-0800A
Burr front cut	Uncoated	8	8	25	80	83260-0800B
Burr front cut	Uncoated	10	10	25	80	83260-1000A
Burr front cut	Uncoated	10	10	30	90	83260-1000B
Burr front cut	Uncoated	12	12	30	90	83260-1200A
Burr front cut	Uncoated	12	12	35	100	83260-1200B
Burr front cut	ALTIN	3	3	10	45	83260A0300
Burr front cut	ALTIN	4	4	12	50	83260A0400A
Burr front cut	ALTIN	4	4	18	60	83260A0400B
Burr front cut	ALTIN	6	6	18	55	83260A0600A
Burr front cut	ALTIN	6	6	25	70	83260A0600B
Burr front cut	ALTIN	8	8	22	60	83260A0800A
Burr front cut	ALTIN	8	8	25	80	83260A0800B
Burr front cut	ALTIN	10	10	25	80	83260A1000A
Burr front cut	ALTIN	10	10	30	90	83260A1000B
Burr front cut	ALTIN	12	12	30	90	83260A1200A
Burr front cut	ALTIN	12	12	35	100	83260A1200B
Burr front cut	Diamond	3	3	10	45	83260D0300
Burr front cut	Diamond	4	4	12	50	83260D0400A
Burr front cut	Diamond	4	4	18	60	83260D0400B
Burr front cut	Diamond	6	6	18	55	83260D0600A
Burr front cut	Diamond	6	6	25	70	83260D0600B
Burr front cut	Diamond	8	8	22	60	83260D0800A
Burr front cut	Diamond	8	8	25	80	83260D0800B
Burr front cut	Diamond	10	10	25	80	83260D1000A
Burr front cut	Diamond	10	10	30	90	83260D1000B
Burr front cut	Diamond	12	12	30	90	83260D1200A
Burr front cut	Diamond	12	12	35	100	83260D1200B
No end cut	Uncoated	3	3	10	45	83270-0300
No end cut	Uncoated	4	4	12	50	83270-0400A
No end cut	Uncoated	4	4	18	60	83270-0400B
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No end cut	Uncoated	8	8	25	80	83270-0800B
No end cut	Uncoated	10	10	25	80	83270-1000A
No end cut	Uncoated	10	10	30	90	83270-1000B
No end cut	Uncoated	12	12	30	90	83270-1200A
No end cut	Uncoated	12	12	35	100	83270-1200B
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No end cut	ALTIN	4	4	18	60	83270A0400B
No end cut	ALTIN	6	6	18	55	83270A0600A
No end cut	ALTIN	6	6	25	70	83270A0600B
No end cut	ALTIN	8	8	22	60	83270A0800A
No end cut	ALTIN	8	8	25	80	83270A0800B
No end cut	ALTIN	10	10	25	80	83270A1000A
No end cut	ALTIN	10	10	30	90	83270A1000B
No end cut	ALTIN	12	12	30	90	83270A1200A
No end cut	ALTIN	12	12	35	100	83270A1200B
No end cut	Diamond	3	3	10	45	83270D0300
No end cut	Diamond	4	4	12	50	83270D0400A
No end cut	Diamond	4	4	18	60	83270D0400B
No end cut	Diamond	6	6	18	55	83270D0600A
No end cut	Diamond	6	6	25	70	83270D0600B
No end cut	Diamond	8	8	22	60	83270D0800A
No end cut	Diamond	8	8	25	80	83270D0800B
No end cut	Diamond	10	10	25	80	83270D1000A
No end cut	Diamond	10	10	30	90	83270D1000B
No end cut	Diamond	12	12	30	90	83270D1200A
No end cut	Diamond	12	12	35	100	83270D1200B

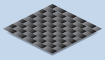
FINE TEETH

MEDIUM-TOOTHED ROUTERS FOR COMPOSITES

MATERIALS:


PHENOLIC MATERIALS


GLASS-FILLED PLASTICS

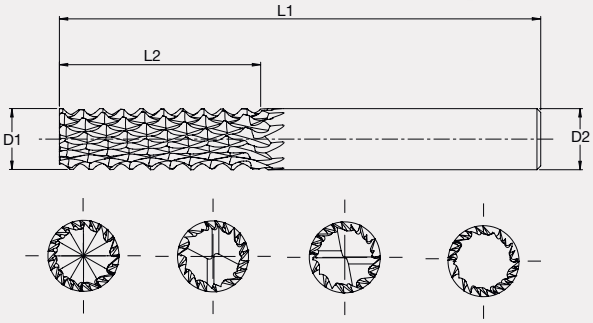

CARBON FIBER REINFORCED POLYMERS

MEDIUM-TOOTHED CARBIDE ROUTER CUTTER.

AVAILABLE WITH:
- 4 FRONT CUT VERSIONS
- WITH OR WITHOUT ALTIN OR DIAMOND COATING.

Cylindrical shank.

NEW



BURR FRONT CUT | DRILL POINT | END MILL Z2 | NO END CUT


MILLING / SLOTTING


DIAMOND COATED

COATED TOOL

DIAGER STANDARD

SHORT TOOL

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
Drill point	Uncoated	3	6	12	30	83280-0300
Drill point	Uncoated	4	4	15	50	83280-0400A
Drill point	Uncoated	4	4	20	60	83280-0400B
Drill point	Uncoated	6	6	18	60	83280-0600A
Drill point	Uncoated	6	6	25	70	83280-0600B
Drill point	Uncoated	8	8	20	60	83280-0800A
Drill point	Uncoated	8	8	30	80	83280-0800B
Drill point	Uncoated	10	10	25	70	83280-1000A
Drill point	Uncoated	10	10	35	80	83280-1000B
Drill point	Uncoated	12	12	30	80	83280-1200A
Drill point	Uncoated	12	12	40	90	83280-1200B
Drill point	ALTIN	3	6	12	30	83280A0300
Drill point	ALTIN	4	4	15	50	83280A0400A
Drill point	ALTIN	4	4	20	60	83280A0400B
Drill point	ALTIN	6	6	18	60	83280A0600A
Drill point	ALTIN	6	6	25	70	83280A0600B
Drill point	ALTIN	8	8	20	60	83280A0800A
Drill point	ALTIN	8	8	30	80	83280A0800B
Drill point	ALTIN	10	10	25	70	83280A1000A
Drill point	ALTIN	10	10	35	80	83280A1000B
Drill point	ALTIN	12	12	30	80	83280A1200A
Drill point	ALTIN	12	12	40	90	83280A1200B
Drill point	Diamond	3	6	12	30	83280D0300
Drill point	Diamond	4	4	15	50	83280D0400A
Drill point	Diamond	4	4	20	60	83280D0400B

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
Drill point	Diamond	6	6	18	60	83280D0600A
Drill point	Diamond	6	6	25	70	83280D0600B
Drill point	Diamond	8	8	20	60	83280D0800A
Drill point	Diamond	8	8	30	80	83280D0800B
Drill point	Diamond	10	10	25	70	83280D1000A
Drill point	Diamond	10	10	35	80	83280D1000B
Drill point	Diamond	12	12	30	80	83280D1200A
Drill point	Diamond	12	12	40	90	83280D1200B
End mill	Uncoated	3	6	12	30	83290-0300
End mill	Uncoated	4	4	15	50	83290-0400A
End mill	Uncoated	4	4	20	60	83290-0400B
End mill	Uncoated	6	6	18	60	83290-0600A
End mill	Uncoated	6	6	25	70	83290-0600B
End mill	Uncoated	8	8	20	60	83290-0800A
End mill	Uncoated	8	8	30	80	83290-0800B
End mill	Uncoated	10	10	25	70	83290-1000A
End mill	Uncoated	10	10	35	80	83290-1000B
End mill	Uncoated	12	12	30	80	83290-1200A
End mill	Uncoated	12	12	40	90	83290-1200B
End mill	ALTIN	3	6	12	30	83290A0300
End mill	ALTIN	4	4	15	50	83290A0400A
End mill	ALTIN	4	4	20	60	83290A0400B
End mill	ALTIN	6	6	18	60	83290A0600A
End mill	ALTIN	6	6	25	70	83290A0600B
End mill	ALTIN	8	8	20	60	83290A0800A

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
End mill	ALTIN	8	8	30	80	83290A0800B
End mill	ALTIN	10	10	25	70	83290A1000A
End mill	ALTIN	10	10	35	80	83290A1000B
End mill	ALTIN	12	12	30	80	83290A1200A
End mill	ALTIN	12	12	40	90	83290A1200B
End mill	Diamond	3	6	12	30	83290D0300
End mill	Diamond	4	4	15	50	83290D0400A
End mill	Diamond	4	4	20	60	83290D0400B
End mill	Diamond	6	6	18	60	83290D0600A
End mill	Diamond	6	6	25	70	83290D0600B
End mill	Diamond	8	8	20	60	83290D0800A
End mill	Diamond	8	8	30	80	83290D0800B
End mill	Diamond	10	10	25	70	83290D1000A
End mill	Diamond	10	10	35	80	83290D1000B
End mill	Diamond	12	12	30	80	83290D1200A
End mill	Diamond	12	12	40	90	83290D1200B
Burr front cut	Uncoated	3	6	12	30	83300-0300
Burr front cut	Uncoated	4	4	15	50	83300-0400A
Burr front cut	Uncoated	4	4	20	60	83300-0400B
Burr front cut	Uncoated	6	6	18	60	83300-0600A
Burr front cut	Uncoated	6	6	25	70	83300-0600B
Burr front cut	Uncoated	8	8	20	60	83300-0800A
Burr front cut	Uncoated	8	8	30	80	83300-0800B
Burr front cut	Uncoated	10	10	25	70	83300-1000A
Burr front cut	Uncoated	10	10	35	80	83300-1000B
Burr front cut	Uncoated	12	12	30	80	83300-1200A
Burr front cut	Uncoated	12	12	40	90	83300-1200B
Burr front cut	ALTIN	3	6	12	30	83300A0300
Burr front cut	ALTIN	4	4	15	50	83300A0400A
Burr front cut	ALTIN	4	4	20	60	83300A0400B
Burr front cut	ALTIN	6	6	18	60	83300A0600A
Burr front cut	ALTIN	6	6	25	70	83300A0600B
Burr front cut	ALTIN	8	8	20	60	83300A0800A
Burr front cut	ALTIN	8	8	30	80	83300A0800B
Burr front cut	ALTIN	10	10	25	70	83300A1000A
Burr front cut	ALTIN	10	10	35	80	83300A1000B
Burr front cut	ALTIN	12	12	30	80	83300A1200A
Burr front cut	ALTIN	12	12	40	90	83300A1200B
Burr front cut	Diamond	3	6	12	30	83300D0300
Burr front cut	Diamond	4	4	15	50	83300D0400A
Burr front cut	Diamond	4	4	20	60	83300D0400B
Burr front cut	Diamond	6	6	18	60	83300D0600A
Burr front cut	Diamond	6	6	25	70	83300D0600B
Burr front cut	Diamond	8	8	20	60	83300D0800A
Burr front cut	Diamond	8	8	30	80	83300D0800B
Burr front cut	Diamond	10	10	25	70	83300D1000A
Burr front cut	Diamond	10	10	35	80	83300D1000B
Burr front cut	Diamond	12	12	30	80	83300D1200A

Drilling point	Coating	Ø D1 mm	Ø D2 mm	L2 mm	L1 mm	Part ref.
Burr front cut	Diamond	12	12	40	90	83300D1200B
No end cut	Uncoated	3	6	12	30	83310-0300
No end cut	Uncoated	4	4	15	50	83310-0400A
No end cut	Uncoated	4	4	20	60	83310-0400B
No end cut	Uncoated	6	6	18	60	83310-0600A
No end cut	Uncoated	6	6	25	70	83310-0600B
No end cut	Uncoated	8	8	20	60	83310-0800A
No end cut	Uncoated	8	8	30	80	83310-0800B
No end cut	Uncoated	10	10	25	70	83310-1000A
No end cut	Uncoated	10	10	35	80	83310-1000B
No end cut	Uncoated	12	12	30	80	83310-1200A
No end cut	Uncoated	12	12	40	90	83310-1200B
No end cut	ALTIN	3	6	12	30	83310A0300
No end cut	ALTIN	4	4	15	50	83310A0400A
No end cut	ALTIN	4	4	20	60	83310A0400B
No end cut	ALTIN	6	6	18	60	83310A0600A
No end cut	ALTIN	6	6	25	70	83310A0600B
No end cut	ALTIN	8	8	20	60	83310A0800A
No end cut	ALTIN	8	8	30	80	83310A0800B
No end cut	ALTIN	10	10	25	70	83310A1000A
No end cut	ALTIN	10	10	35	80	83310A1000B
No end cut	ALTIN	12	12	30	80	83310A1200A
No end cut	ALTIN	12	12	40	90	83310A1200B
No end cut	Diamond	3	6	12	30	83310D0300
No end cut	Diamond	4	4	15	50	83310D0400A
No end cut	Diamond	4	4	20	60	83310D0400B
No end cut	Diamond	6	6	18	60	83310D0600A
No end cut	Diamond	6	6	25	70	83310D0600B
No end cut	Diamond	8	8	20	60	83310D0800A
No end cut	Diamond	8	8	30	80	83310D0800B
No end cut	Diamond	10	10	25	70	83310D1000A
No end cut	Diamond	10	10	35	80	83310D1000B
No end cut	Diamond	12	12	30	80	83310D1200A
No end cut	Diamond	12	12	40	90	83310D1200B

MEDIUM
TEETH

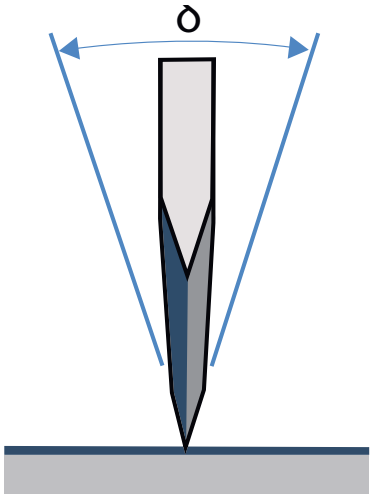
DIAGER INDUSTRIE NOW OFFERS A NEW RANGE OF BLADES FOR DIFFERENT INDUSTRIAL SECTORS: PACKAGING, SIGNAGE, GRAPHIC ARTS, AERONAUTICS, AUTOMOTIVE, TEXTILES AND FOOTWEAR, ETC.

EXTENDED RANGE

SOLID CARBIDE
KNIFE BLADES

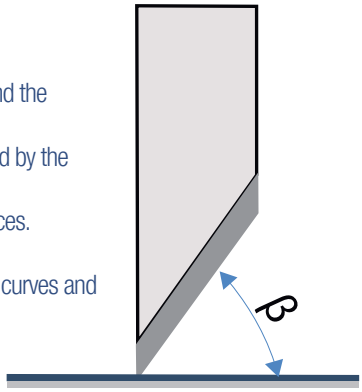
CUTTING SOLUTIONS DESIGNED TO MEET THE REQUIREMENTS OF MANY DIFFERENT PRESTIGIOUS AND RECOGNISED CNC TURNING CENTRES, CUTTING TABLES AND PLOTTERS IN THE SECTOR.

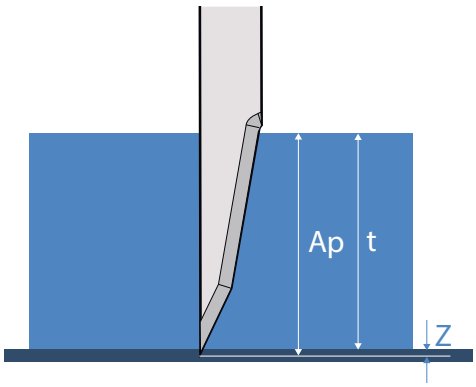
All our blades are characterised by optimised geometry, tight manufacturing tolerances and fine cutting edge sharpness.
The carbide used in our blades is of the highest quality and the grade chosen is based on the applications and materials to be machined.
The specifications provided for each blade include a list of materials they can be used on.



CORNER ANGLE:
This is a key element in the relationship between the cutting force of the blade and its stiffness.

RAKE ANGLE:
This is the angle formed between the surface of the material and the cutting edge.
It has a direct impact on the cutting force and overcut generated by the blade.
With drag blades, a narrow rake angle results in lower drag forces.
It may allow faster cutting but also produces a bigger overcut.
A narrower rake angle can be used for paths that include large curves and long straight sections.



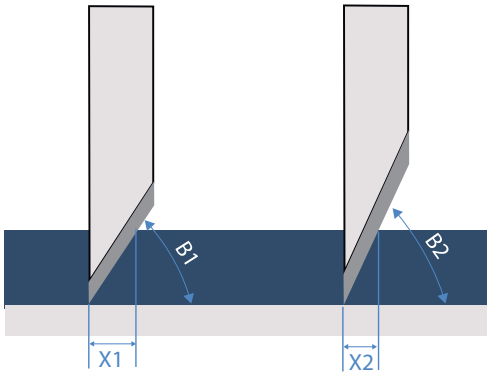


t: Material thickness
Z: Depth of relief on the Z axis.
Ap (Depth of cut) = t + z

MAXIMUM CUTTING DEPTH (AP):

MAXIMUM CUTTING DEPTH (AP):
The maximum cutting depth specified for each blade is determined by its useful cutting edge length.
However, it is essential to remember that the intrinsic properties of each material will have a decisive impact on the maximum recommended depth.
Remember to take both the depth set and the thickness of the material into account.

THE OVERCUT:



The overcut is the measurement between the axis of symmetry (or centre of the axis of rotation) and the point at which the cutting edge intersects with the material in the direction of feed. The rake angle (ß) of the blade has a direct relationship with the overcut it generates, and is crucial when it comes to choosing the appropriate product reference for the type of work to be carried out. For example:

Scenario A: The smaller the rake angle of the blade, the larger the overcut generated. This type of blade is characterized by the production of low cutting forces (in drag cutting), allowing a high feed speed and good stability of the process. It is an ideal choice for cutting long straight sections and cutting operations that include open curves and large radii.

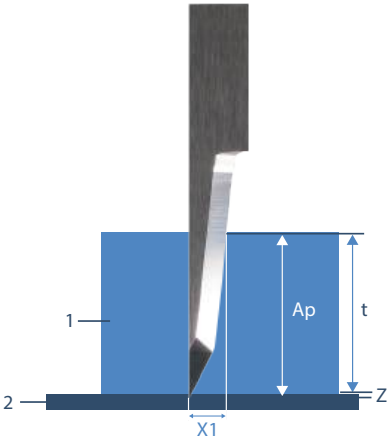
Scenario B: The larger the rake angle, the smaller the overcut generated by the blade. Blades that generate little overcut are therefore the ideal choice for cutting small radii and intricate details in complex geometries.

ADVICE

Overcutting distorts the cutting edges.
For cuts with a small margin of error, choose a blade that generates a smaller overcut.

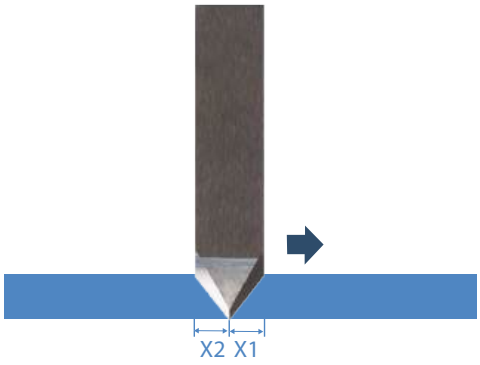
CALCULATION OF THE OVERCUT

Depending on cutting depth Ap, the geometry of the blade will produce a different level of overcut.
How to calculate the overcut based on the blade used and the material to be cut.



EXAMPLE WITH BLADE Z-DIA-20

Calculation for Z-DIA-20
Formula x1 = 1.2 +(0.11 x Ap)
Cutting depth Ap = 10.2 mm
Pre-cut: x1 = 2.322 mm



EXAMPLE WITH BLADE Z-DIA-11

Calculation for Z-DIA-11
Formula x1 and x2 = 0.58 x Ap
Cutting depth Ap = 5.2 mm
Pre-cut: x1 = 3.016 mm
Post-cut: x2 = 3.016 mm

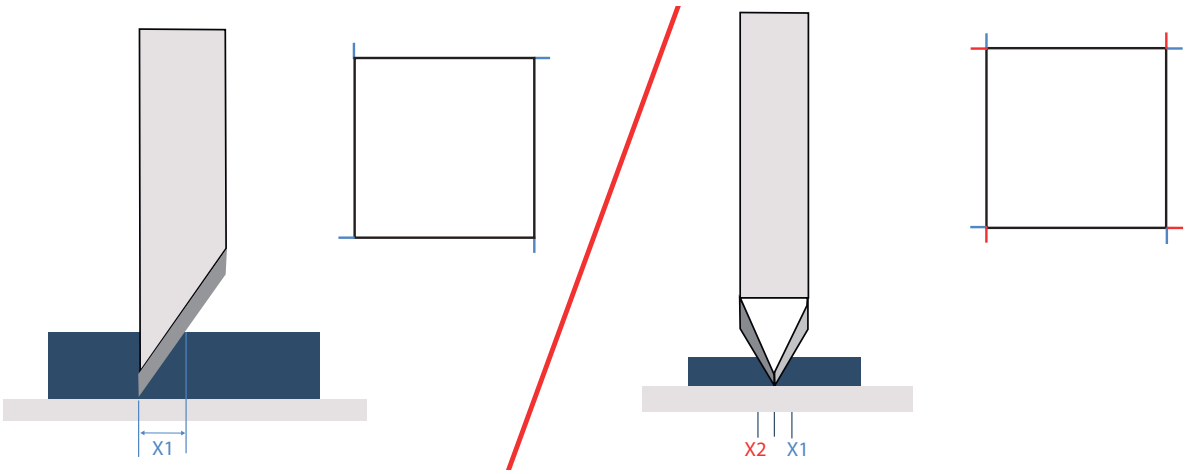
1 - Material
2 - Cutting layer
t - Thickness of material

Z - Depth set
Ap - Cutting depth = thickness of material t + depth set z

x1 – Pre-cut
x2 - Post-cut

Cutting depth Ap is composed of material thickness t and defined depth z.
Enter these values into the formula as they are listed in the product description for each blade. The result will be the pre-cut/post-cut in mm.

PRE-CUT AND POST-CUT CONCEPTS:



Pre-cut: x1 is the distance between the centre of the axis of rotation and the first point where the cutting edge cuts the surface of the material in the direction of travel.
A single-edged blade will create an overcut only at the front.

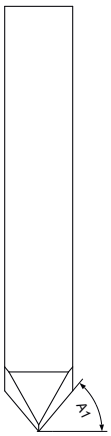
Post-cut: x2 is the measurement between the centre of the axis of rotation and the last point where the cutting edge cuts the surface of the material.
A double-edged blade will generate an overcut at both the front (pre-cut, x1) and the back.

THE DIFFERENT BLADE SHAPES:

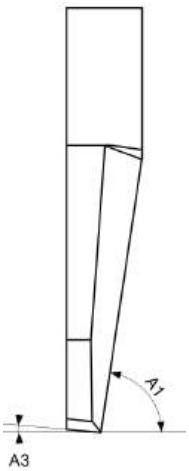
The following blades are available for use in different tools:

- Drag blades: used in non-power tools
- Oscillating blades: used in oscillating tools
- Rotary blades: decagonal (ten-sided) blades

DRAG BLADES



OSCILLATING FLAT BLADES



OSCILLATING POINTED BLADES

DRAG BLADES

Drag knife blades are used in combination with non-power tools

ROUND BLADE (E.G.: Z-DIA-1)

FLAT BLADE (E.G.: Z-DIA-10)

MATBOARD CUTTING BLADES (E.G.: Z-DIA-34)

V-CUT BLADES (E.G.: Z-DIA-70)

- Maximum cutting speed; inexpensive to purchase and maintain
- High cutting force
- Particularly suitable for films, papers, thin folding cartons, banners, etc.
- Most cost-effective cutting option as the purchase price of associated tools is lower than that of power tools.

OSCILLATING BLADES

FLAT BLADE (E.G.: Z-DIA-43)

ROUND BLADE (E.G.: Z-DIA-20)

The oscillating tool is especially recommended for cutting thick and hard materials.

The oscillating motion of the blade reduces the drag force exerted on the material in the direction of travel. However, to achieve this, the feed rate must be precisely adjusted in accordance with the oscillating blade selected and the oscillation frequency.

The choice of an appropriate oscillating blade is determined largely by the contour to be cut:

- Flat blades for large radii, and straight and large pieces.
- Very sharp and pointed blades should only be used for cutting small radii.

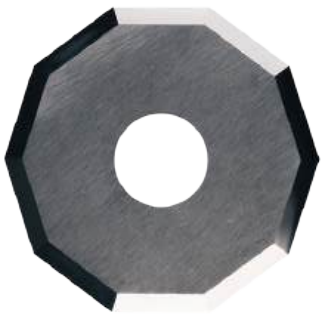
The feed speed must be reduced to obtain a good quality cut.

ROTARY BLADES

Decagonal (ten-sided) blades e.g.: Z-DIA-50

- Very high cutting speed
- Suitable for large radii, straight and/or large pieces
- Recommended for breathable materials such as textiles, carbon fibre, fibreglass, etc.
- Very large overcut

ROTARY BLADE (E.G.: Z-DIA-50)



NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
Z-DIA-1 	31699	Zünd: Z1 Esko: BLD-KC101, G42438499 iEcho: E1 Blackman & White: BW Kiss Cut 1	Ø3	35°	1	18.5	Hard metal blade for cutting any standard self-adhesive vinyls. Round-stock drag blade for self-adhesive vinyls, masking film, cardstock and pattern materials. The cutting geometry is designed to facilitate vinyl peeling operations and to allow good separation between the adhesive and substrate. **Pre-cut: 1.43xAp** **Recommended materials:** - Self-adhesive vinyls, - Masking film, - Cardstock, - Pattern materials, - Magnetic foil.
Z-DIA-2 	31540	Zünd: Z2 Esko: BLD-KC102, G42438507 Blackman & White: BW Kiss Cut 2	Ø3	35°	1	18.5	Similar to model Z-DIA-1 but more suitable for cutting harder adhesive sheets, such as reflective and thick vinyl, as its edge design generates less drag force. **Pre-cut: 1.43xAp** **Recommended materials:** - Self-adhesive film, - Magnetic foil, - Reflective sheet, - Pattern cardboard, - Polycarbonates, - Masking sheet.
Z-DIA-3 	31385	Zünd: Z3 Esko: BLD-KC103, G42458323 Blackman & White: BW Kiss Cut 3	Ø3	35°	1	18.5	Stable double-edged blade, ideal for cutting small numbering and lettering. **Pre-cut: 1.43xAp** **Post-cut: 1.43xAp** **Recommended materials:** - Self-adhesive vinyls, - Masking film.
Z-DIA-4 	32184	Zünd: Z4 Esko: BLD-KC104, G42447532 Blackman & White: BW Kiss Cut 4	Ø3	55°	2.1	18.5	Sharpened blade tip with small overcut for fine details on adhesive sheets. Its properties allow safe separation of the sheet and adhesive to facilitate discards. **Pre-cut: 0.7xAp** **Recommended materials:** - Sandblasted vinyls, - Reflective vinyls, - Cardstock, - Pattern materials.
Z-DIA-5 		Zünd: Z5 Esko: BLD-KC105, G42458331	Ø3	60°	2.6	18.5	Very small overcut for vinyls and soft materials. **Pre-cut: 0.58xAp** **Recommended materials:** - Sandblasted vinyls, - Reflective vinyls, - Cardstock, - Pattern materials, - Polycarbonate, - Canvas (tarpaulin).
Z-DIA-6 	32086	Zünd: Z6	Ø3	45°	1.5	18.5	Knife for cutting any standard self-adhesive vinyls. Stable knife with long life expectancy. **Pre-cut: 1xAp** **Recommended materials:** - Vinyl, - Self-adhesive, magnetic, reflective and masking vinyls, - Magnetic foil, - Plastic – PC, - Tarpaulin materials.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
W-DIA-1 		ZÜND: W1	Ø3	35°	1	18.5	Hard metal blade for cutting any standard self-adhesive vinyls. Round-stock drag blade for self-adhesive vinyls, masking film, cardstock and pattern materials. The cutting geometry is designed to facilitate vinyl peeling operations and to allow good separation between the adhesive and substrate. **Pre-cut: 1.43xAp** **Recommended materials:** - Self-adhesive vinyls, - Masking film, - Cardstock, - Pattern materials, - Magnetic foil.
W-DIA-2 		Zünd: W2	Ø3	35°	1	18.5	Similar to model W-DIA-1 but more suitable for cutting harder adhesive sheets, such as reflective and thick vinyl, as its edge design generates less drag force. **Pre-cut: 1.43xAp** **Recommended materials:** - Self-adhesive film, - Magnetic foil, - Reflective sheet, - Pattern cardboard, - Polycarbonates, - Masking sheet.
W-DIA-5 		ZÜND: W5	Ø3	35°	1	18.5	Stable double-edged blade, ideal for cutting small numbering and lettering. **Pre-cut: 1.73xAp / Post-cut: 1.73xAp** **Recommended materials:** - Self-adhesive vinyls, - Masking film.
W-DIA-6 	32063	ZÜND: W6 ESKO: BLD-KC154, G42458349	Ø3	30°	2.4	18.5	Robust all-round blade which exerts little drag force for large radii. **Pre-cut: 1.73xAp** **Recommended materials:** - Paper, - Polyester fabric, - Cardstock, - Tarpaulin, - Plastic film.
W-DIA-7 		ZÜND: W7	Ø3	30°	1.9	18.5	Robust all-round blade which exerts little drag force for large radii. **Pre-cut: 1.43xAp** **Recommended materials:** - Reinforced PVC, - Polyester fabric, - Paper, - Pattern cardboard, - Tarpaulin materials.
W-DIA-8 		Zünd: W8	Ø3	30°	1.6	18.5	Robust all-round double-edged blade. **Pre-cut: 1.73xAp / Post-cut: 1.73xAp** **Recommended materials:** - Reinforced PVC, - Polyester fabric, - Paper, - Pattern cardboard, - Tarpaulin materials.
W-DIA-9 		Zünd: W9	Ø3	45°	2.8	18.5	Robust all-round thinner blade which exerts little drag force for large radii. **Pre-cut: 1xAp** **Recommended materials:** - Paper, - Polyester fabric, - Cardstock, - Tarpaulin, - Plastic film.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-10 	31394	ZÜND Z10	1.5	50°	4.8	50 8	Stable and robust double-edged drag knife blade. Similar to Z-DIA-11, but with a larger overcut and longer life expectancy. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp** **Recommended materials:** - Self-adhesive, magnetic and reflective vinyls, - Corrugated plastic, - Hard foam, - Folding carton (100-1500 g), - Magnetic foil, - PVC (frontlit/backlit), - Polycarbonate (PC), - Polypropylene (PP), - Paper, - Polyester fabric (and other coated fabrics), - Tarpaulin materials.
DF-DIA-112 	31533	ESKO: BLD-DF112, G42444299 SUMMA: 500-9802 BLACKMAN & WHITE: BW112	1.5	50°	4.8	25 8	Same as Z-DIA-10 but in 25 mm length. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp**
Z-DIA-12 	31809	Zünd Z12 (Z10 x 2) Esko: BLD-DF212, G42441196 Blackman & White: BW12 iEcho: E12 Dyss: AGDYB140	1.5	50°	4.8	50 8	Same as Z-DIA-10 but double-sided. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp**
Z-DIA-11 	31382	ZÜND Z11	1.5	60°	6.9	50 8	Similar model to Z-DIA-10, but with a sharper tip design and larger rake angle to generate a smaller overcut. All-round blade suitable for cutting hard thin materials. Shorter life expectancy than Z-DIA-10. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp** **Recommended materials:** - Self-adhesive, magnetic and reflective vinyls, - Corrugated plastic, - Hard foam, - Folding carton (100-1500 g), - Magnetic foil, - PVC (frontlit/backlit), - Polycarbonate (PC), - Polypropylene (PP), - Paper, polyester fabric (and other coated fabrics), - Tarpaulin materials.
DF-DIA-113 	31564	ESKO: BLD-DF113, G42443036 SUMMA: 500-9803 BLACKMAN & WHITE: BW113	1.5	60°	6.9	25 8	Same as Z-DIA-11 but in 25 mm length. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp**
Z-DIA-13 	31335	Zünd Z13 (Z11 x 2) Esko: BLD-DF213, G42441204 Blackman & White: BW13 iEcho: E13 Atom: 01033925	1.5	60°	6.9	50 8	Same as Z-DIA-11 but double-sided. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp**

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-16 	31555	ZÜND: Z16 ESKO: BLD-SF216, G42441212 BLACKMAN & WHITE: BW16 IECHO: E16 MÉCANUMÉRIC: 100610440	0.64	55°	7.4	25 5.65	Single-edged carbide blade for all-round use. Stable geometry mainly suitable for soft and flexible materials. **Pre-cut: 0.75xAp** **Recommended materials:** - Magnetic material, - Polycarbonate; PC, - Polyester film, - Coating cover, - Paper (100-400 g) - Folding carton (100-1500 g) - Corrugated cardboard up to triple wall.
Z-DIA-17 	31531	Zünd: Z17 Esko: BLD-SF217, G42441220 Blackman & White: BW17 iEcho: E17 Mécanumériс: 100610390	0.64	65°	12	25 5.65	Blade for cutting thin materials. The overcut is smaller, but the blade exerts more drag force on the material than Z-DIA-16. The ideal choice for cutting complex shapes. For best results, use an oscillating knife. **Pre-cut: 0.47xAp** **Recommended materials:** - Magnetic material, - Polycarbonate; PC, - Polyester film, - Coating cover, - Paper (100-400 g) - Folding carton (100-1500 g).
Z-DIA-20 	31505	Zünd: Z20 Esko: BLD-SF420, G42421974 Summa: 500-9812, 500-0812 Blackman & White: BW20 Aristo: 910.313	0.64	65° 85°	14	25 4	Very fine blade with minimal overcut. Designed to cut small radii and intricate detail in complex geometries. Long life expectancy on rubber materials. **Pre-cut: 1.2 +(0.11xAp)** **Recommended materials:** - Corrugated cardboard; flutes B, C, BC, EB and E, - Folding carton (100-1500 g), - Light foam core, - Foam, - Ejection rubber, - Felt.
Z-DIA-21 	31506	Zünd: Z21 Esko: BLD-SF421, G42458257 Summa: 500-9811, 500-0811 Blackman & White: BW21 iEcho: E21 Aristo: 910.314 Mécanumériс: 100610370	0.64	65° 85°	17.5	28 4	Blade similar to Z-DIA20 but with longer cutting length. Very fine blade and small overcut. Designed to cut small radii and intricate detail in complex geometries. **Pre-cut: 1.6 +(0.11xAp)** **Recommended materials:** - Corrugated cardboard, - Foam board, - Light foam core, - Foam, - Rubber, ejection rubber, - Felt.
Z-DIA-22 	31700	Zünd: Z22 Esko: BLD-SF422, G42458265 Summa: 500-9810, 500-0810 Blackman & White: BW22 iEcho: E22 Aristo: 910.315 Mécanumériс: 100610380	0.64	65° 80°	14.5	25 4	Stable and robust blade with narrow blade geometry and small overcut, designed to cut small radii and intricate detail in complex geometries. Similar to Z-DIA-20, but more robust and with a larger overcut. **Pre-cut: 1.2 +(0.2xAp)** **Recommended materials:** - Corrugated cardboard; flutes B, C, BC, EB and E, - Foam and light foam core, - PP honeycomb panels, - Folding carton (100-1500 g), - Polyester fabric; coated textiles, - Rubber, ejection rubber, - Magnetic material, - Corrugated plastic, - Felt.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-23 		Zünd: Z23 Summa: 500-9815, 500-0815. iEcho: E23	0.64	45° 85°	22	33 4	Fine, long blade designed to cut small radii and intricate detail in thicker materials. **Pre-cut: 1.8 +(0.1xAp)** **Recommended materials:** - Foam, - Insulating blanket, - Sandwich panel, - Corrugated cardboard, - Corrugated plastic.
Z-DIA-25 		Zünd: Z25 Esko: BLD-SF425, G42458273 Summa: 500-9813, 500-0813	0.64	0° 65°	8.7	25 5.65	Simple and robust oscillating blade with single edge and flat tip. **Pre-cut: 1.2 +(0.11xAp)** **Recommended materials:** - Woven materials, textiles, - Leather, - Corrugated cardboard, sandwich board, - Felt, - Rubber.
Z-DIA-26 		Zünd: Z26 Esko: BLD-SF426 G42458281 iEcho: E26 Mécanumériс: 100610400	0.64	22° 65°	8.7	25 5.65	Oscillating blade with precise blade geometry. Stable, robust and flat tip. **Pre-cut: 1.2 +(0.11xAp)** **Recommended materials:** - Textiles, nylon fabric, polyester fabric, - Aramid fibre, - Carbon fibre, - Fibreglass, - Leather, - Corrugated cardboard, sandwich board, - Felt, - Rubber.
Z-DIA-28 		Zünd: Z28 Esko: BLD-SF428 G42458307 Summa: 500-9814, 500-0814	0.64	45° 86°	26	38 4	Long oscillating blade for thick materials. **Pre-cut: 1.9 +(0.07xAp)** **Recommended materials:** - Foam, - Insulating mat, - Corrugated cardboard, - Foam board.
Z-DIA-29 		Zünd: Z29 Esko: BLD-SF429 G42458315	0.64	45° 86.5°	31	43 4	Long oscillating blade for thick materials. Similar to Z-DIA-28 but longer. **Pre-cut: 1.9 +(0.06xAp)** **Recommended materials:** - Foam, - Insulating mat, - Corrugated cardboard, - Foam board.
Z-DIA-30 		Zünd: Z30 Esko: BLD-SF230 G42458364	0.64	50°	2	14.5 3.3	Small mat-cutting blade for cutting straight lines and sharp corners on the back of matboard. **Recommended materials:** - Frame cutting, - Matboard materials (rigid cardboard).
Z-DIA-31 		Zünd: Z31 Esko: BLD-SF231 G42458372	0.64	60° 90°	2	14.5 3.3	Small mat-cutting blade. Multifunctional with two cutting edges for cutting straight lines on the back of matboard and radii on the front. **Recommended materials:** - Frame cutting, - Matboard materials (rigid cardboard).
Z-DIA-33 		Zünd: Z33 Esko: BLD-SF233 G42458380	0.64	52°	5	26 6.5	Large mat-cutting blade. Asymmetric model for cutting straight lines and sharp corners on the back of matboard. **Recommended materials:** - Frame cutting, - Matboard materials (rigid cardboard).

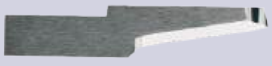
NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-34 		Zünd: Z34	0.64	57° 90°	8	25.8 6.5	Small mat-cutting blade. Multifunctional with two cutting edges for cutting straight lines on the back of matboard and radii on the front. **Recommended materials:** - Frame cutting, - Matboard materials (rigid cardboard).
Z-DIA-35 		Zünd: Z35	0.64	52	5	26 13	Small mat-cutting blade. Used to cut: - straight lines and sharp corners from the front of the blade holder. - straight lines and sharp corners on the front of the matboard. **Recommended materials:** - Frame cutting, - Matboard materials (rigid cardboard).
Z-DIA-41 		Zünd: Z41 iEcho: E41	0.64	15° 81.5°	11.3	25 5.65	Oscillating blade with small pre-cut and highly stable and robust blade geometry. **Pre-cut: 0.80 +(0.18xAp)** **Post-cut: 1.2 mm** **Recommended materials:** - Textiles, nylon fabric, polyester fabric, - Aramid fibre, - Carbon fibre, - Fibreglass, - Leather, - Corrugated cardboard, - Felt, - Rubber, - Foam.
Z-DIA-42 		Zünd: Z42 Blackman & White: BW42 iEcho: E42 Aristo: 910.324	0.64	15° 55°	7.8	28 6.3	Robust and stable oscillating blade with small pre-cut. Similar to Z-DIA-26 but with less pre-cut. **Pre-cut: 0.7xAp** **Post-cut: 0.8 mm** **Recommended materials:** - Textiles, nylon fabric, polyester fabric, - Aramid fibre, - Carbon fibre, - Fibreglass, - Leather, - Corrugated cardboard, - Felt, - Rubber, - Sandwich board.
Z-DIA-43 		Zünd: Z43	0.64	15° 55°	7.8	28 6.3	Robust oscillating blade similar to Z-DIA-42 but with smaller pre-cut and larger post-cut. **Pre-cut: -0.80 +(0.7xAp)** **Post-cut: 1.55 mm** **Recommended materials:** - Leather, - Woven materials, textiles, - Corrugated cardboard.
Z-DIA-44 	31541	Zünd: Z44 iEcho: E44	1.5	60° 90°	14	50 8	Flat, double-edged drag blade with centred tip. For less tough, fibrous materials. This blade offers properties similar to Z-DIA-11. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp** **Recommended materials:** - Carpet, - Tarpaulin materials.
Z-DIA-44-X2 		Zünd: Z44 X 2	1.5	60° 90°	14	50 8	Same as Z-DIA-44 but double-sided. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp**

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-46 	31447	Zünd: Z46 Esko: BLD-SF346, G42458406 Summa: 500-9807, 500-0807 Blackman & White: BW346	1.5	45° 90°	20	50 7.8	Blade with geometry designed to exert little drag force. Particularly suitable for light and flexible materials, such as materials with a foam core. **Pre-cut: 1xAp** **Recommended materials:** - Carpet, - Tarpaulin materials, - Corrugated plastic, - Light foam core, - PVC banners (frontlit/backlit), - Foam board (PUR), - Paper, - Polyester fabric.
SF-DIA-246 		Esko: BLD-SF246, G42458398	1.5	45° 90°	20	36 7.8	Same as Z-DIA-46 but 36 mm in length. **Pre-cut: 1xAp**
Z-DIA-60 	32137	Zünd: Z60	1.5	55° 81.5°	16.5	28 5.5	High-tenacity carbide blade designed for cutting hard and tough materials. Similar to Z-DIA-21 but 1.5 mm thick. **Pre-cut: 2.2 +(0.15xAp)** **Recommended materials:** - Corrugated plastic, - Corrugated cardboard, Folding carton, - Sandwich panel, - Felt, - Foam, - Saddle leather, leather, - Rubber, - Corrugated plastic, - PP honeycomb panels.
Z-DIA-61 	31419	Zünd: Z61 Blackman & White: BW61 iEcho: E61 Mécanumériс: 100610540	1.5	5° 81.5°	20	31 5.5	Oscillating blade with robust and heavy-duty geometry. **Pre-cut: 2.5 +(0.15xAp)** **Recommended materials:** - Corrugated plastic, - Corrugated cardboard, Folding carton, - Sandwich panel, - Felt, - Foam, - Saddle leather, leather, - Rubber, - Corrugated plastic, - PP honeycomb panels.
Z-DIA-62 		Zünd: Z62 iEcho: E62	0.64	15° 81.5°	13	28 5.5	Carbide oscillating blade with small pre-cut similar to Z-DIA-41 but with greater overall length and cutting length. **Pre-cut: 0.8 +(0.21xAp)** **Post-cut: 1.2 mm** **Recommended materials:** - Textiles, nylon fabric, polyester fabric, - Aramid fibre, - Carbon fibre, - Fibreglass, - Leather, - Corrugated cardboard, - Felt, - Rubber, - Foam.
Z-DIA-63 		Zünd: Z63	0.64	15° 81.5°	29	43 5.65	Oscillating blade with small pre-cut. Similar to Z-DIA-62 but longer and slightly less stable. **Pre-cut: 0.8 +(0.12xAp) / Post-cut: 1.2 mm** **Recommended materials:** - Foam board, - Insulating materials.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-68 	31567	Zünd: Z68	1.5	5° 83°	30	41.5 5.5	Blade for sandwich materials. **Pre-cut: 1.9 +(0.12xAp)** **Recommended materials:** - Sandwich panel, - Honeycomb, - Corrugated cardboard, - Corrugated plastic.
Z-DIA-69 		Zünd: Z69	1.5	5° 84°	36	47 5.5	Blade for sandwich materials. Same as Z-DIA-68 but longer. **Pre-cut: 1.7 +(0.11xAp)** **Recommended materials:** - Sandwich panel, - Honeycomb, - Corrugated cardboard, - Corrugated plastic.
Z-DIA-70 		Zünd: Z70 iEcho: E70	0.64	90°	15.6	43 5.65	Blade for a 45° cut. **Recommended materials:** - Corrugated cardboard with BCA flutes, sandwich board, - Light foam core, - Carpet, - Corrugated plastic.
Z-DIA-71 	31413	Zünd: Z71 iEcho: E71	1	90°	18.4	50 8	Blade for a 45° cut. Highly stable blade with long life expectancy. **Recommended materials:** - Corrugated cardboard with BCA flutes, sandwich board, - Light foam board, - Carpet, - Corrugated plastic.
Z-DIA-83 	31703	Zünd: Z83	1.5	50°	4.8	50 8	Centred and asymmetric drag blade. Asymmetric cutting edge with centred point - no offset - no wedge effect when cutting on the smooth side so no displacement or raising of the material. Ideal for printed documents. Prevents colour fragmentation. Equivalent to Z-DIA-10 but with cutting edge ground to 0.64 mm. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp** **Recommended materials:** - PVC, - Polycarbonate; PC, - Folding carton, - Hard foam, - Magnetic foil.
Z-DIA-101 	31565	Zünd: Z101	1.5	60°	6.9	50 8	Centred and asymmetric drag blade. Asymmetric cutting edge with centred point - no offset - no wedge effect when cutting on the smooth side so no displacement or raising of the material. Ideal for printed documents. Prevents colour fragmentation. Equivalent to Z-DIA-11, but with cutting edge ground to 0.64 mm. Offers better performance. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp** **Recommended materials:** - PVC, - Polycarbonate; PC, - Polypropylene; PP, - PP honeycomb panels, - Folding carton, Solid cardboard, - Hard foam (Forex®, Sintra®), - Magnetic foil.

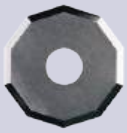
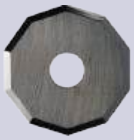
NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L W	Use
Z-DIA-102		Zünd: Z102	1.5	45°	7.8	50 8	Blade for light, soft materials. Exerts little drag force but has a larger overcut. **Pre-cut: 1xAp** **Recommended materials:** - Corrugated plastic, - PP honeycomb panels, - Light foam board, - PVC banners, - Paper, - Polyester fabric, - Tarpaulin.
Z-DIA-104		Zünd: Z104	0.64	17.5° 80°	11.5	29 5.65	Drag and oscillating blade. Blade designed for cutting thin materials. Suitable for small radii. **Pre-cut: 1.4 +(0.18xAp)** **Recommended materials:** - Corrugated cardboard (7 mm), - PP honeycomb panels, - Felt, - Foam.
Z-DIA-204		Zünd: Z204	0.64	19.5° 83°	10.5	28 4	Oscillating blade. Thin, sharp-pointed blade with minimal overcut for cutting fine detail and small radii. **Pre-cut: 0.67 +(0.12xAp)** **Recommended materials:** - Leather.
Z-DIA-205		Zünd: Z205	0.64	20° 36°	7	28 5.4	Robust oscillating blade. High-speed cutting. **Pre-cut: -0.80 +(1.38xAp)** **Post-cut: 1.55 mm** **Recommended materials:** Materials up to 2 mm thick. - Leather hide, - Fleece, - Felt, - Corrugated cardboard, - Carpet.
SF-DIA-224		Esko: BLD-SF224, G42423012	0.64	66°	10	39.5 7	Blade for all-round use. Stable geometry mainly suitable for soft and flexible materials. The top of the tip is ground to prevent snapping. **Pre-cut: 0.47xAp** **Recommended materials:** - Vinyl banners, - Solid cardboard, - Coating cover, - Paper (100-400 g) - Folding carton (100-1500 g).
SF-DIA-238		Esko: BLD-SF238, G42423020	0.64	52°	8.5	39.5 7	Carbide blade with one edge. High stability for cutting all types of carton and gasket materials up to 5 mm thick. **Pre-cut: 0.8xAp** **Recommended materials:** - Vinyl banners, - Coating cover, - Paper (100-400 g), - Folding carton (100-1500 g).
500-DIA-9801	31723	Summa: 500-9801	0.64	65°	8.6	25 4	Blade designed for detailed cutting through materials up to 6 mm thick. A spring-loaded gliding disk allows cutting of highly precise details. **Pre-cut: 0.47xAp** **Recommended materials:** - Adhesive PVC banner vinyl, - Cardboard (300-500 g), - Adhesive vinyl, - Expanded PVC panel <= 2 mm.

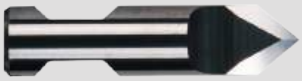
NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	Thick-ness	Angle	Max. Ap	L	Use
500-DIA-9804 	31724	Summa: 500-9804	1.5	50°	4.8	25 8	Bevelled cutting blade. Cuts V-shaped grooves in rubber and stiffer materials, such as decorative felt. Ideal for creating fold lines in solid cardboard. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp** **Recommended materials:** - Corrugated cardboard B-C-E (1.5-4 mm), - Honeycomb board, - Felt, - Rubber, - Solid cardboard.
Z-DIA-50 	31701	Zünd: Z50 Esko: BLD-RC110, G42444844 Blackman & White: BW50 Summa: 500-9860	0.6	36°	3.5	Ø25	Ten-sided decagonal Ø25 rotary blade similar to ZDIA-51 and Z-DIA-52, but with a smaller overcut and greater cutting force. **Recommended materials:** - Textiles, - Technical textiles, - Polyester fabric, - Carbon fibre, - Fibreglass, - Aramid fibre.
Z-DIA-51 	31702	Zünd: Z51 Blackman & White: BW51 iEcho: E51 Summa: 500-9861, 500-0861	0.6	36°	5	Ø28	Ten-sided decagonal Ø28 rotating blade. **Recommended materials:** - Textiles, - Technical textiles, - Polyester fabric, - Carbon fibre, - Fibreglass, - Aramid fibre.
Z-DIA-52 		Zünd: Z52 Blackman & White: BW52 iEcho: E52 Summa: 500-9862, 500-0862	0.6	36°	7	Ø32	Ten-sided decagonal Ø32 rotary blade similar to ZDIA-50 and Z-DIA-51, but with greater overcut and lower cutting force. **Recommended materials:** - Textiles, - Technical textiles, - Polyester fabric, - Carbon fibre, - Fibreglass, - Aramid fibre.
Z-DIA-53 		Zünd: Z53	0.6		2	Ø25.5	Ø25 rotary blade for cutting single-layer textiles. **Recommended materials:** - Aramid fibre, - Fibreglass, - Single-layer textiles, - Textiles.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
DR-DIA-6160 	31562	Esko: BLD-DR6160, G42445510 Mécanumèric: 100610660	Ø6	60°	5.2	25	Double-edged blade similar to DR-DIA-6161. Generates less overcut when cutting. For thinner flexible or rigid materials such as solid cardboard, vinyl and plastics. **Pre-cut: 0.58xAp; Post-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - PVC, expanded PVC (Forex®, Sintra®), - Foam board, - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Folding carton, Corrugated cardboard, Solid cardboard, - Flexographic plate (Cyrel®), - Gasket material.
DR-DIA-6161 	31726	Esko: BLD-DR6161, G42445528	Ø6	50°	3.5	25	Double-edged blade with optimized geometry. For thinner flexible or rigid materials such as solid cardboard, vinyl and plastics. **Pre-cut: 0.84xAp / Post-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - PVC, expanded PVC (Forex®, Sintra®), - Foam, - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Gasket material. - Corrugated or solid cardboard.
SR-DIA-6150 	31561	Esko: BLD-SR6150, G42445494	Ø6	60°	5.2	25	Single-edged blade specially designed for cutting thinner flexible materials. **Pre-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Foam board (PUR), - PVC, expanded PVC (Forex®, Sintra®), - Leather, - Polyester sheet, - Folding carton, corrugated or solid cardboard.
SR-DIA-6152 		Esko: BLD-SR6152, G42445502	Ø6	50°	3.6	25	Single-edged blade similar to SR-DIA-6150 but with 60° rake angle and therefore generates a smaller overcut. **Pre-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Foam board (PUR), - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - Polyester sheet, - Folding carton, corrugated or solid cardboard.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
SR-DIA-6159A 		Esko: BLD-SR6159A, G42448828	Ø6	50°	3.6	25	Asymmetric blade which ploughs all burrs and waste to one side. Ideal for thinner flexible or rigid materials of different types such as solid cardboard, vinyl, plastic, etc. **Pre-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - Flexographic plate (Cyrel®), - Gasket material, - Folding carton, corrugated or solid cardboard.
SR-DIA-6223 	31436	Esko: BLD-SR6223, G42437293	Ø6	66°	12	39	For soft to medium-hard materials. **Pre-cut: 0.47xAp** **Recommended materials:** - Rubber-backed carpet materials, - Corrugated cardboard, - Honeycomb panels, - Foam boards with paper surface, - Vinyl banner, - Foam board.
SR-DIA-6224 	31970	Esko: BLD-SR6224, G42438135	Ø6	66°	12	39	For rigid to hard materials. **Pre-cut: 0.47xAp** **Recommended materials:** - Rubber-backed carpet materials, - Corrugated cardboard, - Material with high recycled content, - Honeycomb panels, - Foam boards with paper surface, - Vinyl banner, - Foam board.
SR-DIA-6242 		Esko: BLD-SR6242, G42460964	Ø6	60°	8	39	For oscillate-cutting with high-frequency knife tools. **Pre-cut: 0.58xAp** **Excellent blade for cutting:** - Sealing materials, - Tough gasket materials, - And even mesh-reinforced graphite.
SR-DIA-6303 	31972	Esko: BLD-SR6303, G42441642	Ø6	45° 86°	22	39	Blade for 15 and 20 mm foam board. Only suitable for use with high-frequency knife tool or for all modules with at least 1.2 mm stroke or higher. Thinner blade for finer work and less overlap. Less movement of material in the curve cut. Less load on the cutting module and prevents a conical shape when cutting edges. **Pre-cut: 2 +(0.06xAp)** **Recommended materials:** - Expanded PVC (Forex®, Sintra®), - Foam board, - Polyethylene foam, - Ejection rubber, - Foam boards with paper surface, - Foam board, - Sandwich materials.
SR-DIA-6310 	31452	Esko: BLD-SR6310, G42441626	Ø6	45° 79°	22	39	Blade with highly stable geometry specially designed for cutting thick and rigid paper-based materials. **Pre-cut: 1.9 +(0.19xAp)** **Recommended materials:** - Honeycomb (Re-board®, X-board®, D-board®, etc.), - Triple-wall corrugated cardboard, - Corrugated plastic, - Foam board (PUR), - Foam boards with paper surface, - Expanded PVC (Forex®, Sintra®), - Sandwich materials.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
DR-DIA-8160 	31563	Esko: BLD-DR8160, G42447235	Ø8	60°	6.9	40	Double-edged blade similar to DR-DIA-8161. Generates less overcut when cutting. Geometry designed for high cuts. Variety of rigid materials up to 5-6 mm thick. **Pre-cut: 0.58xAp / Post-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - PVC, expanded PVC (Forex®, Sintra®), - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Folding carton, corrugated or solid cardboard, - Flexographic plate (Cyrel®), - Gasket material.
DR-DIA-8180 	31797	Esko: BLD-DR8180, G42447284	Ø8	50°	4.5	40	Blade offering excellent wear resistance. Highly stable geometry allowing high feed and cutting performance in a wide variety of materials up to 4.8 mm thick. **Pre-cut: 0.84xAp / Post-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - PVC, expanded PVC (Forex®, Sintra®), - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Folding carton, corrugated or solid cardboard, - Flexographic plate (Cyrel®), - Gasket material, - Reflective sheeting (3M Diamond Grade).
DR-DIA-8210A 		Esko: BLD-DR8210A, G42452235	Ø8	40°	3.3	40	Blade with asymmetric edge. Optimized for a good cut, ploughing burrs to one side and producing optimal cut quality for plastic materials up to 3 mm thick. Requires control of the cutting direction. **Pre-cut: 1.19xAp / Post-cut: 1.19xAp** **Recommended materials:** - Adhesive vinyl, - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Folding carton and solid cardboard.
DR-DIA-8260A 		Esko: BLD-DR8260A, G42461996	Ø8	60°	6.9	40	Blade with asymmetric edge, similar to DR-DIA-8160. Generates less overcut when cutting. Geometry designed for high cuts. Variety of rigid materials up to 5-6 mm thick. Requires control of the cutting direction. **Pre-cut: 0.58xAp** **Post-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - Soft PVC, expanded PVC (Forex®, Sintra®), - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - PP honeycomb panels, - Folding carton, corrugated or solid cardboard, - Flexographic plate (Cyrel®), - Gasket material.

NEW

SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
DR-DIA-8280A		Esko: BLD-DR8280A, G42452227	Ø8	50°	4.8	40	Blade with asymmetric edge, similar to DR-DIA-8180. Optimized for a good cut, ploughing burrs to one side and producing optimal cut quality for different plastic materials. Requires control of the cutting direction. **Pre-cut: 0.84xAp** **Post-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - PC (Lexan®), - Polypropylene (PP), - Folding carton, - Corrugated cardboard, - Solid cardboard, - Flexographic plate (Cyrel®).
SR-DIA-8124		Esko: BLD-SR8124, G42450494	Ø8	56°	10	40	Blade with highly stable geometry to produce maximum performance and quality of cut in corrugated plastics and other rigid plastics. Overcut value: 4 mm. **Pre-cut: 0.45xAp** **Recommended materials:** - Corrugated plastic, - Foam board (PUR), - Lenticular display panel, - Expanded PVC (Forex®, Sintra®).
SR-DIA-8140	31795	Esko: BLD-SR8140, G42455899	Ø8	50°	9.5	40	Blade with special geometry designed for excellent quality of cut in foam core materials. **Overcut value: 4 mm.** **Pre-cut: 0.84xAp** **Recommended materials:** - Corrugated cardboard, - Foam board (PUR), - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Foam boards with paper surface.
SR-DIA-8160	31796	Esko: BLD-SR8160, G34094458	Ø8	60°	14	40	Blade designed for cutting a variety of tough and rigid materials. **Overcut value: 4 mm.** **Pre-cut: 0.58xAp** **Recommended materials:** - Corrugated plastic, - Magnetic lenticular display panel, - Foam board (PUR), - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - PP honeycomb panels, - Corrugated or solid cardboard, - Tough paper-based materials, - Rubber, - Gasket material.

NEW

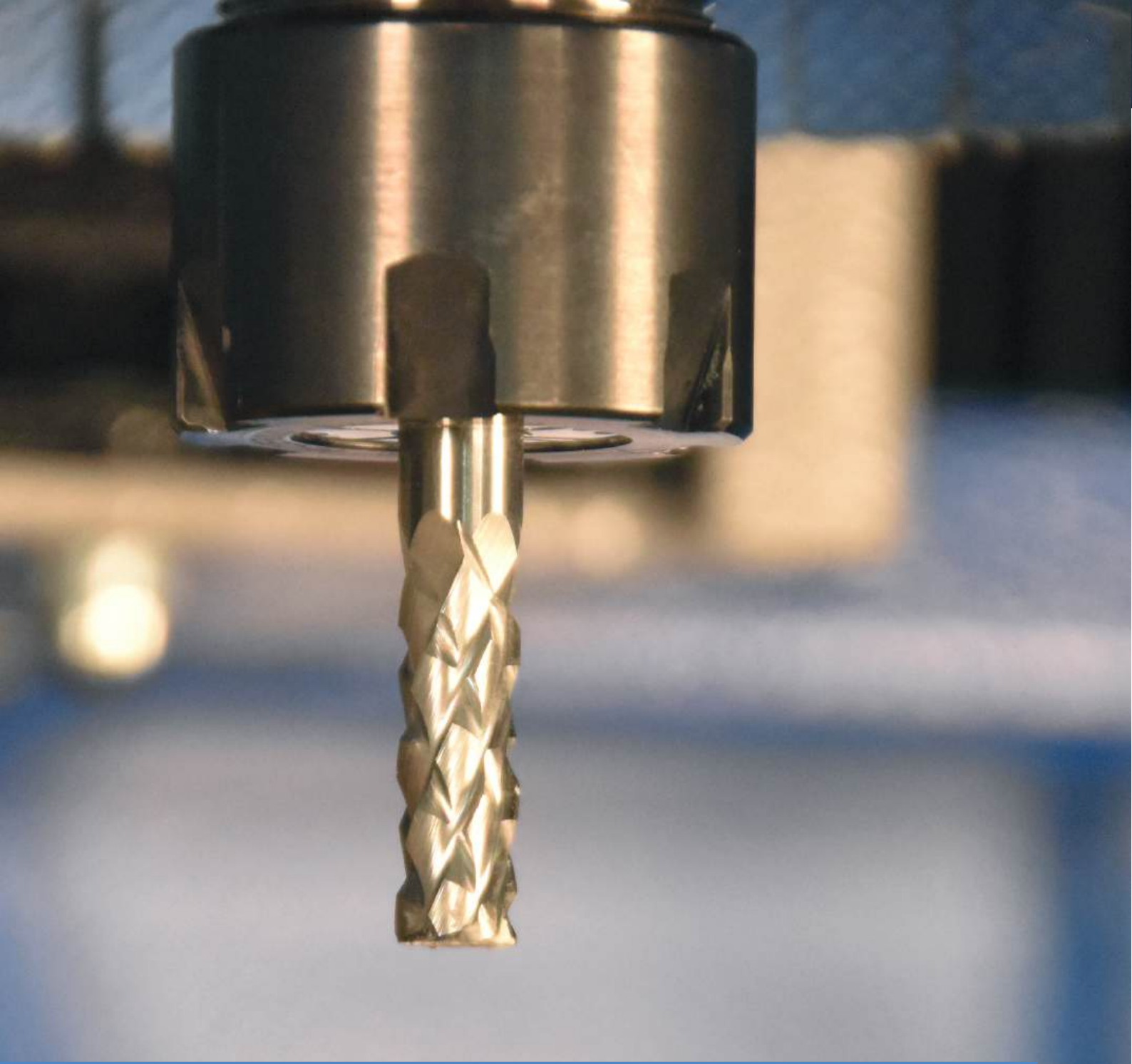
SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
SR-DIA-8170	31435	Esko: BLD-SR8170, G42460394	Ø8	60°	6.9	40	Single-edged blade similar to SR-DIA-8172 but with 60° rake angle and therefore generates a smaller overcut. **Pre-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Foam board (PUR), - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - Polyester sheet, - Folding carton, corrugated or solid cardboard.
SR-DIA-8171A		Esko: BLD-SR8171A, G42460956	Ø8	60°	7	40	Blade with asymmetric edge, generating a slight overcut. Recommended for thinner flexible or rigid materials such as cardboard, vinyl, leather, plastics, paper, etc. Optimized for a good cut, ploughing burrs to one side and producing optimal cut quality. Requires control of the cutting direction. **Pre-cut: 0.58xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - PVC, - Lenticular display panel, - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - Flexible plastics, - Folding carton, corrugated or solid cardboard, - Paper.
SR-DIA-8172	31973	Esko: BLD-SR8172, G42460402	Ø8	50°	4.8	40	Single-edged blade specially designed for cutting thinner flexible materials. **Pre-cut: 0.84xAp** **Recommended materials:** - Adhesive vinyl, - Corrugated plastic, - Foam board (PUR), - PVC, - Leather, - Expanded PVC (Forex®, Sintra®), - Polyester sheet, - Folding carton, corrugated or solid cardboard.
SR-DIA-8180		Esko: BLD-SR8180, G34094466	Ø8	50°	9.5	40	Blade designed for cutting a variety of tough and rigid materials. Similar to SR-DIA-8160 but with smaller angle. Generates more overcut with thickest materials. **Overcut value: 4 mm.** **Pre-cut: 0.84xAp** **Recommended materials:** - Corrugated plastic, - Magnetic lenticular display panel, - Foam board (PUR), - Expanded PVC (Forex®, Sintra®), - Magnetic foil, - PP honeycomb panels, - Corrugated or solid cardboard, - Tough paper-based materials, - Rubber, - Gasket material.

NEW

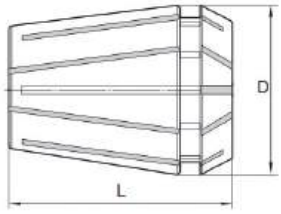
SOLID CARBIDE KNIFE BLADES

DIAGER reference	Old DIAGER reference	Machine compatibility and manufacturer reference	ø	Angle	Max. Ap	L	Use
391-DIA-358 	31630	Summa: 391-358	Ø2	55°	0.8	19	Fast and precise drag knife blade. Precise kiss cutting for easy removal of adhesive tape. Suitable for use with thicker materials than 391-DIA-360. Offset 0.9 mm **Recommended materials:** - Paper < 200 g, - Adhesive vinyl, - Sandblasting material, - Window vinyl.
391-DIA-360 	31532	Summa: 391-360	Ø1.5	36°	0.25	19	Fast and precise drag knife blade. Precise kiss cutting for easy removal of adhesive tape. Offset 0.45 mm **Recommended materials:** - Paper < 200 g, - Adhesive vinyl, - Sandblasting material, - Window vinyl.
390-DIA-534 	31446	Summa: 390-534	Ø2.5	36°	0.25	31	Tangential blade designed for kiss cutting and full cutting of adhesive vinyls. Precise depth control. Precise cutting for easy removal of adhesive tape. Cuts a wide variety of vinyl. **Recommended materials:** - Paper < 200 g, - Adhesive vinyl, - Sandblasting material, - Reflective sheet, - Window vinyl, - Magnetic material, - Adhesive PVC banner material, - Polyester fabrics.
390-DIA-550 	32324	Summa: 390-550	Ø2.5	60°	1.2	31	Tangential blade designed for kiss cutting and full cutting of adhesive vinyls. Precise depth control. Precise cutting for easy removal of adhesive tape. Cuts a wide variety of vinyl. **Recommended materials:** - Paper < 200 g, - Adhesive vinyl, - Sandblasting material, - Reflective sheet, - Window vinyl, - Magnetic material, - Adhesive PVC banner material, - Polyester fabrics.
390-DIA-560 	32138	Summa: 390-560	Ø2.5	40°	1	31	Tangential blade designed for kiss cutting and full cutting of adhesive vinyls. Precise depth control. Precise cutting for easy removal of adhesive tape. Cuts a wide variety of vinyl. **Recommended materials:** - Paper < 200 g, - Adhesive vinyl, - Sandblasting material, - Reflective sheet, - Window vinyl, - Magnetic material, - Adhesive PVC banner material, - Polyester fabrics.



ACCESSORIES

ER SPRING COLLETS
DIN 6499 - ISO 15488



	D (mm)	T (mm)
ER16	17	27.5
ER20	21	31.5
ER25	26	34
ER32	33	40
ER40	41	46

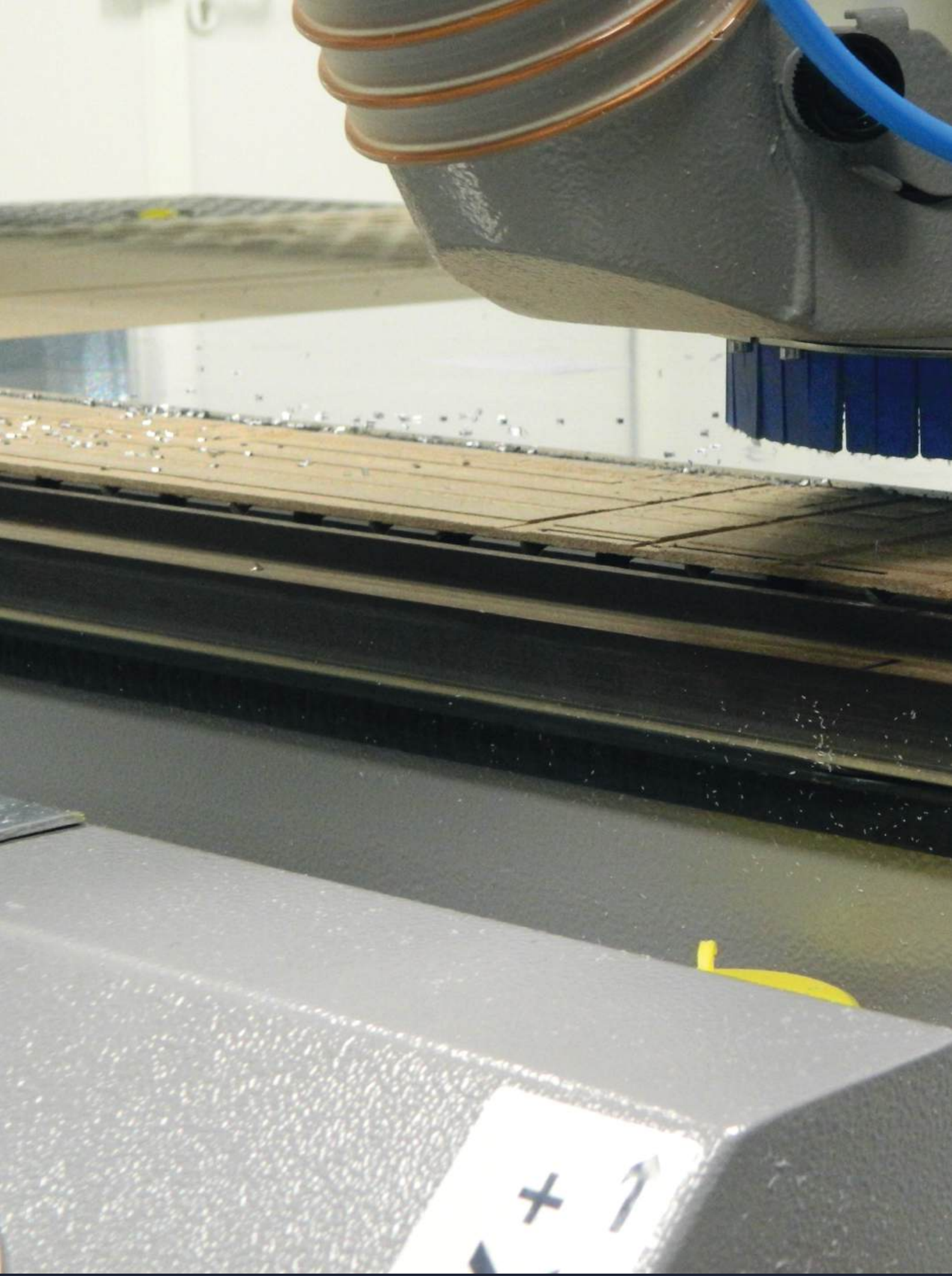
ER 16	
Ref	**Clamping range**
Collet ER16 Ø2.00	**Ø2.0** to Ø1.0
Collet ER16 Ø2.50	**Ø2.5**
Collet ER16 Ø3.00	**Ø3.0** to Ø2.0
Collet ER16 Ø4.00	**Ø4.0** to Ø3.0
Collet ER16 Ø5.00	**Ø5.0** to Ø4.0
Collet ER16 Ø6.00	**Ø6.0** to Ø5.0
Collet ER16 Ø8.00	**Ø8.0** to Ø7.0
Collet ER16 Ø10.00	**Ø10.0** to Ø9.0

ER 20	
Ref	**Clamping range**
Collet ER20 Ø2.00	**Ø2.0** to Ø1.0
Collet ER20 Ø2.50	**Ø2.5**
Collet ER20 Ø3.00	**Ø3.0** to Ø2.0
Collet ER20 Ø4.00	**Ø4.0** to Ø3.0
Collet ER20 Ø5.00	**Ø5.0** to Ø4.0
Collet ER20 Ø6.00	**Ø6.0** to Ø5.0
Collet ER20 Ø8.00	**Ø8.0** to Ø7.0
Collet ER20 Ø10.00	**Ø10.0** to Ø9.0
Collet ER20 Ø12.00	**Ø12.0** to Ø11.0

ER 25	
Ref	**Clamping range**
Collet ER25 Ø2.00	**Ø2.0** to Ø1.0
Collet ER25 Ø2.50	**Ø2.5**
Collet ER25 Ø3.00	**Ø3.0** to Ø2.0
Collet ER25 Ø4.00	**Ø4.0** to Ø3.0
Collet ER25 Ø5.00	**Ø5.0** to Ø4.0
Collet ER25 Ø6.00	**Ø6.0** to Ø5.0
Collet ER25 Ø8.00	**Ø8.0** to Ø7.0
Collet ER25 Ø10.00	**Ø10.0** to Ø9.0
Collet ER25 Ø12.00	**Ø12.0** to Ø11.0

ER 32	
Ref	**Clamping range**
Collet ER32 Ø2.00	**Ø2.0** to Ø1.0
Collet ER32 Ø2.50	**Ø2.5**
Collet ER32 Ø3.00	**Ø3.0** to Ø2.0
Collet ER32 Ø4.00	**Ø4.0** to Ø3.0
Collet ER32 Ø5.00	**Ø5.0** to Ø4.0
Collet ER32 Ø6.00	**Ø6.0** to Ø5.0
Collet ER32 Ø8.00	**Ø8.0** to Ø7.0
Collet ER32 Ø10.00	**Ø10.0** to Ø9.0
Collet ER32 Ø12.00	**Ø12.0** to Ø11.0
Collet ER32 Ø14.00	**Ø14.0** to Ø13.0
Collet ER32 Ø16.00	**Ø16.0** to Ø15.0
Collet ER32 Ø18.00	**Ø18.0** to Ø17.0

ER 40	
Ref	**Clamping range**
Collet ER40 Ø3.00	**Ø3.0** to Ø2.0
Collet ER40 Ø4.00	**Ø4.0** to Ø3.0
Collet ER40 Ø5.00	**Ø5.0** to Ø4.0
Collet ER40 Ø6.00	**Ø6.0** to Ø5.0
Collet ER40 Ø8.00	**Ø8.0** to Ø7.0
Collet ER40 Ø10.00	**Ø10.0** to Ø9.0
Collet ER40 Ø12.00	**Ø12.0** to Ø11.0
Collet ER40 Ø14.00	**Ø14.0** to Ø13.0
Collet ER40 Ø16.00	**Ø16.0** to Ø15.0
Collet ER40 Ø18.00	**Ø18.0** to Ø17.0



ADVICE

CUTTING CONDITIONS (GUIDELINE DATA)

Calculation of the rotational speed of the spindle	n = (1000 x VC) / (π x D)
Calculation of the feed speed	Vf = Fz x Z x N
Calculation of the cutting speed	Vc = (n x π x D) / 1000
Calculation of feed per flute	Fz = Vf / (Z x n)

π = 3.1416

Tool diameter	D	mm
Number of flutes	Z	
Cutting speed	Vc	m/min
Rotational speed	N	rpm
Feed per flute	Fz	mm/z
Feed speed	Vf	mm/min

EXAMPLE:
One-flute Ø6 cutter
Material: PMMA
Vc = 450
Fz = 0.07

Rotational speed:
n = (1,000 x 450) / (π x 6) = 23,873 (24,000 rpm)
Feed:
Vf = 0.07 x 1 x 24,000 = 1,680 mm/min

MATERIALS		Feed per flute Fz <Ø3	Ø3 to Ø5	Ø5 to Ø8	Ø8 to Ø14
Aluminium alloy	200 to 400	0.01 - 0.03	0.025 - 0.05	0.04 - 0.09	0.07 - 0.17
Unalloyed aluminium (1,000)	200 to 400	0.04 - 0.06	0.05 - 0.10	0.08 - 0.17	0.12 - 0.25
Brass	200 to 400	0.01 - 0.03	0.03 - 0.06	0.06 - 0.09	0.08 - 0.12
Bronze	100 to 150	0.008 - 0.02	0.02 - 0.04	0.035 - 0.05	0.05 - 0.08
Copper	150 to 300	0.01 - 0.03	0.015 - 0.04	0.03 - 0.07	0.06 - 0.14
Thermoplastics, Plexiglass, ABS	300 to 500	0.02 - 0.05	0.05 - 0.08	0.07 - 0.14	0.12 - 0.25
Nylon, polyethylene, acetate, High-impact PS	150 to 350	0.07 - 0.10	0.1 - 0.2	0.2 - 0.3	0.3 - 0.4
Plastics - PVC - PE - PP	100 to 300	0.045 - 0.11	0.10 - 0.20	0.18 - 0.35	0.20 - 0.45
Expanded PVC	250 to 500	0.08 - 0.15	0.15 - 0.25	0.25 - 0.35	0.20 - 0.45
POM-C, PA6	200 to 400	0.02 - 0.05	0.05 - 0.08	0.07 - 0.14	0.12 - 0.25
PEHD (500 - 1,000)	300 to 450	0.04 - 0.08	0.08 - 0.12	0.12 - 0.25	0.25 - 0.35
High-impact PS	150 to 250	0.04 - 0.1	0.1 - 0.15	0.1 - 0.3	0.2 - 0.5
Corian	400 to 500	0.03 - 0.045	0.045 - 0.06	0.06 - 0.09	0.09 - 0.14
Polyester, PC, PET	250 to 400	0.015 - 0.025	0.025 - 0.04	0.04 - 0.08	0.08 - 0.12
PETG	400 to 500	0.02 - 0.04	0.045 - 0.07	0.06 - 0.10	0.09 - 0.15
Bakelite	100 to 250	0.04 - 0.06	0.05 - 0.10	0.08 - 0.17	0.12 - 0.25
Foamed materials	300 to 350	0.07 - 0.10	0.1 - 0.2	0.2 - 0.3	0.3 - 0.4
Horn	150 to 350	0.03 - 0.045	0.045 - 0.06	0.06 - 0.09	0.09 - 0.14
LAB	250 to 400	0.04 - 0.07	0.06 - 0.1	0.1 - 0.2	0.2 - 0.3
Natural PEEK	250 to 450	0.01 - 0.025	0.02 - 0.04	0.035 - 0.07	0.07 - 0.11
Wood	300 to 450	0.015 - 0.07	0.05 - 0.1	0.07 - 0.15	0.12 - 0.25
MDF with Z1	250 to 400	0.04 - 0.08	0.08 - 0.12	0.1 - 0.15	0.15 - 0.2
MDF with 4030	300 to 700			0.15 - 0.20	0.15 - 0.3
Trespa	300 to 500	0.04 - 0.08	0.08 - 0.12	0.1 - 0.15	0.15 - 0.2
Stainless steel	40 to 90	0.008 - 0.015	0.01 - 0.02	0.015 - 0.04	0.03 - 0.06
Galvanised steel	100 to 150	0.008 - 0.015	0.02 - 0.03	0.03 - 0.05	0.04 - 0.08

IMPACT OF COLLETS ON CUTTING QUALITY

Poor collet condition accounts for the majority of the problems encountered: poor surface finishes, shorter tool life, abnormal machining noises, etc.
Perfect machining is only possible when every element in the clamping chain (spindle, chuck, collet) is in perfect condition.

MAINTAINING SPRING COLLETS

During machining, chips and dust particles lodge inside collets.
For this reason, collets must be well maintained.
We recommend that you systematically clean the collet and the tool holder carefully at every tool changeover.
Apply a rust inhibiting product to collets before putting them in storage (remember to remove this product before reusing the collet).

SERVICE LIFE OF COLLETS

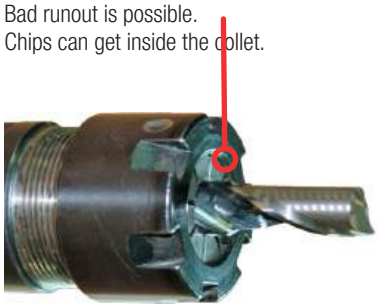
Collets are wear parts and as such must be replaced regularly. They lose their elasticity and are marked by the various tools they come into contact with.
As a preventative measure, we recommend replacing them approximately every 500 hours.
Well-serviced collets may last much longer.
A collet must be replaced if the tool it was holding broke, since this would mark the collet and make the runout incompatible with high quality machining.

GOOD CLAMPING PRACTICES

The tool must be held by as much of the collet's gripping surface as possible: at least 80% of the length of the collet.
This lets the tool rotate concentrically and limits vibrations that have an adverse effect on cutting quality.

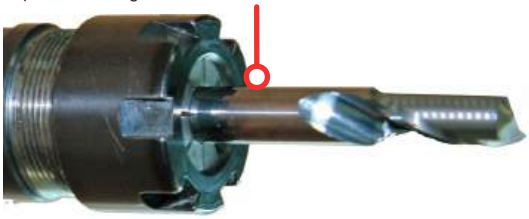
TOOL INSERTED TOO FAR INTO THE COLLET.

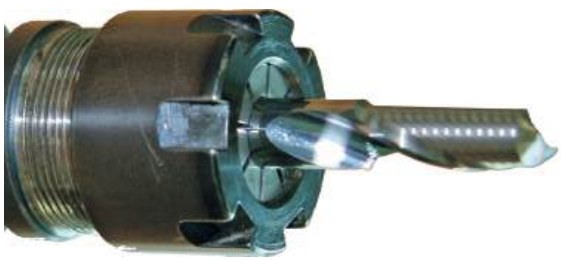
Bad runout is possible.
Chips can get inside the collet.



TOOL INSUFFICIENTLY INSERTED.

Bad runout.
Vibration, poor surface finishes.
Breakage possible.
Reduced service life.
Impaired cutting conditions.





TOOL CORRECTLY INSERTED

2 to 3 mm of shank visible beyond the end of the flute.

MACHINING ADVICE

INTRODUCTION:

The key principles and recommendations are covered below.
Machining quality is dependent on many criteria. The five criteria for success are:
1) Production equipment: condition and choice of equipment (machine, spindle, suction, workpiece clamping, choice of cutting tool, etc.).
2) Machining method and strategy: machining direction (conventional (up) or down), number of cuts, type of entrance into the cut (angular, tangential), use or absence of sprayed lubricant, etc.
3) Human resources: training, level of experience of the technicians in using the production resources.
4) Material: type and quality of the material.
5) Environment: dust, vibration, temperature (workshop and material), etc.
And also, required surface finish and target machining time.

IMPACT OF SPINDLE POWER:

In general, low-power spindles (0.5 to 1.5 kW) can reach high rotational speeds, but deliver very low torque at low speeds. They should not therefore be fitted with tools whose diameter is more than 6 mm.
When machining thick materials, the number of cuts must be increased.

For cutters with a diameter of less than 4 mm, the axial depth of cut (Ap) should be equal to the Ø and be about 3 mm for cutters with a diameter of 5 to 6 mm.

ROTATIONAL SPEED OF SPINDLE: (REFER TO PAGE 82 “CUTTING CONDITIONS”)

The calculations (given on page 82 of this catalogue) used to determine the rotational speed of the spindle clearly show that when the Ø of the tool is larger, the rotational speed of the spindle needs to be reduced, irrespective of the material. The rotational speed should also be adjusted to suit the properties of the material.

Example: when machining soft materials, the rotational speed should be lower so as not to heat the material.
The rotational speed should also be reduced if the tool is long (since the potential out-of-balance is greater, as is the risk of breakage and vibration).

FEED: (REFER TO PAGE 82 “CUTTING CONDITIONS”)

A small-diameter tool is more susceptible to bending. The feed speed should therefore be set lower than that possible with a larger diameter.
The same principle applies for tools that have a long cutting length - the feed should be reduced since this type of tool generates a lot of bending.
When machining soft materials, the feed speed can be increased so as not to heat up the material.

Take care when calculating the feed speed: when the number of flutes is increased, the Fz value must be reduced because of less effective chip evacuation (you cannot go three times quicker with three flutes than you can with one flute).

The in-feed (or plunge) speed is normally half, or even a third, of the feed speed.
The impact on the machining time is not too significant, but this lower speed increases the service life of the tool (by protecting the tip) and the spindle.
(It can even be lower. For example: Ø 20 face cutter fed directly onto the material:

in-feed (plunge) speed of about 50 mm/min).

There is no benefit in setting a very high feed for very small workpieces. The machine only very rarely reaches this speed; the gain in time and in surface finish is very small. However, the geometry of the workpieces and the service life of the cutters is degraded.

"RUNNING-IN" PERIOD FOR NEW TOOLS:

New tools being used for the first time will not produce their best surface finish until the tool has machined a few metres of material, due to the extremely sharp edges on new tools.
This is particularly true for one-flute tools used to machine plastics.
The 4053 series cuts less aggressively and does not need to be "run in".

CHOICE OF USEFUL LENGTH OF TOOL:

The useful length must be greater than the thickness to be cut, without being too long, since this leads to:
- A longer unsupported length,
- A less rigid and more breakable tool,
- An impaired surface finish and shorter tool life.

UP OR DOWN CUTTER:

Upcut cutters with a right-hand cut tend to pull the machined workpiece towards the tool: the chips are efficiently evacuated but the workpiece must be clamped securely to prevent vibration.
Downcut cutters with a right-hand cut tend to push the machined workpiece against the table of the machine, which reduces clamping-related issues. There will be no delamination of the material near the surface of the workpiece, but the chips will be poorly evacuated (with a risk of chip jamming).
Excellent chip suction or providing clear space under the workpiece are recommended.

SURFACE FINISH:

A number of criteria need to be satisfied to obtain a good surface finish, with feed speed far from being the only one.
- Securely holding the workpiece (extremely important).
- The right tool for the type and thickness of the material.
- Good condition of the machine (shafts, spindles, tapers, collets, etc.) and tool.
- Good chip suction.
- Good cutting conditions.
- Good machining strategies.

FINISHING CUT:

Removing 0.3 to 0.5 mm of material with a finishing cut is a good way to obtain a better surface finish for many materials. This eliminates any built-up edge-related issues and smooths out the effects of vibration. However, this is not true for all materials.

MACHINING THE BOTTOM OF POCKETS:

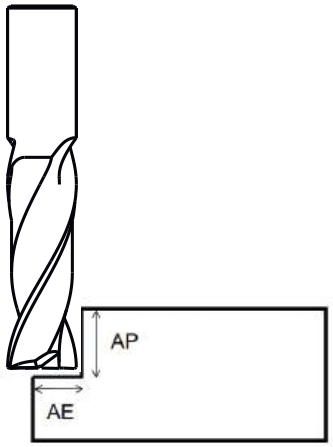
Due to their geometry, one-flute cutters do not produce the best surface finish in the bottom of pockets. Two-flute cutters have flatter tips and produce a better surface finish.
Smaller overlaps and lower speeds also greatly improve the surface finish.

ADVICE ON DEPTH OF CUT

RADIAL DEPTH OF CUT, AE:
When contouring (or profiling) a workpiece, it is advisable to reduce the radial depth of cut (Ae) when machining hard materials and when using small-diameter tools.

AXIAL DEPTH OF CUT, AP:
For most plastics, the Ap should be 1 to 2 times the tool diameter.
For non-ferrous metals (aluminium, etc.), it should be 0.5 to 1 times the diameter of the tool.

THESE ARE GUIDELINE VALUES.
Example: for expanded PVC, the Ap can be 3 to 4 times the tool Ø (for tools with a Ø of 6 mm and above).



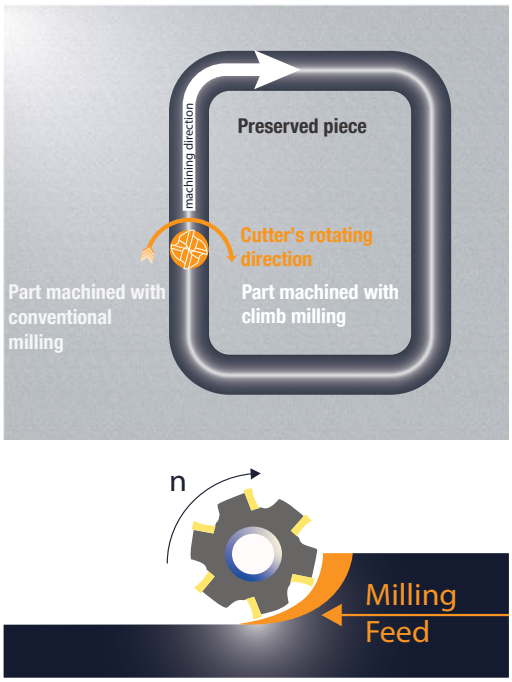
MACHINING DIRECTION

THE CHOICE OF MACHINING DIRECTION IS PRIMARILY DETERMINED BY THE DESIRED QUALITY OF THE SURFACE FINISH. THE PROPERTIES OF THE MATERIAL ALSO HAVE TO BE CONSIDERED.

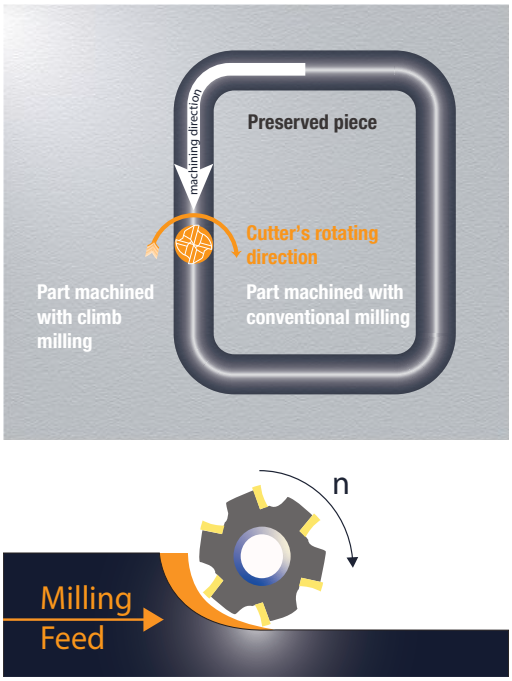
Down (or climb) milling is used for most plastics.
The cuts are more “gentle”.

Conventional (up) milling tends to be used for soft or fibrous materials.
The cut is more “aggressive”.

CLIMB MILLING / CLOCKWISE



CONVENTIONAL (UP) MILLING / ANTICLOCKWISE



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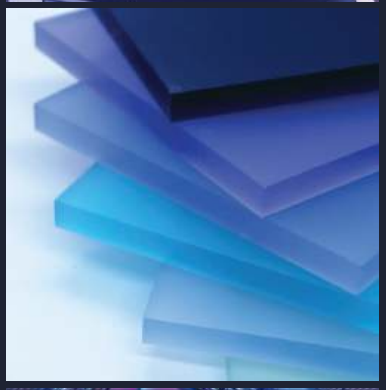

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