



DIABER S.R.L.
***DIAMOND INDUSTRIAL
APPLICATIONS***

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We made new technology tools with PCD, CBN, CVD, MCD to meet new market demands and to optimize existing processes.

Full PCD Tools

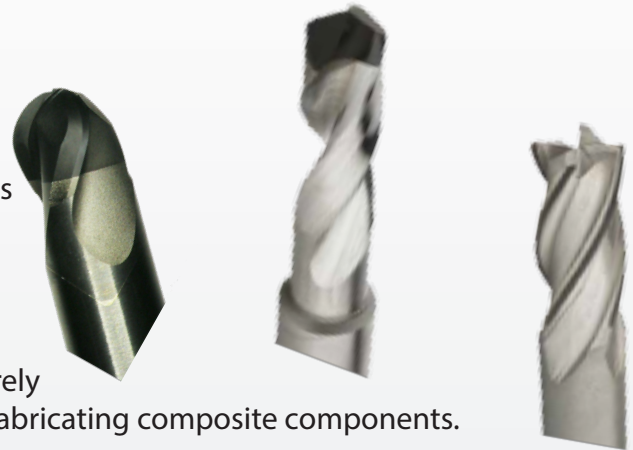
Next generation tools with carbide body and full PCD flutes. Tool designers can now create entirely new PCD tool geometries breaking through the existing barriers in PCD tool design with:

- Freedom of design in flute profiles
- Multiple flutes (es. Z 6,8..)
- Limitless flute angles and orientations (left/right/compressive)

With the following benefits to the tool:

- Up to 250 times wear resistance compared with traditional tungsten carbide end mills
- Helical geometry results in lower tool forces and better chip evacuation
- Up to 12 times faster machining speeds due to multiflutes

These next generation composite tooling solutions entirely replace the need for coated tungsten carbide tools for fabricating composite components.



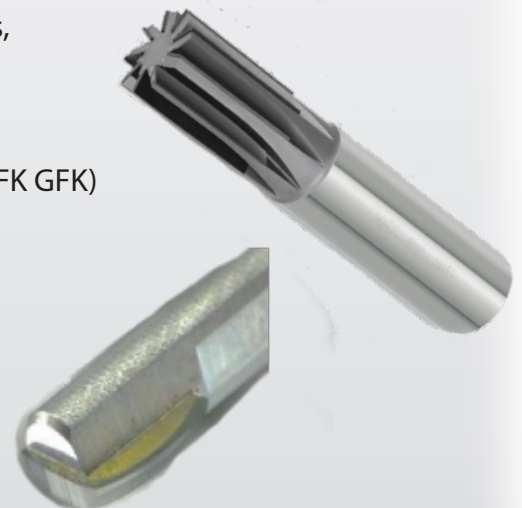
CVD and MCD Tools

The CVD diamond (Chemical Vapor Deposition), represents the future of synthetic diamond. It is obtained by deposit of substrates and can have thicknesses from 0.5 to 1.8 mm.

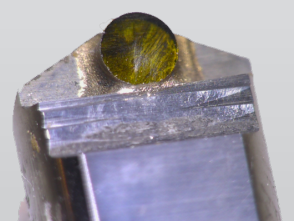
Thanks to this, the diamond obtained is binderless between the crystals, and then this gives a very sharp and continuous cutting edge and high thermal conductivity.

All this results in an exponential increase in tool life compared to PCD tool. It is mostly used in machining of very abrasive composites (CFK GFK) and very hard materials such as titanium alloys.

- Pure Diamond (binderless)
- High thermal conductivity
- Up to 10 times wear resistance compared with PCD
- Very sharp cutting edge
- Better surface finish



The MCD Diamond (Mono Crystal Diamond), is the only solution when is required a very low roughness and a "mirror finish". Widely used in the gold and precious manufacturing.





INDEX

Micro End Mills



Product cod. 10

Flat End Mills



Product cod. 20

Bull End Mills



Product cod. 22

Twisted End Mills



Product cod. 24

Ball End Mills



Product cod. 26

Full PCD End Mills



Product cod. 28

Step Drills



Product cod. 30

Twisted Drills



Prod cod. 51÷56

Drills with countersink



Product cod. 57

Countersinks



Product cod. 58

Micro Drills



Product cod. 59

Reamers



Prod. cod. 60-62

Straight Drills



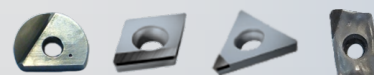
Product cod. 70

Face Mill



Prod. cod. 80-81

Inserts



ISO - Code

Solid Carbide Micro End Mills with PCD or CBN cusp



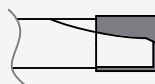
Product cod. 10

Solid carbide Micro endmills and cusp in PCD for high speed machining of aluminium, not-ferrous alloys, presintered and composite plastic subjects. Or with cusp in CBN for high speed machining of tempered steels, superalloys and iron. Available diameters from Ø1 to Ø2,5. Sharp Z2.



Cod. 10 Flat End

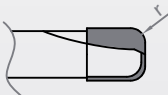
Z2



Product Code	Ø d	a	b	l	Ø D	z	Price €
10- Ød b l ØD	1,0÷2,5	1	2÷16	60	4/6	2	

Cod. 12 Bull End

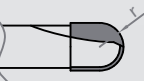
Z2



Product Code	Ø d	a	b	l	Ø D	z	Price €
12- Ød b l ØD - R	1,0÷2,5	1	2÷16	60	4/6	2	

Cod. 16 Ball End

Z2



Product Code	Ø d	a	b	l	Ø D	z	Price €
16- Ød b l ØD	1,0÷2,5	1	2÷16	60	4/6	2	

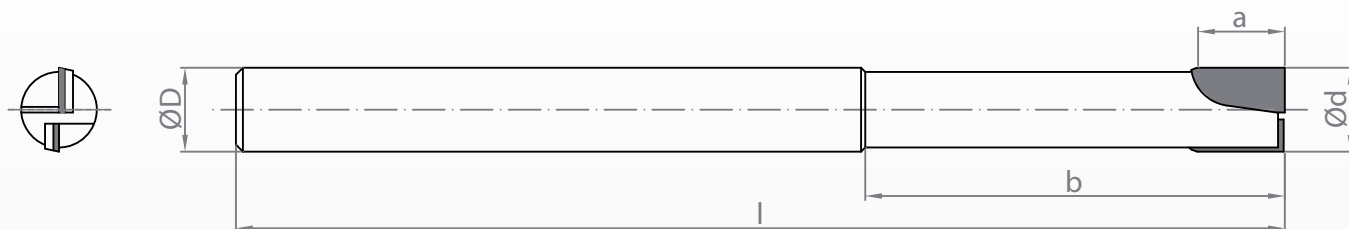


Order Example

Cod. 10 - 1,5 06 60 6 PKD-CBN
 Ød b l ØD

To the moment of ordination to specify the type of material to work.

Solid carbide flat end mills with PCD or CVD cutters for high-speed machining (bordering, emptying pockets etc.) of aluminum, not-ferrous alloys, presintered and composite plastic subjects.



To the moment of ordination to specify the type of material to work.

On demand, personalized dimension.

Cod. 20 - 08 45 100
 | | |
 Ød b l

SHORT SET

Product Code	Ø d	a	b	l	Ø D	z	Price €
20-0210060	2	5	10	60	6	1	
20-0315060	3	5	15	60	6	2	
20-0420075	4	5,5	20	75	6	2	
20-0630100	6	6	30	100	6	2	
20-0830100	8	8	30	100	8	2	
20-1045100	10	10	45	100	10	2	
20-1245100	12	12	45	100	12	2	
20-1645100	16	14	45	100	16	2	
20-2045100	20	16	45	100	20	2	
20-2045120-Z4	20	16	45	120	20	4	
20-2545120-Z4	25	18	45	120	25	4	

LONG SET

Product Code	Ø d	a	b	l	Ø D	z	Price €
20-0220100	2	5	20	100	6	1	
20-0330100	3	5	30	100	6	2	
20-0440100	4	5,5	40	100	6	2	
20-0645120	6	6	45	120	6	2	
20-0845120	8	8	45	120	8	2	
20-1055150	10	10	55	150	10	2	
20-1255150	12	12	55	150	12	2	
20-1655150	16	14	55	150	16	2	
20-2055150	20	16	55	150	20	2	
20-2055150-Z4	20	16	55	150	20	4	
20-2555150-Z4	25	18	55	150	25	4	





Solid carbide bull end mills with PCD or CVD cutters for high-speed machining (bordering, emptying pockets etc.) of aluminum, not-ferrous leagues, presintered and composite plastic subjects.



To the moment of ordination to specify the type of material to work.

On demand, personalized dimension.

Cod. 22 - 08 45 100 - R
 | | | |
 Ød b l radius

SHORT SET

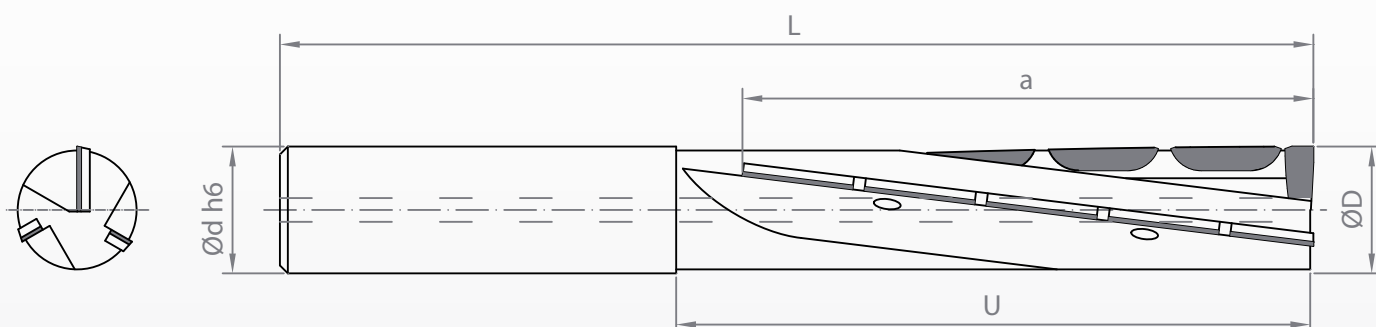
Product Code	Ø d	a	b	l	Ø D	z	Price €
22-0210060-R	2	5	10	60	6	1	
22-0315060-R	3	5	15	60	6	2	
22-0420075-R	4	5,5	20	75	6	2	
22-0630100-R	6	6	30	100	6	2	
22-0830100-R	8	8	30	100	8	2	
22-1045100-R	10	10	45	100	10	2	
22-1245100-R	12	12	45	100	12	2	
22-1645100-R	16	14	45	100	16	2	
22-2045100-R	20	16	45	100	20	2	
22-2045120-Z4-R	20	16	45	120	20	4	
22-2545120-Z4-R	25	18	45	120	25	4	

LONG SET

Product Code	Ø d	a	b	l	Ø D	z	Price €
22-0220100-R	2	5	20	100	6	1	
22-0330100-R	3	5	30	100	6	2	
22-0440100-R	4	5,5	40	100	6	2	
22-0645120-R	6	6	45	120	6	2	
22-0845120-R	8	8	45	120	8	2	
22-1055150-R	10	10	55	150	10	2	
22-1255150-R	12	12	55	150	12	2	
22-1655150-R	16	14	55	150	16	2	
22-2055150-R	20	16	55	150	20	2	
22-2055150-Z4-R	20	16	55	150	20	4	
22-2555150-Z4-R	25	18	55	150	25	4	



Solid carbide twisted end mills with PCD or CVD cutters, cut to the centre and internal coolant supply, proper mainly for border machining with high depth of cut. High-speed machining of alluminium, not-ferrous alloys, presintered and composite plastic subjects.



The endmills are built on specific customer application.

Order Example.

Cod. 24 - 16 80 70 130 Ø16
 Ød U a l ØD

To the moment of ordination to specify the type of material to work.

Prod. Cod. 24

Product Code	Ø D	a	U	l	Ø d	z	Prezzo €
24-..	10	Dimension on demand				2	
24-..	12					3	
24-..	14					3	
24-..	16					3	
24-..	18					3	
24-..	20					3	

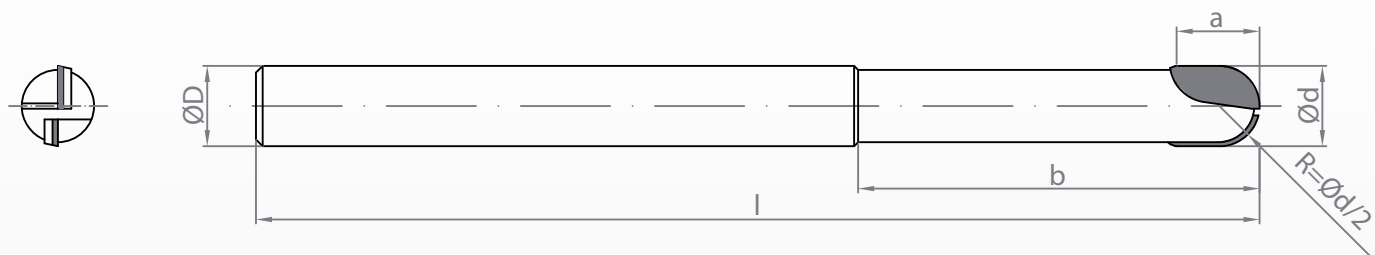


Solid Carbide Ball End Mills with PCD or CVD Cutters



Product cod. 26

Solid carbide ball end mills with PCD or CVD cutters for high-speed machining (bordering, emptying pockets, 3D etc.) of aluminum, not-ferrous alloys, presintered and composite plastic subjects.



To the moment of ordination to specify the type of material to work.

On demand, personalized dimension.

Cod. 26 - $\underbrace{08}_{\text{Ød}}$ $\underbrace{45}_b$ $\underbrace{100}_l$

SHORT SET

Product Code	Ø d	a	b	l	Ø D	z	Price €
26-0210060	2	5	10	60	6	1	
26-0315060	3	5	15	60	6	2	
26-0420075	4	5,5	20	75	6	2	
26-0630100	6	6	30	100	6	2	
26-0830100	8	8	30	100	8	2	
26-1045100	10	10	45	100	10	2	
26-1245100	12	12	45	100	12	2	
26-1645100	16	14	45	100	16	2	
26-2045100	20	16	45	100	20	2	

LONG SET

Product Code	Ø d	a	b	l	Ø D	z	Price €
26-0220100	2	5	20	100	6	1	
26-0330100	3	5	30	100	6	2	
26-0440100	4	5,5	40	100	6	2	
26-0645120	6	6	45	120	6	2	
26-0845120	8	8	45	120	8	2	
26-1055150	10	10	55	150	10	2	
26-1255150	12	12	55	150	12	2	
26-1655150	16	14	55	150	16	2	
26-2055150	20	16	55	150	20	2	

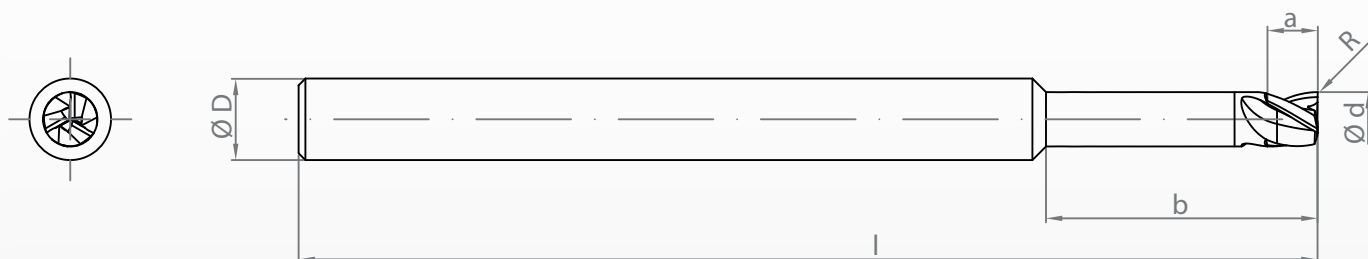


Solid Carbide Twisted End Mills with Full PCD Cutters



Product cod. 28

New generation endmill with solid carbide body and full PCD cutters. Tool designers can now create entirely new PCD tool geometries breaking through the existing barriers in PCD tool. We made flat end, bull end and ball end mills, from Ø1 to Ø8 mm with multiflutes Z from 2 to 6



Order Example.

Cod. 28 - 04 20 075 02 06 Z03
 | | | | | |
 Ød b l R ØD Z

Prod. Cod. 28

Product Code	Ø D	a	U	l	Ø d	z	Prezzo €
28-.....	1	Dimension on demand					
28-.....	2						
28-.....	3						
28-.....	4						
28-.....	6						
28-.....	8						

To the moment of ordination to specify the type of material to work.



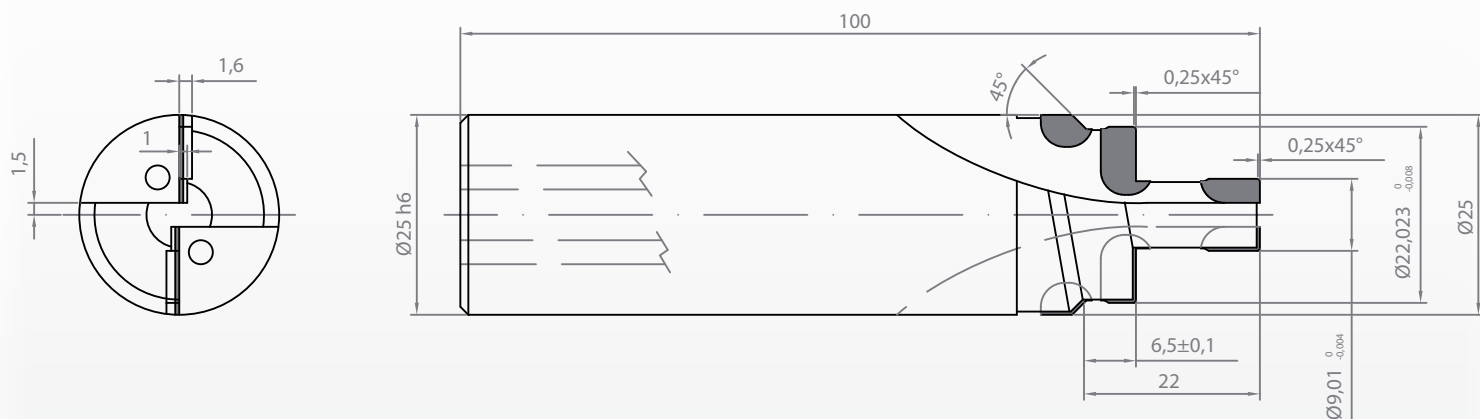
Special Srep Drills with PCD or CBN Blades



Product cod. 30

Solid carbide or steel with ISO or HSK connection, Drills and step reamers with internal coolant supply. You mainly employ in the field automotive for machining of details in aluminum alloy where in demand wrinkledness and narrow tolerances are, further to an elevated duration.

And are possible an amount carried over with CBN for the workmanship of iron and superalloy.



To the moment of ordination to specify the type of material to work.

Tools are built from customer sketch.



Solid Carbide Twisted Drills with PCD Cusp



Product cod. 50

Solid carbide twisted drills with PCD cusp, strengthened stem, with possibility of lubrication for the measures 5xD and 8xD, proper mainly to drilling of not-ferrous alloys, presintered, composite plastic subjects, glass fibre and carbon fibre.

cod. 51



DIN 1897



Ø1,5 - Ø16,5

cod. 52



DIN 338



Ø1,5 - Ø16,5

cod. 53



XL



Ø1,5 - Ø16,5

cod. 54



3xD



Ø2,5 - Ø20

cod. 55



5xD



Ø6 - Ø20

cod. 56



8xD



Ø6 - Ø16

cod. 57



Special PCD Drill with countersink
Dimension on demand

cod. 58



Special PCD Countersink with pilot
Dimension on demand

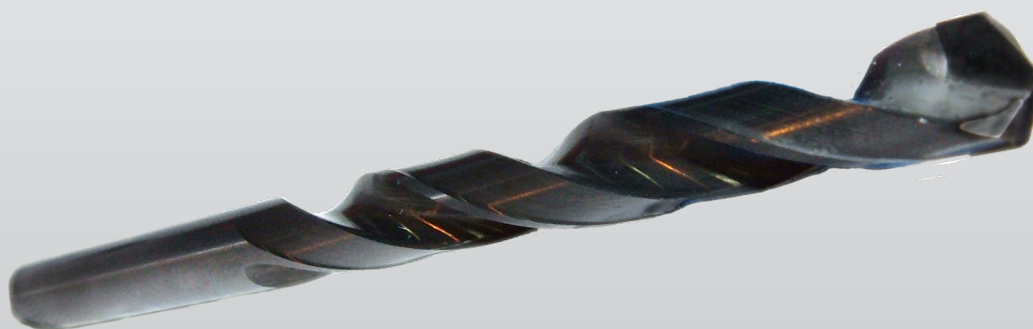
cod. 59



MICRO



Ø 0,8 - Ø1,5

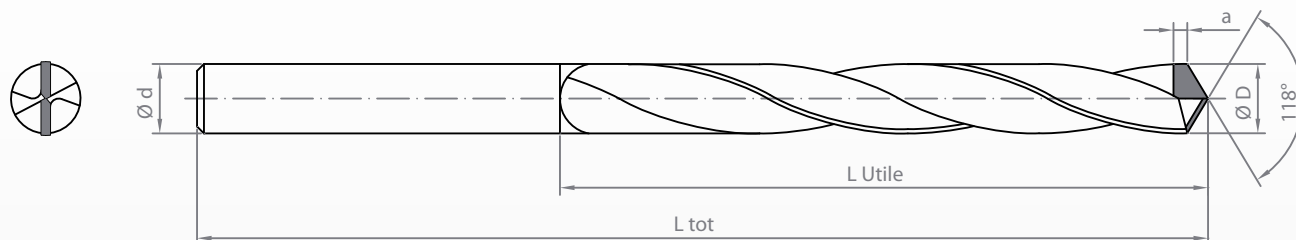


Solid Carbide Twisted Drills with PCD Cusp



Cod. 51-52-53

Solid carbide twisted drills and PCD cusp, for drilling of not-ferrous alloys, presintered, composite plastic subjects, glass fibre and carbon fibre.



cod. 51

DIN1897 Drill

short set

Ø D	Ø d	L tot	L utile	a	Price €
1,50 - 1,99	1,50	32	9	1	
2,00 - 2,49	2,00	38	12	1	
2,50 - 2,99	2,50	43	14	1	
3,00 - 3,49	3,00	46	16	1,6	
3,50 - 3,99	3,50	52	20	1,6	
4,00 - 4,49	4,00	55	22	2	
4,50 - 4,99	4,50	58	24	2	
5,00 - 5,49	5,00	62	26	2	
5,50 - 5,99	5,50	66	28	2	
6,00 - 6,49	6,00	66	28	2,7	
6,50 - 6,99	6,50	70	31	2,7	
7,00 - 7,49	7,00	74	34	2,7	
7,50 - 7,99	7,50	74	34	2,7	
8,00 - 8,49	8,00	79	37	2,7	
8,50 - 8,99	8,50	79	37	2,7	
9,00 - 9,49	9,00	84	40	2,7	
9,50 - 9,99	9,50	84	40	2,7	
10,00 - 10,49	10,00	89	43	2,7	
10,50 - 10,99	10,50	89	43	2,7	
11,00 - 11,49	11,00	95	47	2,7	
11,50 - 11,99	11,50	95	47	2,7	
12,00 - 12,49	12,00	102	51	2,7	
14,00 - 14,50	14,00	107	54	3,0	
16,00 - 16,50	16,00	115	58	3,0	

cod. 52

DIN338 Drill

long set

Ø D	Ø d	L tot	L utile	a	Price €
1,50 - 1,99	1,50	40	18	1	
2,00 - 2,49	2,00	49	24	1	
2,50 - 2,99	2,50	57	30	1	
3,00 - 3,49	3,00	61	33	1,6	
3,50 - 3,99	3,50	70	39	1,6	
4,00 - 4,49	4,00	75	43	2	
4,50 - 4,99	4,50	80	47	2	
5,00 - 5,49	5,00	86	52	2	
5,50 - 5,99	5,50	93	57	2	
6,00 - 6,49	6,00	93	57	2,7	
6,50 - 6,99	6,50	101	63	2,7	
7,00 - 7,49	7,00	109	69	2,7	
7,50 - 7,99	7,50	109	69	2,7	
8,00 - 8,49	8,00	117	75	2,7	
8,50 - 8,99	8,50	117	75	2,7	
9,00 - 9,49	9,00	125	81	2,7	
9,50 - 9,99	9,50	125	81	2,7	
10,00 - 10,49	10,00	133	87	2,7	
10,50 - 10,99	10,50	133	87	2,7	
11,00 - 11,49	11,00	142	94	2,7	
11,50 - 11,99	11,50	142	94	2,7	
12,00 - 12,49	12,00	151	101	2,7	
14,00 - 14,50	14,00	160	108	3,0	
16,00 - 16,50	16,00	178	120	3,0	

cod. 53

XL Drill

extra-long set

Ø D	Ø d	L tot	L utile	a	Prezzo €
1,50 - 1,99	1,50	75	30	1	
2,00 - 2,49	2,00	75	30	1	
2,50 - 2,99	2,50	100	35	1	
3,00 - 3,49	3,00	100	50	1,6	
3,50 - 3,99	3,50	100	50	1,6	
4,00 - 4,49	4,00	100	50	2	
4,50 - 4,99	4,50	100	50	2	
5,00 - 5,49	5,00	150	75	2	
5,50 - 5,99	5,50	150	75	2	
6,00 - 6,49	6,00	150	75	2,7	
6,50 - 6,99	6,50	150	75	2,7	
7,00 - 7,49	7,00	150	75	2,7	

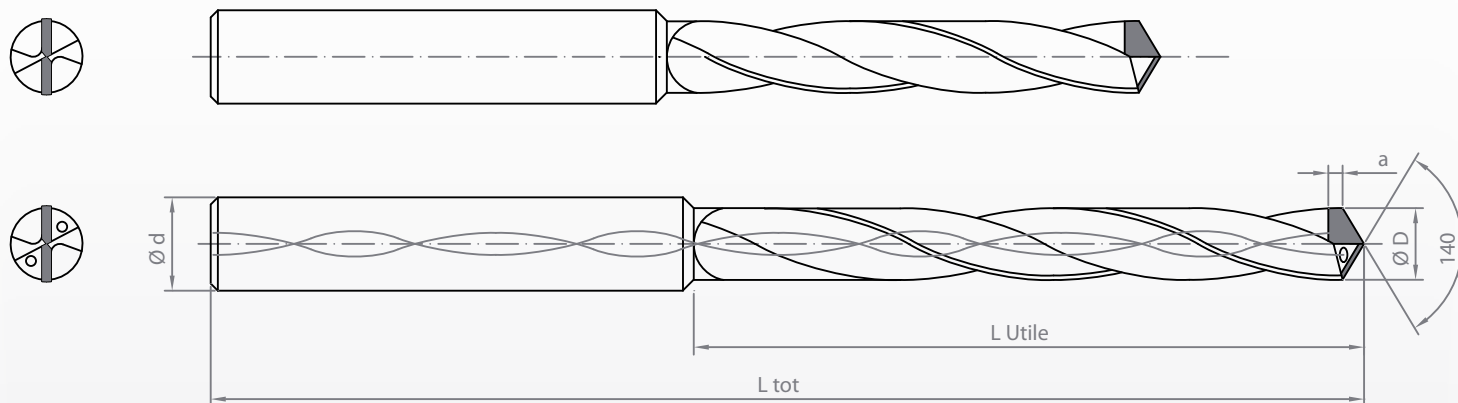
Ø D	Ø d	L tot	L utile	a	Price €
7,50 - 7,99	7,50	150	75	2,7	
8,00 - 8,49	8,00	150	75	2,7	
8,50 - 8,99	8,50	150	75	2,7	
9,00 - 9,49	9,00	150	75	2,7	
9,50 - 9,99	9,50	150	75	2,7	
10,00 - 10,49	10,00	150	75	2,7	
10,50 - 10,99	10,50	200	90	2,7	
11,00 - 11,49	11,00	200	90	2,7	
11,50 - 11,99	11,50	200	90	2,7	
12,00 - 12,49	12,00	200	90	2,7	
12,50 - 12,99	12,50	200	90	2,7	
13,00 - 13,50	13,00	200	90	3,0	

Solid Carbide Twisted Drills with PCD Cusp



cod. 54-55-56

Solid carbide twisted drills with PCD cusp, strengthened stem, with possibility of internal coolant supply for 5xD and 8xD measures, proper mainly to drilling of not-ferrous alloys, presintered, composite plastic subjects, glass fibre and carbon fibre.



cod. 54

3xD Drill

no-coolant

Ø D	Ø d h6	L tot	L utile	a	Price €
2,50 - 3,79	6	62	20	1	
3,80 - 4,79	6	66	24	1,6	
4,80 - 6,29	6	66	28	2	
6,30 - 8,49	8	79	34	2	
8,50 - 10,19	10	89	47	2	
10,20 - 12,49	12	102	55	2,7	
12,50 - 14,00	14	107	60	2,7	
14,50 - 16,50	16	115	65	3	
18,00 - 18,50	18	123	73	3	
20,00 - 20,50	20	131	79	3	

cod. 56

8xD Drill

coolant supply

Ø D	Ø d h6	L tot	L utile	a	Price €
5,80 - 6,29	6	95	57	2	
6,30 - 8,49	8	114	76	2	
8,50 - 10,19	10	142	95	2	
10,20 - 12,49	12	162	114	2,7	
12,50 - 14,00	14	178	133	2,7	
14,50 - 16,50	16	203	152	3	

cod. 55

5xD Drill

coolant supply

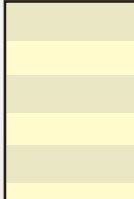
Ø D	Ø d h6	L tot	L utile	a	Price €
5,80 - 6,29	6	66	28	2	
6,30 - 8,49	8	79	34	2	
8,50 - 10,19	10	89	47	2	
10,20 - 12,49	12	102	55	2,7	
12,50 - 14,00	14	107	60	2,7	
14,50 - 16,50	16	115	65	3	
18,00 - 18,50	18	123	73	3	
20,00 - 20,50	20	131	79	3	

To the moment of ordination to specify the type of material to work.

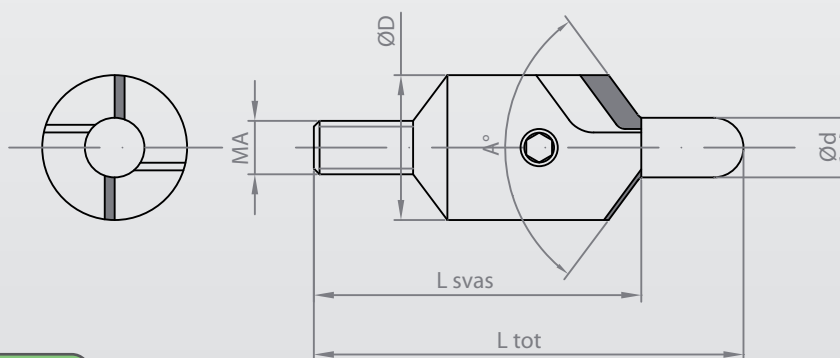
Cod. 57-58

Technical drawing of a mechanical part, likely a drill bit, showing a side view and a cross-section. The side view includes dimensions: total length L_{tot} , useful length L_{Utile} , diameter $\varnothing D2$, diameter $\varnothing D$, radius R , angle A° , angle B° , and distance a . The cross-section shows a circular profile with internal features.

coolant supply

Ø D	Ø d h6	L tot	L utile	a	Price €
					

Tool mainly used to drilling of not-ferrous alloys, presintered, composite plastic subjects, glass fibre and carbon fibre.



Countersink with pilot

$\emptyset D$	$\emptyset d$	L tot	L svas	A°	MA	Price €
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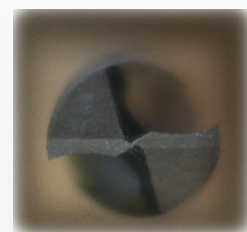
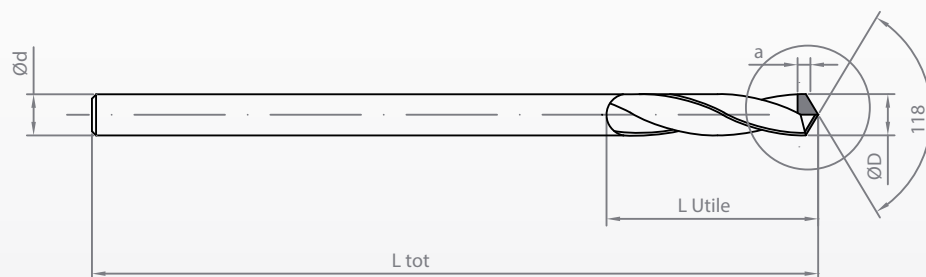
Dimension
on demand

Solid Carbide Micro Drills with PCD Cusp



Cod. 59

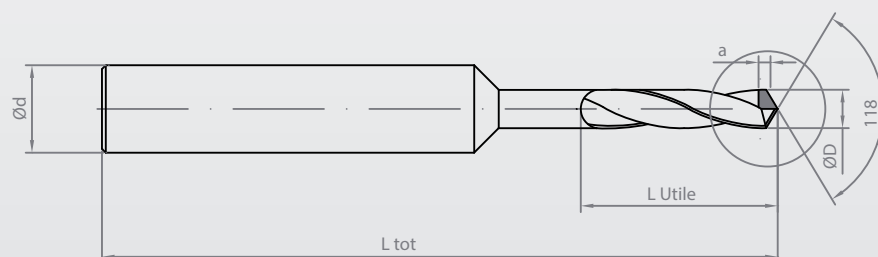
Solid carbide Micro-Drills with PCD cusp, with possibility of strengthened stem and with measures to application, proper mainly to drilling of not-ferrous alloys, presintered, composite plastic subjects, glass fibre and carbon fibre.



cod. 59

Micro-Drill

Ø D	Ø d	L tot	L utile	a	Price €
0,80÷1,50	Ød=ØD			0,5	



cod. 59R

Strengthened Stem Micro-Drill

Ø D	Ø d h6	L tot	L utile	a	Price €
0,80÷1,50	3/4/6			0,5	

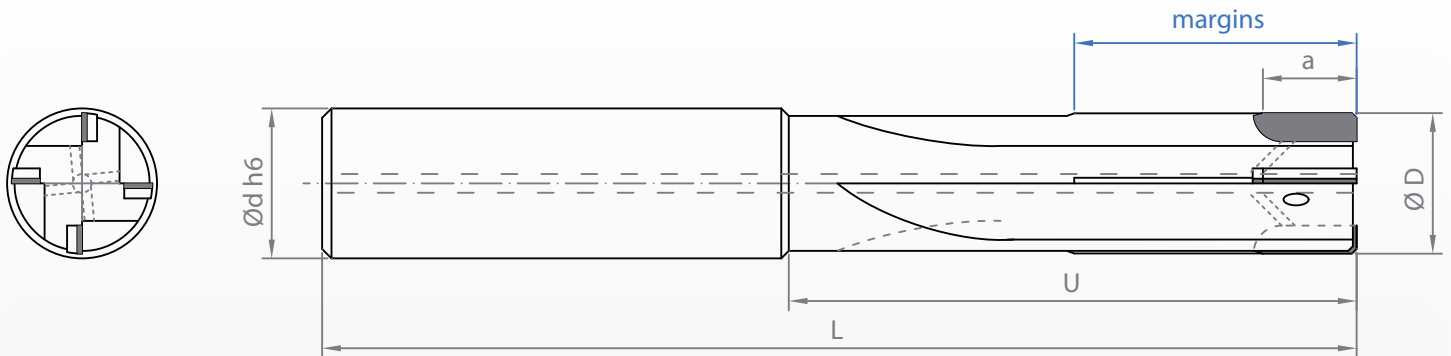
To the moment of ordination to specify the type of material to work.

Solid Carbide Reamers With PCD Blades



Product cod. 60

Solid carbide reamers with PCD blades, with internal coolant supply for machining passing holes, with central coolant supply for machining blind holes. High-speed machining of aluminium, not-ferrous alloys, presintered and composite plastic subjects.



Order Code Example.

Cod. 60 - 16 80 130 Ø15 H6
Coolant Ød U L ØD IT

Internal Coolant Supply



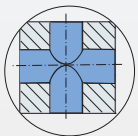
Cod. 60 - Internal Coolant Supply



Cod. 61 - Central Coolant Supply



Cod. 62 - No Coolant



For reaming of holes with interrupted cut (and transversal) is possible, on request, the application of solid carbide **margins**.

PCD REAMERS

Ø D	a	Z	Price €
4,00 -6,50	5	2	
6,51 -8,50	6	4	
8,51 -10,50	6	4	
10,51 -13,00	8	4	
13,01 -15,00	8	4	
15,01 -17,00	8	4	
17,01 -19,00	8	4	
19,01 -23,00	10	4	
23,01 -26,00	10	6	

The reamers are built on specific customer application.

To the moment of ordination to specify the type of material to work.

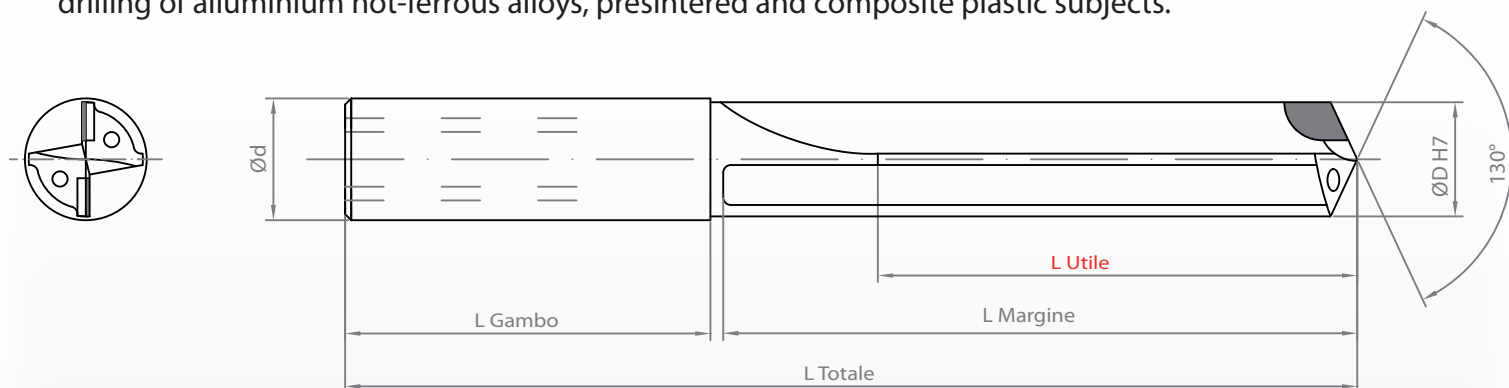


Solid Carbide Straight Flutes Drills with PCD Blades



Product cod. 70

High performance solid carbide straight drills , 4 margins, internal coolant supply and PCD blades. H7 drilling of aluminium not-ferrous alloys, presintered and composite plastic subjects.



3xD Drill

Ø D	Ø d	L tot	L marg	L utile	L gambo	Price €
4,00 -5,00	6	62	62	17	32	
5,01 -6,00	6	66	28	20	36	
6,01 -7,00	8	79	34	24	36	
7,01 -8,00	8	79	41	29	36	
8,01 -10,00	10	89	47	35	40	
10,01 -12,00	12	102	55	40	45	
12,01 -14,00	14	107	60	43	45	
14,01 -16,00	16	115	65	45	48	
16,01 -18,00	18	123	73	51	48	
18,01 -20,00	20	131	79	55	50	

To the moment of ordination to specify the type of material to work.

5xD Drill

Ø D	Ø d	L tot	L marg	L utile	L gambo	Price €
4,00 -5,00	6	74	36	27	32	
5,01 -6,00	6	82	44	35	36	
6,01 -8,00	8	91	53	43	36	
8,01 -10,00	10	103	61	49	40	
10,01 -12,00	12	118	71	56	45	
12,01 -14,00	14	124	77	60	45	
14,01 -16,00	16	133	83	63	48	
16,01 -18,00	18	143	93	71	48	
18,01 -20,00	20	153	101	77	50	

8xD Drill

Ø D	Ø d	L tot	L marg	L utile	L gambo	Price €
5,01 -6,00	6	95	57	48	36	
6,01 -8,00	8	114	76	64	36	
8,01 -10,00	10	142	95	80	40	
10,01 -12,00	12	162	114	96	45	
12,01 -14,00	14	178	133	112	45	
14,01 -16,00	16	203	152	128	48	
16,01 -18,00	18	222	171	144	48	
18,01 -20,00	20	243	190	160	50	

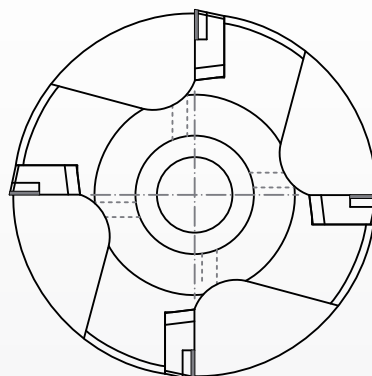
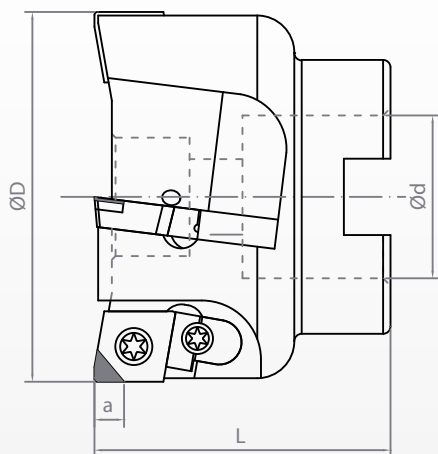


Face Mill with PCD Adjustable Inserts



Product cod. 80-81

Aluminium alloy Face Mills (Cod. 81), or burnished steel (cod.80), with adjustable PCD inserts. High-speed machining and high surface finishing, of aluminium, not-ferrous alloys, presintered and composite plastic subjects.



Aluminium Alloy Face Mill

Product Code	Ø D	L	Ø d	z	Price €
81-0404003	40	40	16	3	
81-0504004	50	40	22	4	
81-6305005	63	50	22	5	
81-8005006	80	50	27	6	
81-1005007	100	50	32	7	

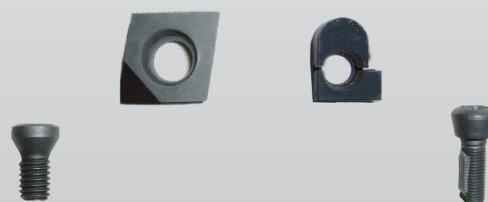
The aluminium face mill are covered with a anti-wear hard heat treatmnet. For a better screw holding we use a heli-coil.

Burnished Steel Face Mill

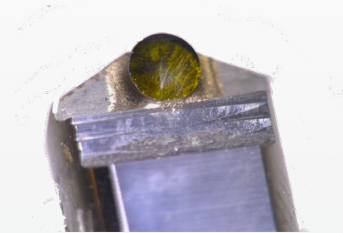
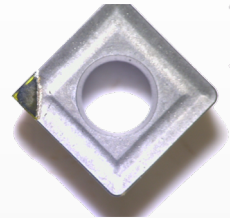
Product Code	Ø D	L	Ø d	z	Price €
80-0404003	40	40	16	3	
80-0504004	50	40	22	4	
80-6305005	63	50	22	5	
80-8005006	80	50	27	6	
80-1005007	100	50	32	7	

Accessories

Product Code	Designation	Price €
04-CCMW09T3FR	PCD Insert a = 4 mm	
06-CCMW09T3FR	PCD Insert a = 6 mm	
08-CCMW09T3FR	PCD Insert a = 8 mm	
80001	Adjustable Spring	
80002	Insert Screw	
80003	Regulation Crew	
80004	Face Mill Screw	



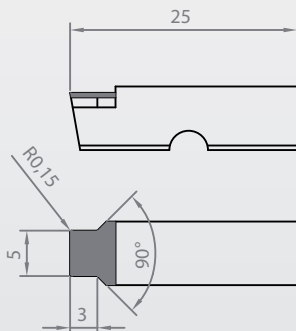
PCD and **CVD** Inserts for aluminium machining, composite plastic subjects and for not-ferrous material generally. **CBN** Inserts for machining of tempered steels, resistant superalloy to the heat. **MCD** inserts for superfinishing



Special Inserts To Sketch

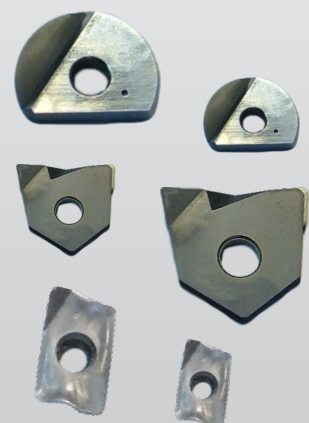
Special inserts are available in PCD CVD or CBN, performed to sketch.

Inserts for shaped groove, blades for reamings, utensils for the turning of alloy wheels, cartridges and inserts for milling.



Milling Inserts

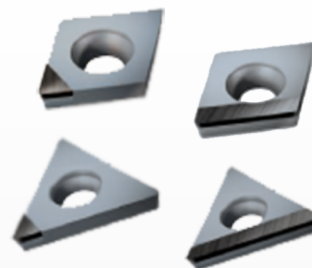
Inserts are available in PCD CVD and CBN for milling, Z1 or Z2. Spherical inserts for copying machining with amount carried over in CBN to the high density, suitable for the workmanship of dice. Toroidal inserts with different rays for workmanship of superfinish. Inserts miling generally.



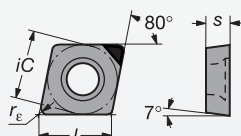
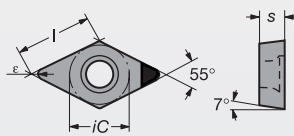
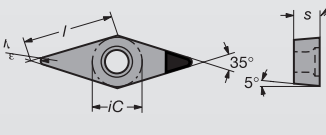
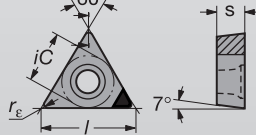
Standard ISO Inserts

Inserts are available in PCD, CVD and CBN for turning, groove, threading, milling, both with positive and negative positioning, according to the charts standard-iso.

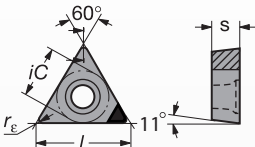
And is possible to choose between different gradations of PCD CVD or CBN and among different lengths of the edge to subsequently optimize the machining.

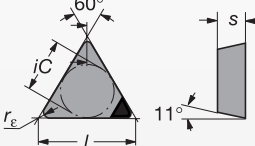


POSITIVE ISO-INSERTS

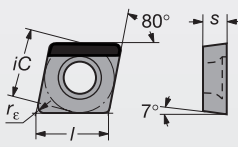
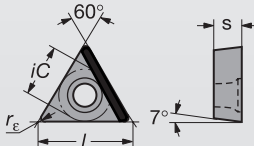
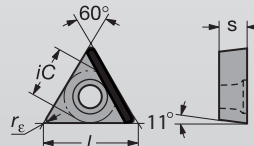
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VBMW VCMW 35° 	<table><tr><td>VBMW 110202</td><td>VBMW 160402</td><td>VCMW 160402</td></tr><tr><td>VBMW 110204</td><td>VBMW 160404</td><td>VCMW 160404</td></tr><tr><td>VBMW 110208</td><td>VBMW 160408</td><td>VCMW 160408</td></tr><tr><td></td><td>VBMW 160412</td><td>VCMW 160412</td></tr></table> Price € PCD E CBN	VBMW 110202	VBMW 160402	VCMW 160402	VBMW 110204	VBMW 160404	VCMW 160404	VBMW 110208	VBMW 160408	VCMW 160408		VBMW 160412	VCMW 160412				
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VBMW 110208	VBMW 160408	VCMW 160408															
	VBMW 160412	VCMW 160412															
TCMW 60° 	<table><tr><td>TCMW 06T102</td><td>TCMW 090202</td><td>TCMW 110202</td><td>TCMW 16T302</td></tr><tr><td>TCMW 06T104</td><td>TCMW 090204</td><td>TCMW 110204</td><td>TCMW 16T304</td></tr><tr><td></td><td>TCMW 090208</td><td>TCMW 110208</td><td>TCMW 16T308</td></tr><tr><td></td><td></td><td></td><td>TCMW 16T312</td></tr></table> Price € PCD E CBN	TCMW 06T102	TCMW 090202	TCMW 110202	TCMW 16T302	TCMW 06T104	TCMW 090204	TCMW 110204	TCMW 16T304		TCMW 090208	TCMW 110208	TCMW 16T308				TCMW 16T312
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TPGN 60° 	<table><tr><td>TPGN 090202</td><td>TPGN 110302</td><td>TPGN 160302</td><td>TPGN 220402</td></tr><tr><td>TPGN 090204</td><td>TPGN 110304</td><td>TPGN 160304</td><td>TPGN 220408</td></tr><tr><td>TPGN 090208</td><td>TPGN 110308</td><td>TPGN 160308</td><td>TPGN 220412</td></tr><tr><td></td><td></td><td>TPGN 160312</td><td></td></tr></table> Price € PCD E CBN	TPGN 090202	TPGN 110302	TPGN 160302	TPGN 220402	TPGN 090204	TPGN 110304	TPGN 160304	TPGN 220408	TPGN 090208	TPGN 110308	TPGN 160308	TPGN 220412			TPGN 160312	
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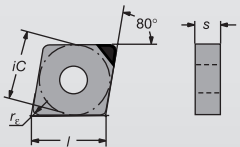
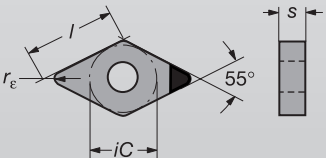
POSITIVE ISO-INSERTS ALL CUTTING

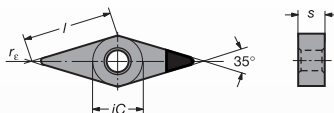
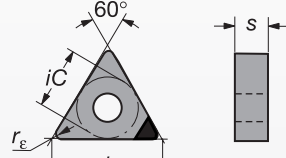
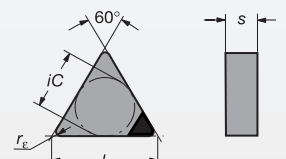
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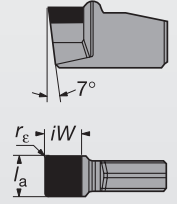
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NEGATIVE ISO-INSERTS

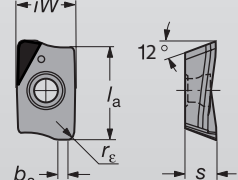
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CNMA 090308	CNMA 120412												
	CNMA 120416												
DNMA 55° 	<table><tr><td>DNMA 110404</td><td>DNMA 150404</td><td>DNMA 150604</td></tr><tr><td>DNMA 110408</td><td>DNMA 150408</td><td>DNMA 150608</td></tr><tr><td>DNMA 110412</td><td>DNMA 150412</td><td>DNMA 150612</td></tr><tr><td>DNMA 110416</td><td>DNMA 150416</td><td>DNMA 150616</td></tr></table> Price € PCD E CBN	DNMA 110404	DNMA 150404	DNMA 150604	DNMA 110408	DNMA 150408	DNMA 150608	DNMA 110412	DNMA 150412	DNMA 150612	DNMA 110416	DNMA 150416	DNMA 150616
DNMA 110404	DNMA 150404	DNMA 150604											
DNMA 110408	DNMA 150408	DNMA 150608											
DNMA 110412	DNMA 150412	DNMA 150612											
DNMA 110416	DNMA 150416	DNMA 150616											

VNMA 35° 	VNMA 160404 VNMA 160408 VNMA 160412 VNMA 160416 Price € PCD E CBN																
TNMA 60° 	<table><tr><td>TNMA 090202</td><td>TNMA 110302</td><td>TNMA 160402</td><td>TNMA 220404</td></tr><tr><td>TNMA 090204</td><td>TNMA 110304</td><td>TNMA 160404</td><td>TNMA 220408</td></tr><tr><td>TNMA 090208</td><td>TNMA 110308</td><td>TNMA 160408</td><td>TNMA 220412</td></tr><tr><td></td><td>TNMA 110312</td><td>TNMA 160412</td><td>TNMA 220416</td></tr></table> Price € PCD E CBN	TNMA 090202	TNMA 110302	TNMA 160402	TNMA 220404	TNMA 090204	TNMA 110304	TNMA 160404	TNMA 220408	TNMA 090208	TNMA 110308	TNMA 160408	TNMA 220412		TNMA 110312	TNMA 160412	TNMA 220416
TNMA 090202	TNMA 110302	TNMA 160402	TNMA 220404														
TNMA 090204	TNMA 110304	TNMA 160404	TNMA 220408														
TNMA 090208	TNMA 110308	TNMA 160408	TNMA 220412														
	TNMA 110312	TNMA 160412	TNMA 220416														
TNGN 60° 	<table><tr><td>TNGN 090202</td><td>TNGN 110302</td><td>TNGN 160402</td><td>TNGN 220404</td></tr><tr><td>TNGN 090204</td><td>TNGN 110304</td><td>TNGN 160404</td><td>TNGN 220408</td></tr><tr><td>TNGN 090208</td><td>TNGN 110308</td><td>TNGN 160408</td><td>TNGN 220412</td></tr><tr><td></td><td>TNGN 110312</td><td>TNGN 160412</td><td>TNGN 220416</td></tr></table> Price € PCD E CBN	TNGN 090202	TNGN 110302	TNGN 160402	TNGN 220404	TNGN 090204	TNGN 110304	TNGN 160404	TNGN 220408	TNGN 090208	TNGN 110308	TNGN 160408	TNGN 220412		TNGN 110312	TNGN 160412	TNGN 220416
TNGN 090202	TNGN 110302	TNGN 160402	TNGN 220404														
TNGN 090204	TNGN 110304	TNGN 160404	TNGN 220408														
TNGN 090208	TNGN 110308	TNGN 160408	TNGN 220412														
	TNGN 110312	TNGN 160412	TNGN 220416														

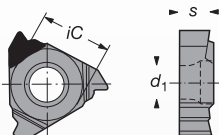
GROOVING AND CUT-OFF INSERTS

	Price € PCD E CBN Cutting edge = 2-3 mm Cutting edge = 3-4 mm Cutting edge = 4-5 mm Execution on a customer insert.
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MILLING INSERTS

	Price € PCD E CBN Insert Dimension = 11T3 Insert Dimension = 13T3 Insert Dimension = 1604 Execution on a customer insert.
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THREADING INSERTS

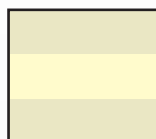


Price € PCD E CBN

Insert Dimension = 11

Insert Dimension = 16

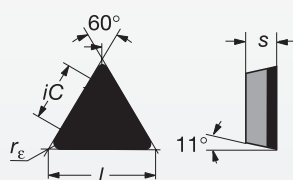
Insert Dimension = 22



Execution on a customer insert.

FULL FACE ISO-INSERTS

TPGN 60°



TPGN 090202

TPGN 090204

TPGN 090208

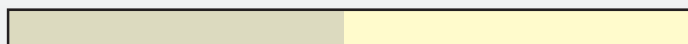
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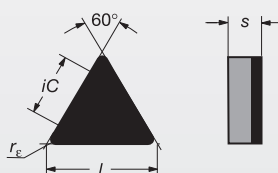
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TPGN 110312

Price € PCD E CBN



TNGN 60°



TNGN 090202

TNGN 090204

TNGN 090208

TNGN 110302

TNGN 110304

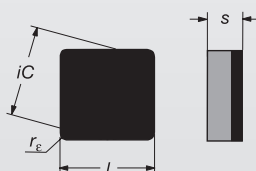
TNGN 110308

TNGN 110312

Price € PCD E CBN



SNGN 90°



SNGN 090304

SNGN 090308

SNGN 090312

SNGN 120408

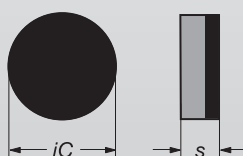
SNGN 120412

SNGN 120416

Price € PCD E CBN



RNGN 360°



RNGN 090300

RNGN 090400

RNGN 120300

RNGN 120400

Price € PCD E CBN

