DORMER PRAMET™

New products 2026.2

Certainty at every turn™

dormerpramet.com

Foreword

Dear Valued Customer,

It is with great pleasure and excitement that we share with you our new products for 2026.

Each year gives us the opportunity to deliver better solutions, and this launch reflects the steady progress we have made by staying committed to doing what's right.

As a leading global supplier of metal cutting tools and related services, our latest developments demonstrate how far we have come in advancing our technologies to meet your evolving needs.

With our 2026 portfolio, we aim to help you maximise your performance potential. These solutions are designed to support consistent and increased productivity, greater process stability, and reliable results. Our products are engineered to increase productivity and optimize performance, delivering exceptional stability, and the durability needed to overcome challenges and exceed expectations. This synergy enables us to provide reliability, cost savings, and innovation, bringing more value to you.

We look forward to supporting your success in 2026 and beyond.

Warm regards,
Filippo Mauri
President, Dormer Pramet

Milling products

Solid carbide chamfer mills – range extension	4
STD-series	26
BNMX 10 – range extension	50

Threading

Black Shark – range extension	18

Sustainability

Building a sustainable future together

For Dormer Pramet, sustainability isn't a challenge, it's an opportunity.
But it's not something we can tackle alone.

With our customers, partners, and communities, we are navigating this journey; innovating, learning, and growing as one team. Our approach is simple: we're in this together, to make a meaningful impact.

We know that making a sustainable choice isn't just about doing the right thing. It's about doing what's right for your business, too. Our tools are built to last longer, work harder, and be more efficient, helping you reduce your environmental footprint and improve your performance at the same time.

Longer tool life, less waste

Our products are engineered for durability, meaning fewer replacements, less waste, and more value in the long run.

That's sustainability in action; keeping tools in circulation longer and conserving precious resources.

Reduced energy consumption, increased productivity

We make products that help our customers use less energy while doing more.

With reduced cutting forces and enhanced productivity, we make your operation more efficient and eco-friendly.

Sustainability at the core of every tool

Facing challenges, providing solutions

Our commitment to the planet and your business drives every decision we make.

Circularity

We work to ensure at least 90% material circularity for waste, products, and packaging. We are committed to sourcing ethical and recycled materials to continue circularity throughout our supply chain.

With new customer projects, our focus is on material and resource efficiency with new models designed for reuse and recycling.

Where local infrastructure allows, we work to recover and recycle valuable materials from our operations, supporting a more circular approach to tooling materials.

CO_2 reduction

Our goal is to become net-zero by 2040.
In 2025, we reduced our CO_2 emissions by circa 78% compared to our 2019 baseline (Scope 1 and 2*), demonstrating the significant progress we have made on our sustainability journey.

* Scope 1 emissions include direct emissions fromcompany-owned operations.
* Scope 2 emissions are indirect, deriving from an organization's purchase of electricity, steam, heat, or cooling.

Packaging

From 2025, Dormer Pramet products moved to new grey packaging with orange labels, retaining PCR plastics and improving circularity by making the packaging simpler to recycle repeatedly due to its neutral colour.

The impact can be seen throughout our production units. In Sao Paulo, we are recycling over 100 tonnes of plastic per year, and we have reduced CO_2 emissions.

Solid carbide chamfering solutions – range extension

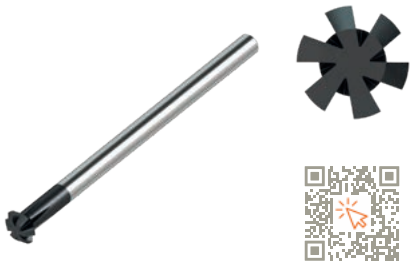
Expand your machining capabilities with versatile, high-performance chamfering

Introducing a new generation of multi-flute solid carbide chamfer mills designed to deliver versatile, high-performance chamfering across a wide range of materials and applications. The expanded assortment includes chamfer mills in metric and inch sizes, and deburring mills and quarter-round mills in metric sizes with 60°, 90° and 120° point angles and 3-, 4-, 5 – and 6-flute geometries.

The range covers steel, stainless steel, cast iron, non-ferrous materials, super alloys and titanium making it well suited for chamfering, deburring and edge profiling in mixed-production environments. Higher flute counts provide smoother cutting action improved surface finish, efficient material removal and reduced tool stress for reliable performance across multiple materials.

Related products

S031



Forward and backward deburrer

6.0 – 12.0 mm

Cylindrical shank

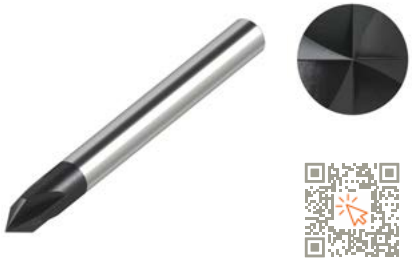
S041

Corner rounding cutter

Radius: R0.5 – R6.0 mm (10 sizes)

Cylindrical shank
Shank diameter: 4.0 – 6.0 mm

S051HA



60° chamfer angle

6.0 – 10.0 mm

Cylindrical shank

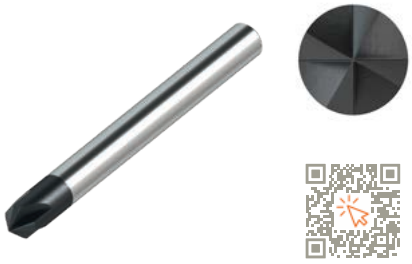
S051HB

60° chamfer angle

10.0 mm

Weldon shank

S052HA

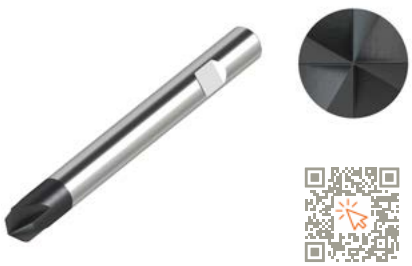


90° chamfer angle

6.0 – 12.0 mm

Cylindrical shank

S052HB

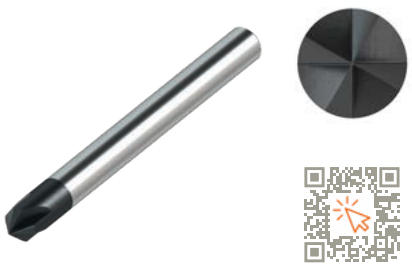


90° chamfer angle

6.0 – 12.0 mm

Weldon shank

S052

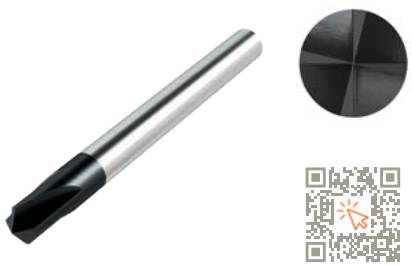


90° chamfer angle

1/4" – 1/2"

Cylindrical shank

S053



120° chamfer angle

10.0 mm

Cylindrical shank

Features & benefits

Optimized for multi-material applications.	**One reliable tool for many materials** reduces tool changes and lowers tooling costs.
Multiple cutting edges increase productivity.	**Higher machining efficiency** supports higher feed rates and shorter cycle times.
Solid carbide with high wear resistance.	**Long tool life** maintains consistent cutting performance and reduces downtime.
Available in 60°, 90° and 120° cutting angles.	**Precise chamfer and edge profiles** deliver clean, burr-free edges and minimize rework.
Optimized flute design prevents chip buildup.	**Improved machining stability** reduces vibration and enables a more efficient cutting process.

Success stories

Achieve 300% longer tool life and 83% higher feed rate in chamfer milling

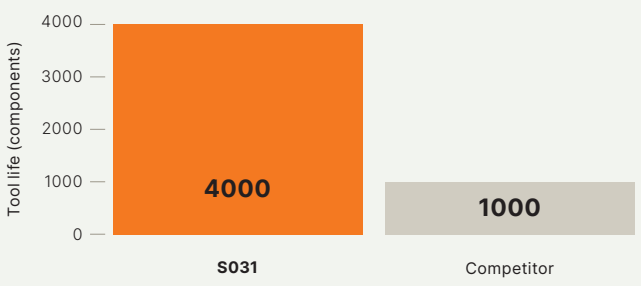
Customer result: The Dormer Pramet multi flute chamfer mill achieved four times the tool life of a competing indexable chamfer tool, reaching 4000 components per tool versus 1000. Running at a table feed of 1003 mm/min compared to 549 mm/min with the competitor. The Dormer Pramet tool delivered significantly higher feed rates under identical cutting conditions reducing the frequency of tool changes and increasing process reliability in production.

Segment	Automotive
Application	Chamfer milling
Material	S355J0C
Coolant	External emulsion 5%
Our solution	**S031**

Machining data			
v_c	f_n	a_p	a_e
180	0.035	1.0	1.0

P1.2

Tool life (components)



v_c = cutting speed (m/min), f_z = feed per tooth, a_p = axial depth of cut (mm), a_e = width of cut (mm)

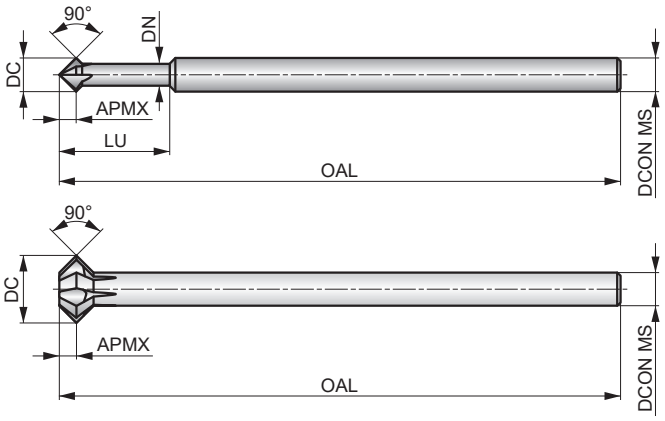
Material code (BMC)		HM	HM	HM	HM	HM						
Mill Profile		N	N	N	N	N						
Number of flutes (NOF)		NOF 4-6	NOF 3-4	NOF 4	NOF 4-6	NOF 4						
Cut length												
Flute Helix (FHA)		λ 0°	λ 0°	λ 0°	λ 0°	λ 0°						
Radial rake angle (GAMF)		γ 1°	γ 1°	γ 1°	γ 1°	γ 1°						
Shank		DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HB	DIN 6535HA						
Coating		TiAlN	TiAlN	TiAlN	TiAlN	TiAlN						
Cutting diameter tolerance class (TCDC)		DC h9	DC h9	DC h9	DC h9	DC h9						
Direction												
Basic standard group (BSG)		WORK NORM	WORK NORM	WORK NORM	WORK NORM	WORK NORM						
Cutting Edge Shape			RE	60°	90°	120°						
Product Family Code		S031	S041	S051	S052	S053						
PSF cutting diameters range		6.00 - 12.00	4.00 - 8.00	6.00 - 10.00	6.00 - 12.70 1/4 - 1/2 in	10.00						
		9	10	11	12	13						
P	P1	■	■	■	■	■						
	P2	■	■	■	■	■						
	P3	■	■	■	■	■						
	P4	■	■	■	■	■						
M	M1	■	■	■	■	■						
	M2	◪	◪	◪	◪	◪						
	M3	◪	◪	◪	◪	◪						
	M4											
K	K1	◪	■	■	■	■						
	K2	◪	■	■	■	■						
	K3	◪	◪	◪	◪	◪						
	K4	◪	◪	◪	◪	◪						
	K5	◪	◪	◪	◪	◪						
N	N1	◪	◪	◪	◪	◪						
	N2	◪	◪	◪	◪	◪						
	N3											
	N4											
	N5											
S	S1	◪	◪	◪	◪	◪						
	S2	◪	◪	◪	◪	◪						
	S3	◪	◪	◪	◪	◪						
	S4	◪	◪	◪	◪	◪						
H	H1											
	H2											
	H3											
	H4											

■ Primary use ◪ Possible use

S031

Forward/Backward Solid Carbide Deburrer

Medium cut length. Multi-flute chamfer mill. Smooth, vibration-free deburring. Forward/backward chamfer geometry. Efficient CNC machining. TiAlN coating improves wear resistance and extends tool life.



HM	N	NOF 4-6
	λ 0°	γ 1°
DIN 6535HA	TiAlN	DC h9
	WORK NORM	

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 14.

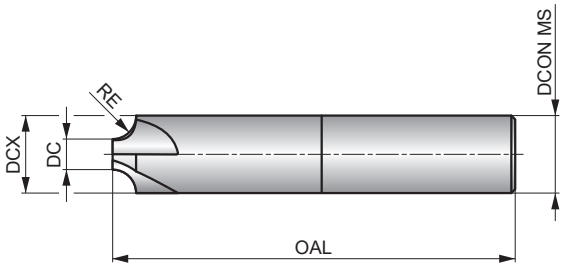
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 200 F	■ 223 G	■ 230 G	■ 170 F	■ 150 F	■ 135 E	■ 140 F	■ 115 E	■ 94 E	■ 85 E	■ 70 E	◪ 62 D	■ 112 G	■ 98 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
◪ 98 E	◪ 76 D	◪ 89 E	◪ 75 D	◪ 192 G	◪ 146 F	◪ 98 F	◪ 198 G	◪ 160 F	◪ 123 E	◪ 160 F	◪ 123 F	◪ 106 E	◪ 154 E
K4.2	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**S1.2**	**S2.1**	**S3.1**	**S4.1**
◪ 120 E	◪ 120 E	◪ 112 E	◪ 102 D	◪ 350 I	◪ 256 G	◪ 174 F	◪ 174 G	◪ 160 F	◪ 108 F	◪ 58 E	◪ 43 E	◪ 32 E	◪ 28 E

Product	DC (mm)	DCON MS (mm)	APMX (mm)	OAL (mm)	NOF	LU (mm)	DN (mm)
S0316.0	6.00	6.00	3.20	100.0	4	19	3.9
S0318.0	8.00	6.00	1.00	100.0	4	–	–
S03110.0	10.00	6.00	2.00	100.0	6	–	–
S03112.0	12.00	6.00	3.00	100.0	6	–	–

S041

Corner Rounding Profile Solid Carbide Mill

Medium cut length. Multi-flute design. Efficient material removal. Stable performance. Radius geometry optimized for smooth corner round profiles on CNC machines. TiAlN coating improves wear resistance and extends tool life.



HM	N	NOF 3-4
	λ 0°	γ 1°
DIN 6535HA	TiAlN	DC h9
	WORK NORM	

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 14.

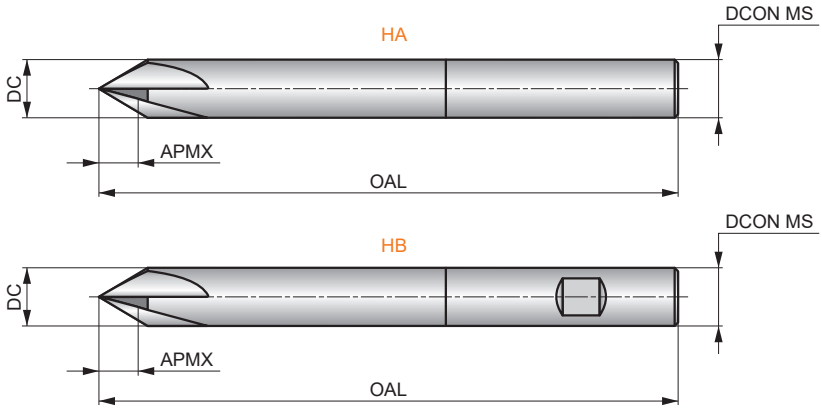
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 225 K	■ 246 N	■ 282 N	■ 192 K	■ 176 K	■ 148 J	■ 160 K	■ 127 J	■ 108 J	■ 100 J	■ 86 J	◪ 74 I	■ 124 N	■ 102 K
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
◪ 108 K	◪ 82 J	◪ 92 J	◪ 78 I	■ 202 N	■ 162 K	◪ 108 K	■ 168 K	◪ 142 K	◪ 126 J	◪ 164 K	◪ 142 K	◪ 109 J	◪ 162 J
K4.2	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**S1.2**	**S2.1**	**S3.1**	**S4.1**
◪ 132 J	◪ 125 J	◪ 115 J	◪ 106 I	◪ 380 O	◪ 272 N	◪ 184 N	◪ 196 O	◪ 176 N	◪ 132 N	◪ 72 J	◪ 54 J	◪ 42 J	◪ 32 J

Product	DC (mm)	DCX (mm)	RE (mm)	DCON MS (mm)	OAL (mm)	NOF
S0414.0R0.5	4.00	6.00	0.50	6.00	57.0	3
S0414.0R0.8	4.00	6.00	0.80	6.00	57.0	3
S0414.0R1.0	4.00	8.00	1.00	8.00	63.0	4
S0414.0R1.5	4.00	8.00	1.50	8.00	63.0	4
S0415.0R2.0	5.00	10.00	2.00	10.00	72.0	4
S0415.0R2.5	5.00	10.00	2.50	10.00	72.0	4
S0415.0R3.0	5.00	12.00	3.00	12.00	83.0	4
S0416.0R4.0	6.00	14.00	4.00	14.00	83.0	4
S0416.0R5.0	6.00	16.00	5.00	16.00	92.0	4
S0418.0R6.0	8.00	20.00	6.00	20.00	104.0	4

S051

4-Flute Solid Carbide Chamfering End Mill, 60°

Medium cut length. 4-flute design provides fast operation and reduces vibrations. The 60° point is designed for chamfer milling on CNC machines. TiAlN coating increases tool life and improves performance.



HM	N	NOF 4
	λ 0°	γ 1°
DIN 6535HB	TiAlN	DC h9
	WORK NORM	

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 14.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 200 K	■ 223 N	■ 230 N	■ 170 K	■ 150 K	■ 135 J	■ 140 K	■ 115 J	■ 94 J	■ 85 J	■ 70 J	◪ 62 I	■ 112 N	■ 98 K
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
◪ 98 K	◪ 76 J	◪ 89 J	◪ 75 I	■ 192 N	■ 146 K	◪ 98 K	■ 198 K	◪ 160 K	◪ 123 J	◪ 160 K	◪ 123 K	◪ 106 J	◪ 154 J
K4.2	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**S1.2**	**S2.1**	**S3.1**	**S4.1**
◪ 120 J	◪ 120 J	◪ 112 J	◪ 102 I	◪ 350 O	◪ 256 N	◪ 174 N	◪ 174 O	◪ 160 N	◪ 108 N	◪ 68 J	◪ 52 J	◪ 40 J	◪ 31 J

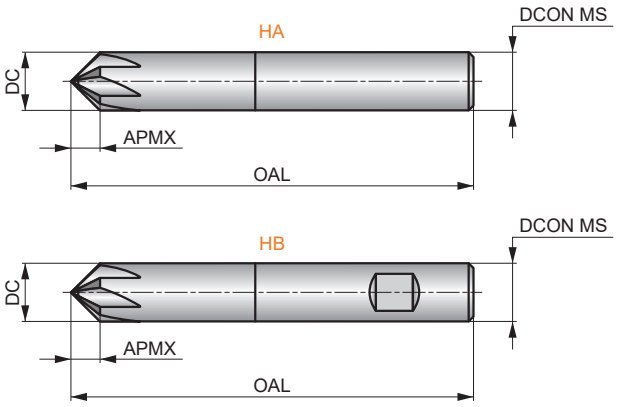
Product	DC (mm)	DCON MS (mm)	APMX (mm)	OAL (mm)	NOF
S051HA6.0 [1]	6.00	6.00	4.30	57.0	4
S051HA10.0 [1]	10.00	10.00	7.35	100.0	4
S051HB10.0	10.00	10.00	7.35	100.0	4

[1] Cylindrical shank DIN 6535 HA.

S052

Multi-Flute Solid Carbide Chamfering End Mill, 90°

Medium cut length. Multi-flute design provides fast operation and reduces vibrations. The 90° point is designed for chamfer milling on CNC machines. TiAlN coating increases tool life and improves performance.



HM	N	NOF 4-6
	λ 0°	γ 1°
DIN 6535HB	TiAlN	DC h9
	WORK NORM	

Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 14.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 200 K	■ 223 N	■ 230 N	■ 170 K	■ 150 K	■ 135 J	■ 140 K	■ 115 J	■ 94 J	■ 85 J	■ 70 J	◪ 62 I	■ 112 N	■ 98 K
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
◪ 98 K	◪ 76 J	◪ 89 J	◪ 75 I	■ 192 N	■ 146 K	◪ 98 K	■ 198 K	◪ 160 K	◪ 123 J	◪ 160 K	◪ 123 K	◪ 106 J	◪ 154 J
K4.2	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**S1.2**	**S2.1**	**S3.1**	**S4.1**
◪ 120 J	◪ 120 J	◪ 112 J	◪ 102 I	◪ 350 O	◪ 256 N	◪ 174 N	◪ 174 O	◪ 160 N	◪ 108 N	◪ 68 J	◪ 52 J	◪ 40 J	◪ 31 J

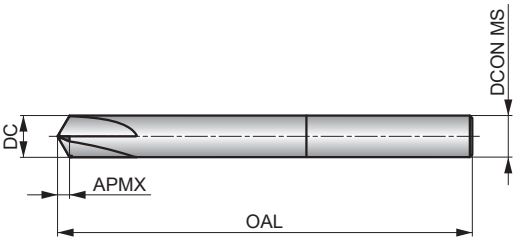
Product	DC (mm)	DC (inch)	DCON MS (mm)	APMX (mm)	OAL (mm)	NOF
S052HA6.0 [1]	6.00	–	6.00	2.50	57.0	4
S052HB6.0	6.00	–	6.00	2.50	57.0	4
S0521/4 [2]	6.35	1/4	6.35	2.67	63.5	4
S052HA8.0 [1]	8.00	–	8.00	3.00	80.0	5
S052HB8.0	8.00	–	8.00	3.00	80.0	5
S0523/8 [2]	9.53	3/8	9.53	4.01	63.5	4
S052HA10.0 [1]	10.00	–	10.00	4.25	100.0	4
S052HB10.0	10.00	–	10.00	4.25	100.0	4
S052HA12.0 [1]	12.00	–	12.00	4.50	83.0	6
S052HB12.0	12.00	–	12.00	4.50	83.0	6
S0521/2 [2]	12.70	1/2	12.70	4.85	76.2	6

[1] Cylindrical shank DIN 6535 HA.
[2] Cylindrical shank.

S053

4-Flute Solid Carbide Chamfering End Mill, 120°

Medium cut length. 4-flute design provides fast operation and reduces vibrations. The 120° point is designed for chamfer milling on CNC machines. TiAlN coating increases tool life and improves performance.



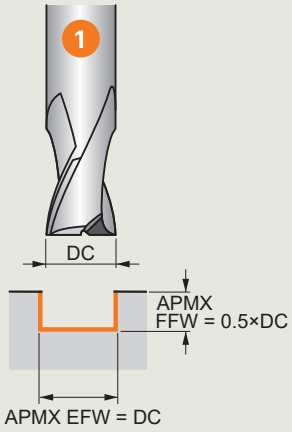
HM	N	NOF 4
	λ 0°	γ 1°
DIN 6535HA	TiAlN	DC h9
	WORK NORM	

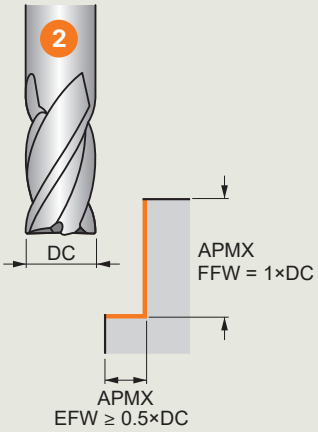
Workpiece material group suitability, starting values for cutting speed (m/min) and Alpha Code. Tables with feed per tooth and correction factors can be found starting from page 14.

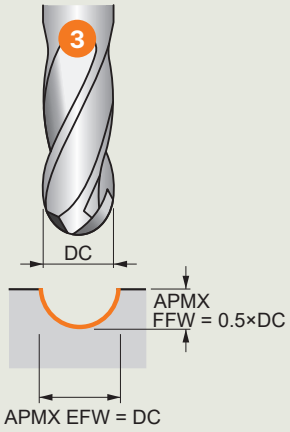
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 200 K	■ 223 N	■ 230 N	■ 170 K	■ 150 K	■ 135 J	■ 140 K	■ 115 J	■ 94 J	■ 85 J	■ 70 J	◪ 62 I	■ 112 N	■ 98 K
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
◪ 98 K	◪ 76 J	◪ 89 J	◪ 75 I	■ 192 N	■ 146 K	◪ 98 K	■ 160 K	◪ 123 K	◪ 123 J	◪ 160 K	◪ 123 K	◪ 106 J	◪ 154 J
K4.2	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**S1.2**	**S2.1**	**S3.1**	**S4.1**
◪ 120 J	◪ 120 J	◪ 112 J	◪ 102 I	◪ 350 0	◪ 256 N	◪ 174 N	◪ 174 0	◪ 160 N	◪ 108 N	◪ 68 J	◪ 52 J	◪ 40 J	◪ 31 J

Product	DC (mm)	DCON MS (mm)	APMX (mm)	OAL (mm)	NOF
S05310.0	10.00	10.00	2.45	100.0	4

Solid HM mills – feed per tooth table







Feed per tooth f_z (mm) depending on the working conditions it might be necessary to adjust these values ±25 %.

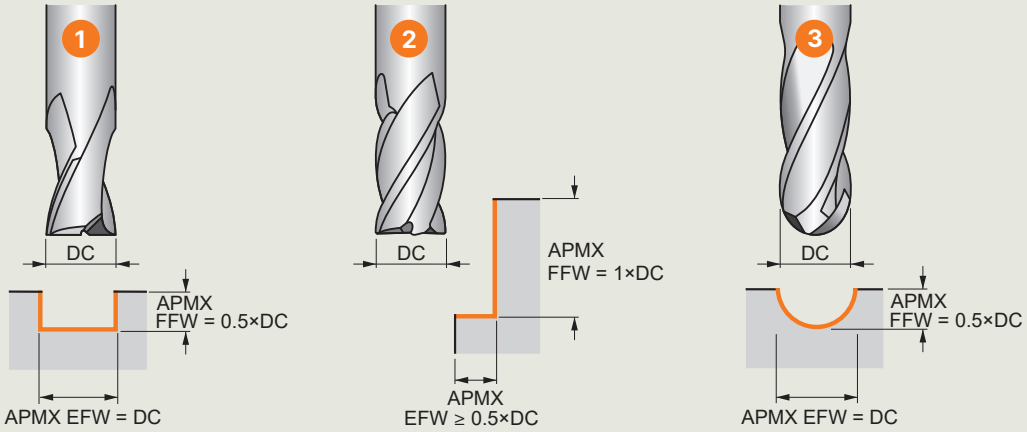
ONLY if plunging into solid material with a centre cutting end mill the values in this table should be considered as f_n (feed per revolution).

How to use this table to find the feed per tooth f_z:
1. Find your Alpha Code on the product page (example: 199K, "**K**" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per tooth f_z.

FOR SOLID CARBIDE MILLING CUTTERS ONLY

		ø DC (mm)															
		1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
Feed rates (mm)	A	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.014	0.015	0.017	0.019	0.021	0.025	0.028
	B	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.014	0.015	0.017	0.019	0.021	0.025	0.028
	C	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.014	0.015	0.017	0.019	0.021	0.025	0.028
	D	0.002	0.003	0.004	0.005	0.007	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.017	0.019	0.021	0.025	0.028
	E	0.002	0.003	0.004	0.008	0.009	0.012	0.013	0.014	0.015	0.016	0.019	0.021	0.024	0.026	0.028	0.030	0.034
	F	0.002	0.003	0.006	0.010	0.013	0.016	0.017	0.019	0.021	0.022	0.026	0.029	0.032	0.035	0.039	0.042	0.047
	G	0.002	0.005	0.008	0.014	0.018	0.022	0.024	0.026	0.028	0.031	0.035	0.040	0.044	0.048	0.053	0.057	0.064
	I	0.003	0.006	0.011	0.019	0.024	0.030	0.032	0.036	0.039	0.042	0.049	0.054	0.061	0.066	0.073	0.079	0.088
	J	0.004	0.009	0.014	0.026	0.033	0.041	0.044	0.048	0.053	0.057	0.066	0.074	0.083	0.090	0.099	0.107	0.120
	K	0.006	0.012	0.019	0.035	0.044	0.054	0.059	0.064	0.070	0.076	0.088	0.098	0.110	0.120	0.132	0.142	0.160
	N	0.008	0.016	0.025	0.047	0.058	0.072	0.078	0.086	0.094	0.101	0.117	0.131	0.146	0.160	0.175	0.189	0.212
	O	0.010	0.021	0.034	0.062	0.078	0.096	0.104	0.114	0.124	0.135	0.156	0.174	0.195	0.213	0.233	0.252	0.283
	P	0.014	0.028	0.045	0.083	0.104	0.128	0.138	0.152	0.166	0.180	0.207	0.231	0.259	0.283	0.311	0.335	0.376
	R	0.018	0.037	0.060	0.110	0.138	0.170	0.184	0.202	0.221	0.239	0.276	0.308	0.345	0.377	0.414	0.446	0.501
	S	0.024	0.049	0.080	0.147	0.183	0.226	0.245	0.269	0.294	0.318	0.367	0.410	0.459	0.502	0.550	0.593	0.667

Formulas (Metric)			Terms	Formulas (Imperial)		
$v_c = \frac{n \times DC \times \pi}{1000}$	v_c	(m/min)	**Cutting speed**	*SFM*	(ft/min)	$SFM = \frac{RPM \times DC \times \pi}{12}$
$n = \frac{v_c \times 1000}{DC \times \pi}$	n	(rev/min)	**Spindle speed**	*RPM*	(rev/min)	$RPM = \frac{SFM \times 12}{DC \times \pi}$
$V_f = f_z \times z \times n$	V_f	(mm/min)	**Feed rate**	*IPM*	(in/min)	$IPM = IPT \times T \times RPM$
$f_z = \frac{V_f}{z \times n}$	f_z	(mm/tooth)	**Feed per tooth**	*IPT*	(in/tooth)	$IPT = \frac{IPM}{T \times RPM}$
$Q = \frac{V_f \times a_p \times a_e}{1000}$	*DC*	(mm)	**Cutting diameter**	*DC*	(in)	$MRR = IPM \times DOC \times WOC$
	z	(–)	**Number of teeth**	*T*	(–)	
	a_p	(mm)	**Depth of cut**	*DOC*	(in)	
	a_e	(mm)	**Width of cut**	*WOC*	(in)	
	Q	(cm³/min)	**Metal removal rate**	*MRR*	(in³/min)	



Feed per tooth *IPT* or (inch) depending on the working conditions it might be necessary to adjust these values ±25 %.

ONLY if plunging into solid material with a centre cutting end mill the values in this table should be considered as *IPR* (feed in inch per revolution).

How to use this table to find the feed per tooth *IPT*:
1. Find your Alpha Code on the product page (example: 653K, "**K**" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per tooth *IPT*.

FOR SOLID CARBIDE MILLING CUTTERS ONLY

		ø DC (inch)															
		1/16	3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
		.0625	.0938	.1250	.1563	.1875	.2188	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.7500	.8750	1.0000
Feed rates (inch)	A	.0001	.0001	.0002	.0002	.0002	.0002	.0003	.0003	.0004	.0005	.0005	.0006	.0007	.0008	.0010	.0011
	B	.0001	.0001	.0002	.0002	.0002	.0002	.0003	.0003	.0004	.0005	.0005	.0006	.0007	.0008	.0010	.0011
	C	.0001	.0001	.0002	.0002	.0002	.0002	.0003	.0003	.0004	.0005	.0005	.0006	.0007	.0008	.0010	.0011
	D	.0001	.0001	.0002	.0002	.0002	.0003	.0004	.0004	.0004	.0005	.0006	.0006	.0007	.0008	.0010	.0011
	E	.0001	.0001	.0002	.0003	.0004	.0004	.0005	.0006	.0006	.0007	.0007	.0009	.0009	.0011	.0012	.0013
	F	.0001	.0002	.0002	.0004	.0005	.0006	.0006	.0007	.0009	.0009	.0011	.0012	.0013	.0015	.0017	.0019
	G	.0002	.0002	.0004	.0006	.0007	.0007	.0009	.0010	.0012	.0013	.0015	.0016	.0017	.0020	.0023	.0025
	I	.0002	.0003	.0005	.0007	.0009	.0011	.0012	.0014	.0016	.0018	.0020	.0022	.0024	.0028	.0031	.0035
	J	.0003	.0004	.0007	.0010	.0012	.0014	.0017	.0019	.0022	.0024	.0027	.0030	.0032	.0037	.0043	.0047
	K	.0004	.0006	.0009	.0014	.0016	.0019	.0022	.0025	.0029	.0032	.0036	.0040	.0043	.0050	.0056	.0063
	N	.0005	.0007	.0011	.0019	.0022	.0025	.0029	.0034	.0038	.0043	.0048	.0053	.0057	.0066	.0075	.0083
	O	.0006	.0010	.0015	.0024	.0029	.0034	.0039	.0045	.0051	.0057	.0063	.0070	.0076	.0088	.0100	.0111
	P	.0008	.0014	.0020	.0033	.0038	.0045	.0052	.0060	.0068	.0076	.0084	.0094	.0100	.0117	.0133	.0148
	R	.0011	.0018	.0027	.0043	.0051	.0060	.0069	.0080	.0091	.0101	.0112	.0125	.0134	.0156	.0177	.0197
	S	.0015	.0024	.0036	.0058	.0067	.0080	.0091	.0106	.0120	.0135	.0149	.0166	.0178	.0207	.0236	.0263

1 Slot Milling

Correction factors for cutting speed v_c and feed per tooth f_z for slot milling operations at different depths of cut.

a_p / DC	25 %	50 %	100 %	150 %
X.V	1.25	1.00	0.75	0.50
x.f	1.25	1.00	0.75	0.50

2 Shoulder Milling

Correction factors for cutting speed v_c and feed per tooth f_z for square shoulder milling with < 50 % radial immersion.

a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	≥ 50 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.00
x.f	2.29	1.67	1.40	1.25	1.15	1.09	1.02	1.00

We recommend to avoid milling with 50 % radial immersion.

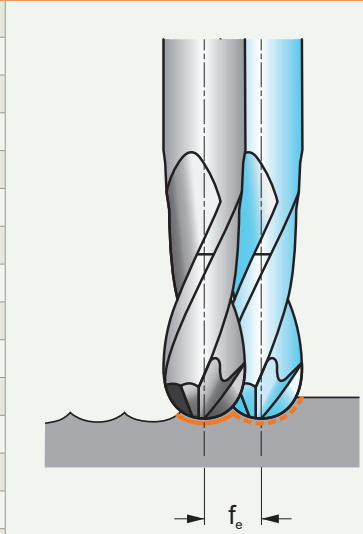
3a Plain Copy Milling (with Ball Nose Cutters)

Correction factors for cutting speed v_c for plain copy milling at different depths of cut.

a_p / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %
X.V	2.29	1.67	1.40	1.25	1.15	1.09	1.02	1.00

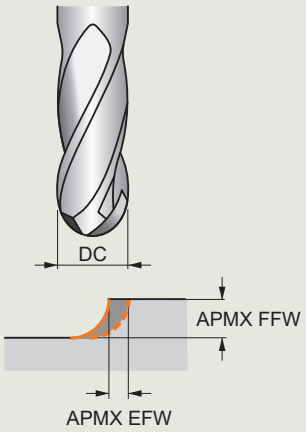
3b

Line offset f_e (step-over distance) for achieving a theorectical surface roughness R_{th}.

DC	µm	2	4	8	16	32	63	125	250
2		0.13	0.18	0.25	0.36	0.50	0.70	0.97	1.32
3		0.15	0.22	0.31	0.44	0.62	0.86	1.20	1.66
4		0.18	0.25	0.36	0.50	0.71	1.00	1.39	1.94
5		0.20	0.28	0.40	0.56	0.80	1.12	1.56	2.18
6		0.22	0.31	0.44	0.62	0.87	1.22	1.71	2.40
8		0.25	0.36	0.51	0.71	1.01	1.41	1.98	2.78
10		0.28	0.40	0.57	0.80	1.13	1.58	2.22	3.12
12		0.31	0.44	0.62	0.88	1.24	1.73	2.44	3.43
14		0.33	0.47	0.67	0.95	1.34	1.87	2.63	3.71
16		0.36	0.51	0.72	1.01	1.43	2.00	2.82	3.97
18		0.38	0.54	0.76	1.07	1.52	2.13	2.99	4.21
20		0.40	0.57	0.80	1.13	1.60	2.24	3.15	4.44
22		0.42	0.59	0.84	1.19	1.68	2.35	3.31	4.66
25		0.45	0.63	0.89	1.26	1.79	2.51	3.53	4.97
28		0.47	0.67	0.95	1.34	1.89	2.65	3.73	5.27

Line offset dimensions shown are Metric (mm) only.

3c



How to use this table to find the correction factor for the feed per tooth (f_z or IPT) for plain copy milling:

1. Find the closest radial immersion (a_e / *DC*) for your cutting application in the top row of the table.
2. Find your closert axial immersion (a_p / *DC*) for your cutting application in the left column of the table.
3. The intersection (cell) of the radial and axial immersions is the correction factor for the feed per tooth.

Example for plain copy milling:

1. Applying an 8 mm ball nose cutter with a depth of cut of 0.8 mm (a_p), the aim is to achieve a theoretical surface roughness of 32 µm.
2. The correction factor for cutting speed with an axial immersion of 10 % = 1.67 can be found in table 3a.
3. The step-over distance for a R_{th} of 32 µm = 1.01 mm can be found in table 3b.
4. The correction factor for feed per tooth with an axial immersion of 10 % and a radial immersion of 1.01 / 8 = 12.6 % can be found in table 3c and is in this case 2.33.

Correction factors for feed per tooth f_z for plain copy milling with a line offset < 50 % × *DC* at different of depths of cut.

APMX FFW	APMX EFW	5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	50 %
5 %		5.26	3.82	3.21	2.87	2.65	2.50	2.40	2.34	2.29
10 %		3.82	2.78	2.33	2.08	1.92	1.82	1.75	1.70	1.67
15 %		3.21	2.33	1.96	1.75	1.62	1.53	1.47	1.43	1.40
20 %		2.87	2.08	1.75	1.56	1.44	1.36	1.31	1.28	1.25
25 %	x.f	2.65	1.92	1.62	1.44	1.33	1.26	1.21	1.18	1.15
30 %	⇨	2.50	1.82	1.53	1.36	1.26	1.19	1.14	1.11	1.09
35 %		2.40	1.75	1.47	1.31	1.21	1.14	1.10	1.07	1.05
40 %		2.34	1.70	1.43	1.28	1.18	1.11	1.07	1.04	1.02
45 %		2.31	1.68	1.41	1.26	1.16	1.10	1.05	1.03	1.01
50 %		2.29	1.67	1.40	1.25	1.15	1.09	1.05	1.02	1.00

To increase the surface quality, the tool or surface should be inclinded with a tilt angle off 10° – 15°.

Taps for high strength steel – range extension

Enhanced Performance

The Black Shark tap range now covers diameters from M3 to M24, adding new sizes in M16, M20, and M24. Specifically engineered for high-strength and difficult-to-machine steels, these taps provide consistent thread quality and reliable tool life in demanding applications. The extended range applies the same proven geometry and process reliability across a broader diameter spectrum. This supports stable, high-quality thread production in challenging materials such as Hardox, Toolox, and Armox used in mining and construction equipment, die casting, heavy machinery and security applications.

Related products

E334	
	Spiral point
M3 – M24	
2.5xD	
HSS-E-PM TiAlN-Top coated	

E335	
	Spiral flute
M3 – M24	
1.5xD	
HSS-E-PM TiAlN-Top coated	

Features & benefits

Robust geometry.	**Superior cutting edge strength** enables reliable, trouble-free threading in the most demanding materials.
Unique HSS-E-PM material with increased toughness and edge strength.	**Optimzed wear resistance** enabling stable and highly reliable machining.
TiAlN-Top with a post-coating smoothing treatment.	**Allows higher cutting temperatures** while offering excellent performance and longer tool life.
Distinctive black ring coding.	**Instantly identifies the right tap for high-strength steels and superalloys** reducing selection time and errors.

Spiral point

Features & benefits

Spiral flute

Success stories

Achieve reliable thread quality in high-abrasion steel tapping

Customer result: The Black Shark tap successfully replaced a competing tool in M20 through-hole tapping of Hardox 450 (ISO P). Used in the production of construction crushers the application demanded consistent thread quality and process reliability under extreme wear conditions.
The Black Shark delivered good service life throughout the operation, securing a repeat annual order of 300 pieces in size M20. Pre-drilling was performed with the Dormer Pramet indexable drill 803D demonstrating the strength of a combined tooling solution for this challenging material.

Segment	Mining and Construction
Application	Tapping for construction crushers
Material	Hardox 450
Coolant	Emulsion 6%
Our solution	**E334M20**

Machining data		
v_c	f_n	t_d
6	2.5	40

P4.3

v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), t_d = threading depth (mm)

Machining examples

Master blind hole tapping of **Inconel 718**

The Black Shark successfully produced 8 blind hole threads in Inconel 718 (ISO S) at a hardness of up to 475 HB. Using a TiAlN-coated HSS-E-PM substrate the tap maintained tool integrity throughout the test demonstrating reliable performance in an extreme material under blind hole conditions.

Material	Inconel 718 hardness up to 475 HB
Coolant	High-Pressure, EP cutting oil
Our solution	**E335M8**

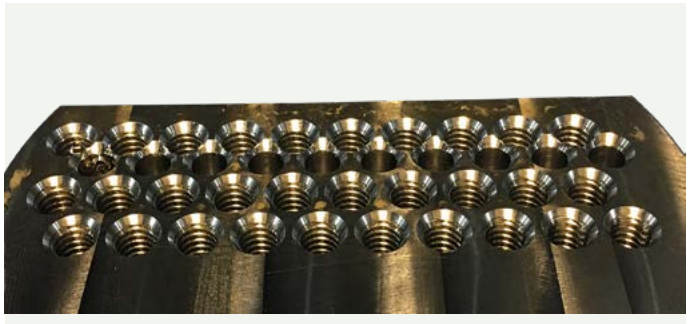
Machining data			
v_c	f_n	t_d	**S3.2**
5	1.25	12	

Tap **Titanium TA6V** blind holes with confidence

The Black Shark successfully produced 30 blind hole threads in Ti-6Al-4V (ISO S) at a hardness of up to 360 HB. Using a TiAlN-coated HSS-E-PM substrate the tap maintained tool integrity throughout the test demonstrating reliable performance in titanium under blind hole conditions.

Material	Ti-6Al-4V (ISO S) hardness up to 360 HB
Coolant	Emulsion (12%)
Our solution	**E335M12**

Machining data			
v_c	f_n	t_d	**S1.3**
7	1.75	18	



v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), t_d = threading depth (mm)

E334

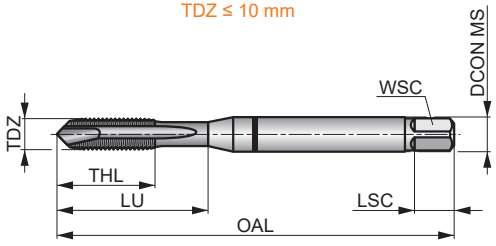
Black SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank designed for efficient tapping in high strength steels and titanium alloys. Unique HSS-E-PM substrate, TiAlN-Top coating and an additional edge treatment provide high process security, superior performance, consistency and extended tool life.

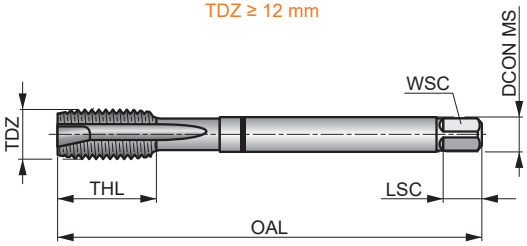
SHARK

M	WORK NORM	6HX
	2.5×D	HSS-E PM
B 3.5-5		R
TiAlN Top		

TDZ ≤ 10 mm



TDZ ≥ 12 mm



Workpiece material group suitability and starting values for cutting speed (m/min).

P3.3	P4.2	P4.3	S1.2	S1.3	S3.1	S3.2	H3.1
■17	■13	■10	■13	■8	■5	■3	◪7

Product	TDZ	TP (mm)	OAL (mm)	THL (mm)	DCON MS (mm)	WSC (mm)	LSC (mm)	NOF	PHD (mm)	LU (mm)
E334M3	3	0.50	63.0	12	4.50	3.40	6	3	2.50	12.00
E334M4	4	0.70	70.0	17	6.00	4.90	8	3	3.30	17.00
E334M5	5	0.80	80.0	20	6.00	4.90	8	3	4.20	20.00
E334M6	6	1.00	90.0	24	8.00	6.20	9	3	5.00	24.00
E334M8	8	1.25	100.0	32	10.00	8.00	11	3	6.80	32.00
E334M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E334M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	–
E334M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	–
E334M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	–
E334M24	24	3.00	160.0	38	18.00	14.50	17	4	21.00	–

E335

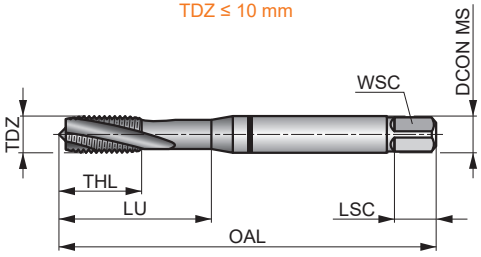
Black SHARK 15° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for efficient tapping in high strength steels and titanium alloys. A 15° slow spiral allows the chips to be pulled slightly upwards, yet without weakening the cutting edge, as higher spiral taps would. Unique HSS-E-PM substrate along with TiAlN-Top coating for superior performance.

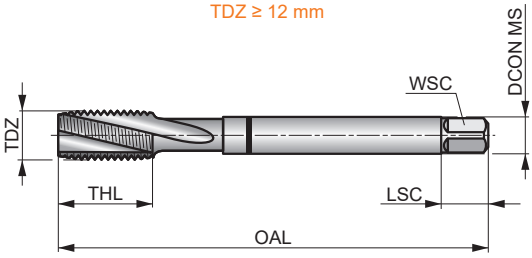
SHARK

M	WORK NORM	6HX
	1.5×D	HSS-E PM
C 2-3		λ 15°
R	TiAlN Top	

TDZ ≤ 10 mm



TDZ ≥ 12 mm



Workpiece material group suitability and starting values for cutting speed (m/min).

P3.3	P4.2	P4.3	S1.2	S1.3	S3.1	S3.2	H3.1
■16	■12	■9	■12	■7	■4	■2	◪6

Product	TDZ	TP (mm)	OAL (mm)	THL (mm)	DCON MS (mm)	WSC (mm)	LSC (mm)	NOF	PHD (mm)	LU (mm)
E335M3	3	0.50	63.0	12	4.50	3.40	6	3	2.50	12.00
E335M4	4	0.70	70.0	13	6.00	4.90	8	3	3.30	13.00
E335M5	5	0.80	80.0	15	6.00	4.90	8	3	4.20	15.00
E335M6	6	1.00	90.0	18	8.00	6.20	9	3	5.00	18.00
E335M8	8	1.25	100.0	20	10.00	8.00	11	3	6.80	20.00
E335M10	10	1.50	100.0	20	10.00	8.00	11	3	8.50	39.00
E335M12	12	1.75	110.0	23	9.00	7.00	10	4	10.30	–
E335M16	16	2.00	110.0	25	12.00	9.00	12	4	14.00	–
E335M20	20	2.50	140.0	30	16.00	12.00	15	4	17.50	–
E335M24	24	3.00	160.0	30	18.00	14.50	17	4	21.00	–

Versatile and cost-efficient shoulder milling series

Maximum versatility with optimized cost per part

The STD11 and STD17 ranges combine adaptable cutters with triangular inserts featuring three cutting edges. This helps you achieve high productivity, smooth cutting performance and lower cost per workpiece across a wide range of applications and materials. Dedicated geometries cover light, medium and rough machining as well as aluminum cutting.

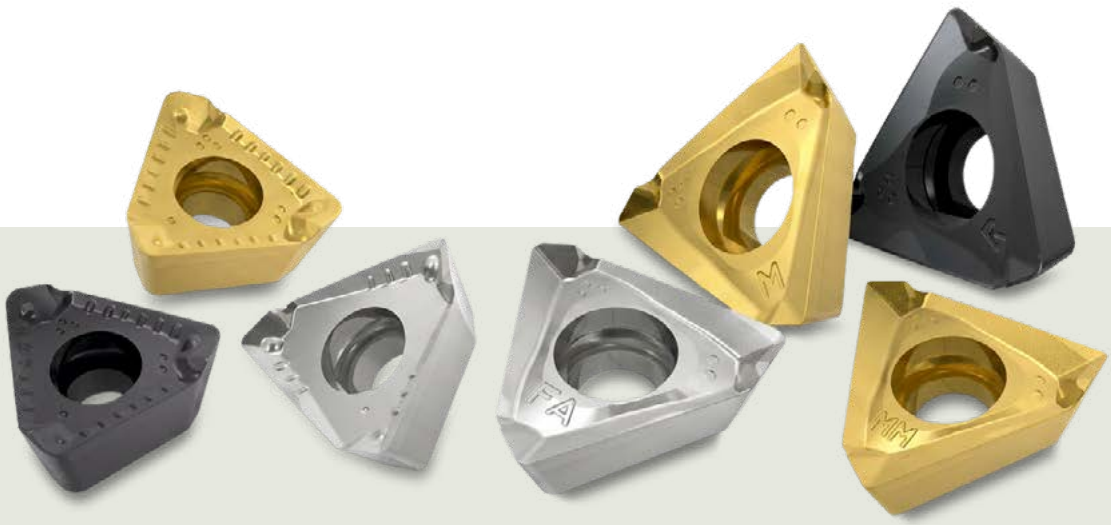
The STD11 supports depths of cut up to 7 mm, the STD17 up to 11 mm. Together the range provides a complete positive triangular insert solution for cutter diameters from 20 mm to 200 mm. Designed for applications from general engineering, die and mold, automotive and aerospace to high-volume production it delivers process security, long tool life and 90-degree wall accuracy.

Range of STD assortment

Features & benefits

Inserts

Design enables a wide range of applications including ramping, helical interpolation and plunging.	**Operational versatility** Reduces downtime and tool costs.
Trigonal positive inserts with three cutting edges.	**Increased economy** leads to lower costs per workpiece.
Positive rake angle design leads to smoother cutting and improved surface finishes.	**Optimized efficiency** while reducing energy consumption.
Four reliable geometries: M, MM, FA and R (STD17 only).	**Easy tool selection** for light, medium, rough cuts and efficient aluminum machining.
MM geometry leads to smooth machining of heat-resistant superalloys.	**Improved durability** ensures process stability.
TDET 17 and TDET 11-FA ground inserts.	**High-precision cutting edges** increase overall process reliability and ensure consistent manufacturing quality.
TDMT 11 direct pressed inserts.	**Optimized process security** and provides a reliable solution across a wide range of machining applications while reducing the cost per cutting edge.



Features & benefits

Cutters

Complete STD11 and STD17 ranges cover diameters from 20 mm to 200 mm.	**Easy tool selection** for versatile shoulder milling of multiple workpiece sizes.
Weldon, cylindrical, modular and shell style cutters.	**Multiple choices** for a wide range of machine sizes.
Optimized shape of insert pocket.	**Simple and safe** clamping of insert.
Internal coolant on entire assortment including large-sized diameters.	**Improved tool life** and better chip evacuation.
Shell type cutters available in wide diameter range and various tooth pitches.	**Various options** for a broad range of applications.
Cutter body made of hardened tool steel with nickelized surface finish.	**High durability** in milling applications.

STD11 – Related products

STD11

Weldon shank

Metric range: DC 20 – 32 mm

STD11

Cylindrical shank

Metric range: DC 20 – 32 mm

STD11

Modular shank

Metric range: DC 20 – 32 mm

STD11

Shell body

Metric range: DC 40 – 80 mm

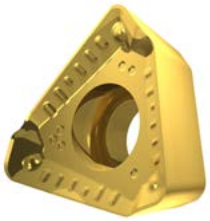
TDMT 11-M

Direct pressed inserts

Steel and cast iron

Medium cuts up to 7 mm

TDMT 11-MM

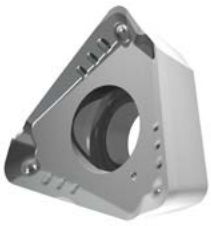


Direct pressed inserts

Stainless steel and super alloys

Light to medium cuts up to 7 mm

TDET 11-FA



Precision ground insert

Non-ferrous materials

Light to rough cuts up to 7 mm

STD17 – Related products

STD17

Weldon shank

Metric range: DC 32 – 40 mm

STD17

Cylindrical shank

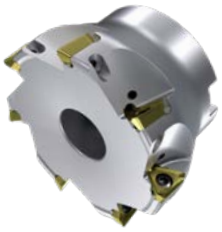
Metric range: DC 32 – 42 mm

STD17

Modular shank

Metric range: DC 32 – 40 mm

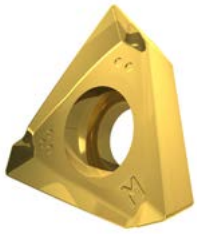
STD17



Shell body

Metric range: DC 42 – 200 mm

TDET 17-M

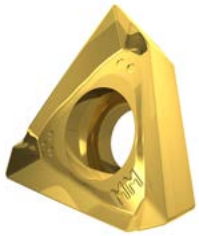


Precision ground insert

Steel and cast iron

Medium cuts up to 11 mm

TDET 17-MM



Precision ground insert

Stainless steel and super alloys

Light to medium cuts up to 11 mm

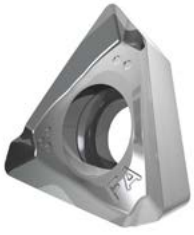
TDET 17-R

Precision ground insert

Steel, cast iron and hard materials

Rough cuts up to 11 mm

TDET 17-FA



Precision ground insert

Non-ferrous materials

Light to rough cuts up 11 mm

Success stories

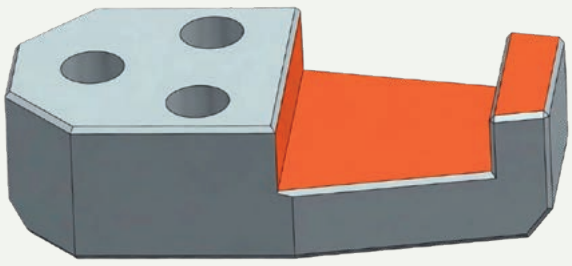
Reliable tool life in continuous steel roughing at maximum cutting parameters

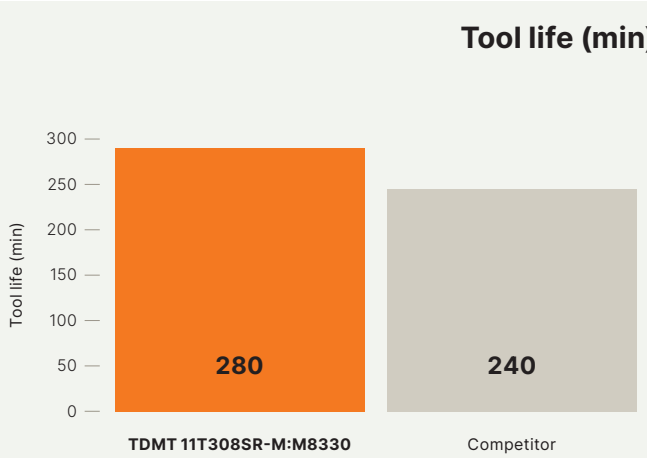
Customer result: In a direct comparison on steel under continuous roughing conditions, the STD11 matched the competing tool across all cutting parameters. Same spindle speed, same feed rate, same depth of cut while delivering a longer tool life of 280 minutes versus 240. Running at maximum parameters with a spindle load of just 19%, the STD11 demonstrated consistent, predictable performance giving operators full confidence in process stability throughout the production run.

Segment	Application	Material	Coolant	Our solution
General engineering	Shoulder milling	Steel S355J2G3	Compressed air	**TDMT 11T308SR-M:M8330** **40A05R-S90TD11D-C**

Machining data	40A05R-S90TD11D-C	Competitor
Cutting speed v_c (m/min)	250	250
Feed per tooth f_z (mm)	0.12	0.12
Axial depth of cut a_p (mm)	2.0	2.0
Radial depth of cut a_e (mm)	40	40
Number of teeth	5	5
Number of cutting edges	3	3

P2.1





Success stories

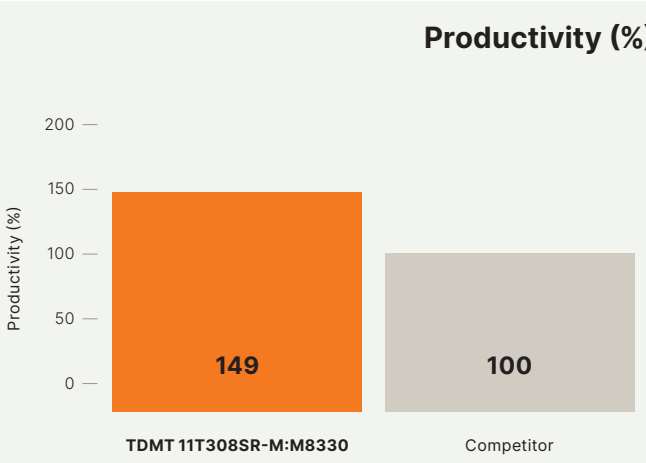
Boost tool life by 75% and productivity by 49% in cast iron shoulder milling

Customer result: The STD11 proved its performance in a demanding shoulder milling application on EN-GJL-300 gray cast iron under medium interrupted cutting conditions. By doubling the feed per tooth the STD11 increased the table feed by 63% reducing cycle time from 16.8 to 11.3 minutes per part and boosting productivity by 49%. The STD11 achieved 7 workpieces per cutting edge, compared to 4 workpieces per cutting edge for the competitor's product, all without compromising surface finish or dimensional accuracy.

Segment	Application	Material	Coolant	Our solution
Machine tools	Shoulder milling	EN-GJL-300 (220BGN)	Yes	**TDMT 11T308SR-M:M8330 50A06R-S90TD11D-C**

Machining data	50A06R-S90TD11D-C	Competitor
Cutting speed v_c (m/min)	190	200
Feed per tooth f_z (mm)	0.2	0.1
Axial depth of cut a_p (mm)	0.5	0.5
Radial depth of cut a_e (mm)	28	28
Number of teeth	6	7
Number of cutting edges	3	2

K1.3



Success stories

Cut costs by 60% and cycle time by 50% in titanium aerospace milling

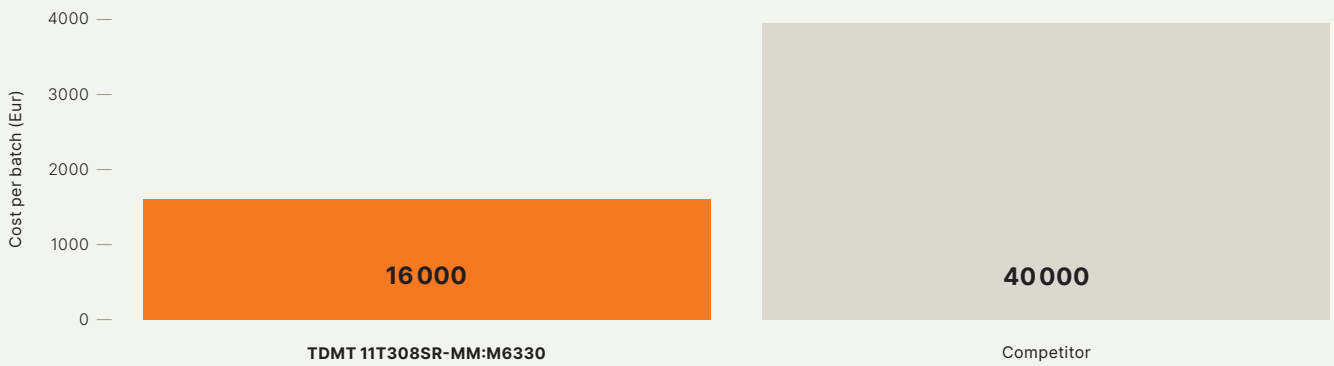
Customer result: The STD11 delivered outstanding cost efficiency in a demanding aerospace milling application. Machining titanium alloy Ti-6Al-4V it reduced total production costs by 60% compared to a competing tool. By eliminating one full pass and optimizing the machining strategy, cycle time dropped by 50% from 60 to 30 minutes per part. The 3-edge insert design of STD11 also halved insert consumption further lowering the cost per edge.

Segment	Application	Material	Coolant	Our solution
Aerospace	Shoulder milling	Ti-6Al-4V	Yes	**TDMT 11T308SR-MM:M6330** **25A3R042B25-STD11D-C**

Machining data	25A3R042B25-STD11D-C	Competitor
Cutting speed v_c (m/min)	75	79
Feed per tooth f_z (mm)	0.2	0.3
Axial depth of cut a_p (mm)	0.15	0.15
Radial depth of cut a_e (mm)	25	25
Number of teeth	3	2
Number of cutting edges	3	2

S1.3

Cost per batch (Eur)



Success stories

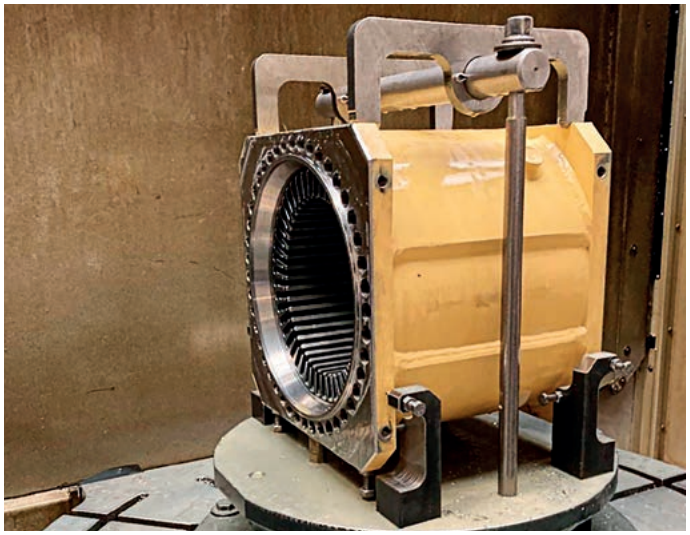
STD17 solution delivers 33% longer tool life in demanding stator machining

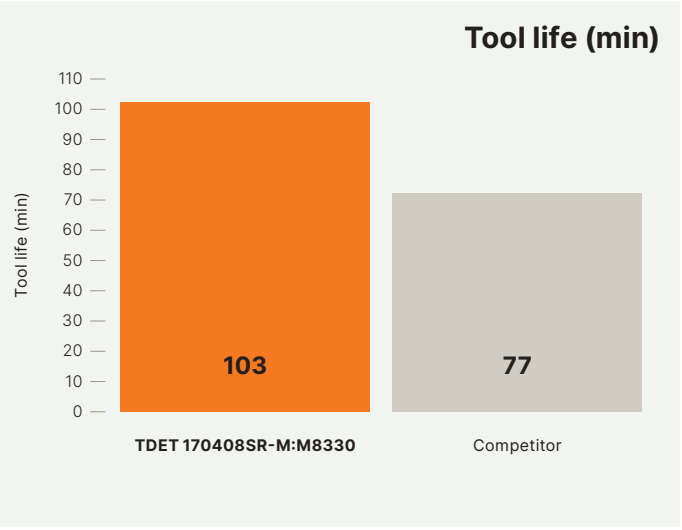
Customer result: Benchmark test has clearly demonstrated the technological superiority of our STD17 solution. During the demanding wet machining of an electric motor stator weldment the STD17 delivered a remarkable 33% increase in tool life compared to the competitor. This outstanding result was achieved under identical cutting conditions while strictly maintaining surface finish quality. While the competitor's tool maxed out at 18 stators the STD17 easily reached 24 pieces. The tool could keep going, but the production run was already complete.

Segment	Application	Material	Coolant	Our solution
Energy	Shoulder milling	Steel S235JR	Yes	**TDET 170408SR-M:M8330** **50A05R-S90TD17D-C**

Machining data	50A05R-S90TD17D-C	Competitor
Cutting speed v_c (m/min)	170	170
Feed per tooth f_z (mm)	0.2	0.2
Axial depth of cut a_p (mm)	1.5 – 3.0	1.5 – 3.0
Radial depth of cut a_e (mm)	35	35
Number of teeth	5	5
Number of cutting edges	3	2

P2.1



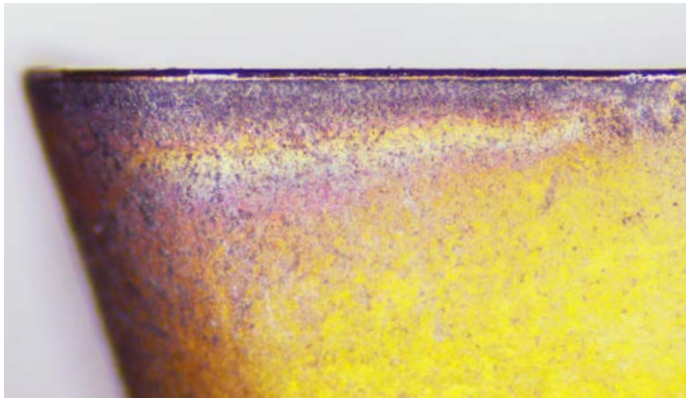


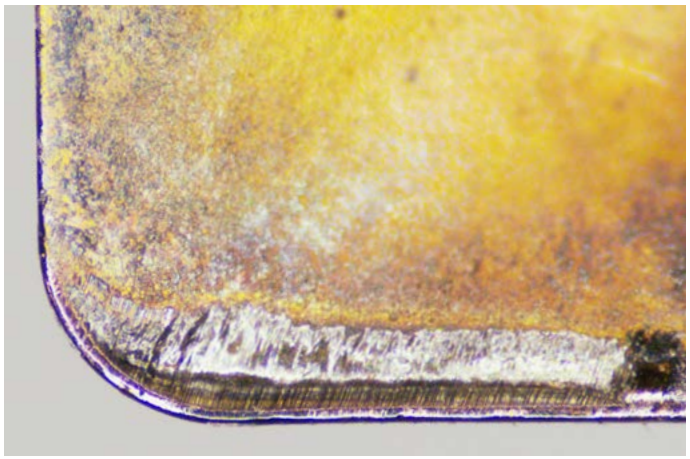
Machining examples

Workpiece	Carbon steel plate (193 HB)
Cutter	**32A3R040B32-STD17D-C**
Insert	**TDET 170408SR-M:M8330**
Material	1.1191 / C45
Coolant	Compressed air

Machining data				
v_c	f_z	a_p	a_e	**Tool life (min)**
270	0.20	2.50	24	**36**

P2.2



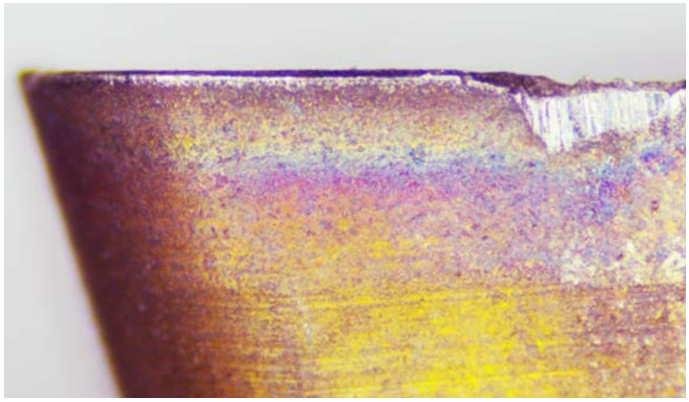


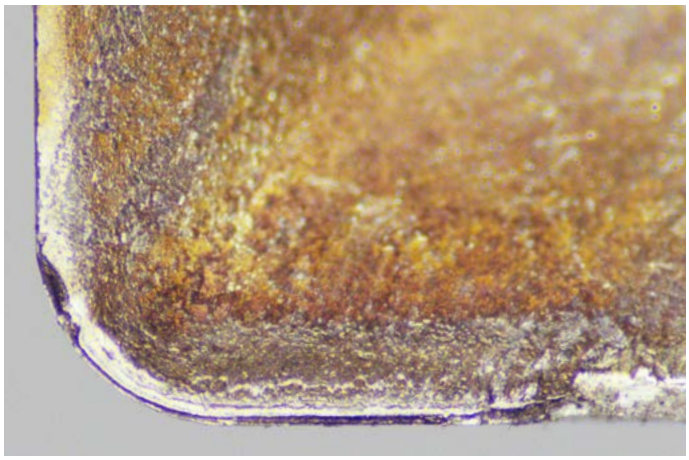
Photos from TDET 170408SR-M:M8330, taken after 36 minutes.

Workpiece	Stainless steel plate (141 HB)
Cutter	**32A3R040B32-STD17D-C**
Insert	**TDET 170408SR-MM:M6330**
Material	1.4404 / 316L
Coolant	Compressed air

Machining data				
v_c	f_z	a_p	a_e	**Tool life (min)**
170	0.15	2.50	24	**33**

M3.1





Photos from TDET 170408SR-MM:M6330, taken after 33 minutes.

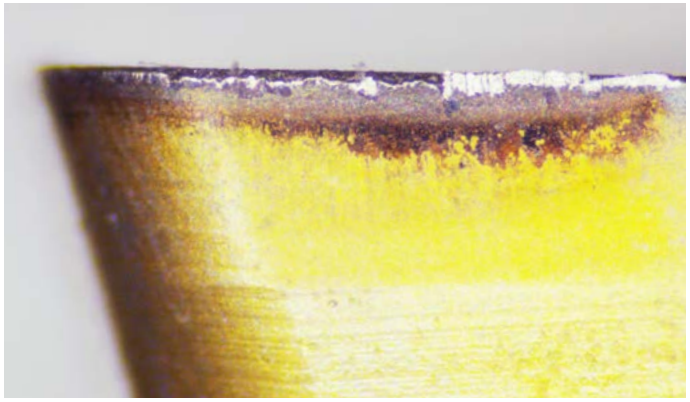
v_c = cutting speed (m/min), f_z = feed per tooth (mm), a_p = axial depth of cut (mm), a_e = radial depth of cut (mm)

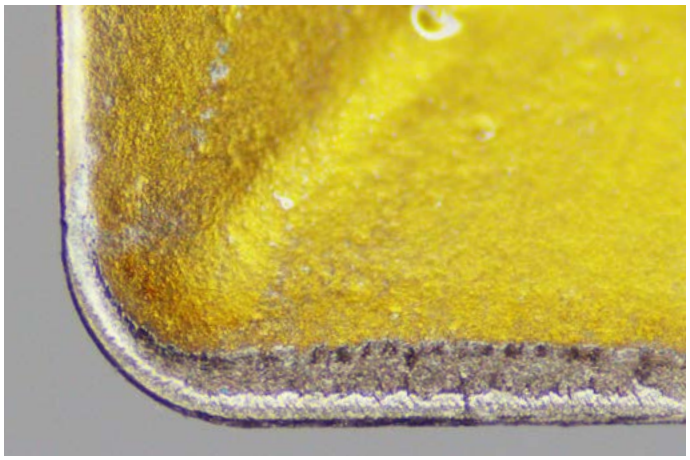
Machining examples

Workpiece	Stainless steel plate (147 HB)
Cutter	**32A3R040B32-STD17D-C**
Insert	**TDET 170408SR-MM:M6330**
Material	1.4404 / 316L
Coolant	Soluble oil emulsion (10%)

Machining data				
v_c	f_z	a_p	a_e	**Tool life (min)**
90	0.12	2.5	24	**46**

M3.1



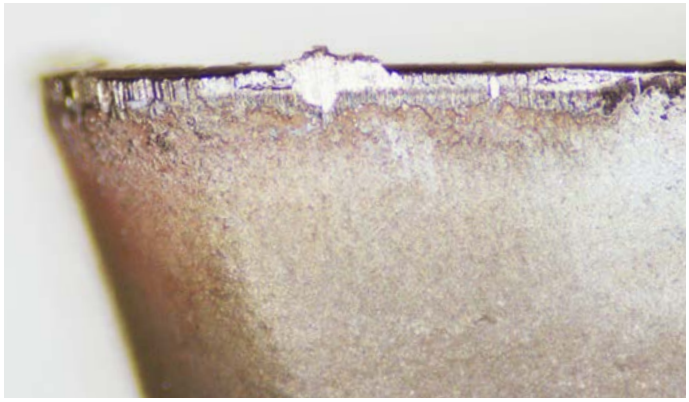


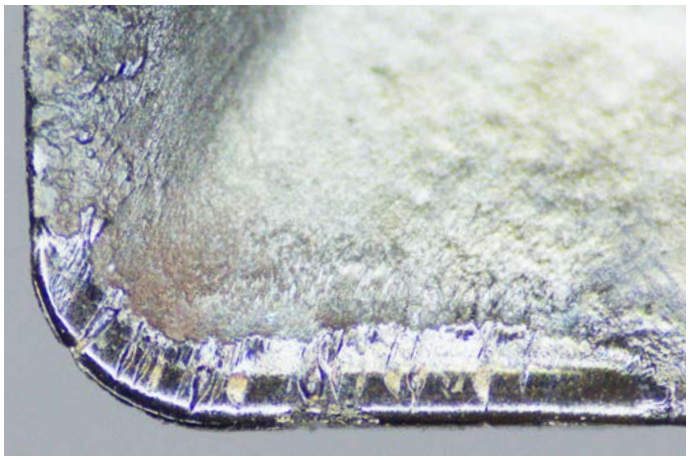
Photos from TDET 170408SR-MM:M6330, taken after 46 minutes.

Workpiece	Cast iron plate (219 HB)
Cutter	**50A05R-S90TD17D-C**
Insert	**TDET 170408PR-R:M5315**
Material	GG25 / FC250
Coolant	Soluble oil emulsion (10%)

Machining data				
v_c	f_z	a_p	a_e	**Tool life (min)**
340	0.25	2.5	40	**55**

K1.2





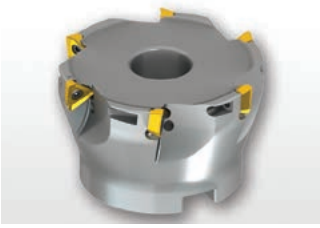
Photos from TDET 170408PR-R:M5315, taken after 55 minutes.

v_c = cutting speed (m/min), f_z = feed per tooth (mm), a_p = axial depth of cut (mm), a_e = radial depth of cut (mm)

STD11

P M K N S

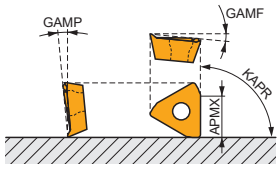
DORMER PRAMET

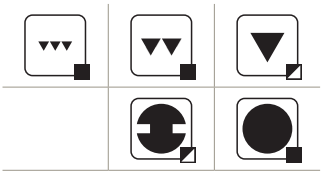


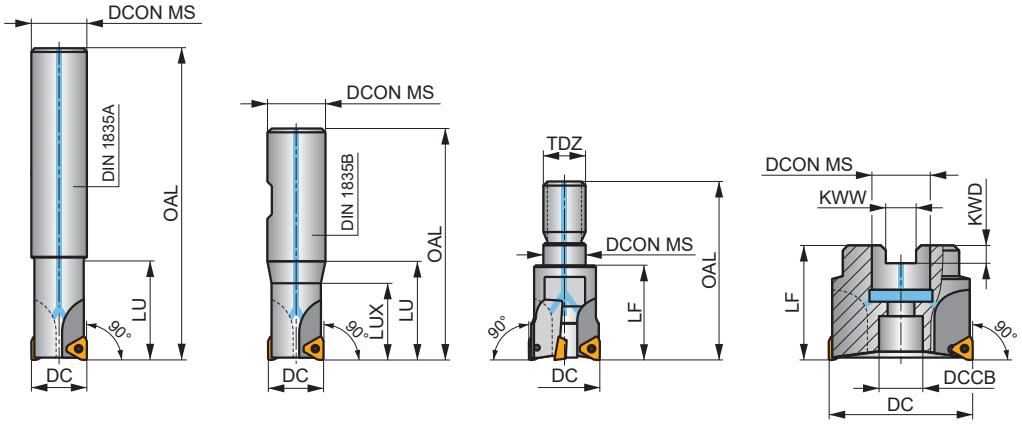
VER TD11 90° Square Shoulder Mill with Positive Design and Internal Coolant

Versatile 90° square shoulder mill utilizing single sided TD.. 11 style insert with APMX of 7 mm. Suited for a wide range of applications in any workpiece material. Cylindrical, Weldon, modular and arbor style available with differential tooth pitch. Body treated for longer tool life.

KAPR	90°
APMX	7.0







h_m	0.02 – 0.20
h_m	0.02 – 0.20

	Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg		
DIN 1835A	20A2R032A20-STD11D-C	20	150	20	–	32	30	150	–	–	–	-9	6	2	–	27900	✓	0.32	GI112	C0407
	25A3R042A25-STD11D-C	25	170	25	–	42	40	170	–	–	–	-9	6	3	–	25000	✓	0.57	GI112	C0407
	32A3R042A32-STD11D-C	32	200	32	–	42	40	200	–	–	–	-8.5	6	3	–	22100	✓	1.13	GI112	C0407
	32A4R042A32-STD11D-C	32	200	32	–	42	40	200	–	–	–	-8.5	6	4	✓	22100	✓	1.13	GI112	C0407
	32A5R042A32-STD11D-C	32	200	32	–	42	40	200	–	–	–	-8.5	6	5	–	22100	✓	1.12	GI112	C0407
DIN 1835B	20A2R032B20-STD11D-C	20	100	20	–	32	30	100	–	–	–	-9	6	2	–	27900	✓	0.21	GI112	C0407
	25A3R042B25-STD11D-C	25	100	25	–	42	40	100	–	–	–	-9	6	3	–	25000	✓	0.29	GI112	C0407
	32A3R042B32-STD11D-C	32	110	32	–	42	40	110	–	–	–	-8.5	6	3	–	22100	✓	0.57	GI112	C0407
	32A4R042B32-STD11D-C	32	110	32	–	42	40	110	–	–	–	-8.5	6	4	✓	22100	✓	0.56	GI112	C0407
	32A5R042B32-STD11D-C	32	110	32	–	42	40	110	–	–	–	-8.5	6	5	–	22100	✓	0.57	GI112	C0407
MODULAR	20A2R026M10-STD11D-C	20	45	10.5	–	–	–	26	M10	–	–	-9	6	2	–	27900	✓	0.04	GI112	C0407
	25A3R033M12-STD11D-C	25	55	12.5	–	–	–	33	M12	–	–	-9	6	3	–	25000	✓	0.08	GI112	C0407
	32A3R043M16-STD11D-C	32	66	17	–	–	–	43	M16	–	–	-8.5	6	3	–	22100	✓	0.20	GI112	C0407
	32A4R043M16-STD11D-C	32	66	17	–	–	–	43	M16	–	–	-8.5	6	4	✓	22100	✓	0.19	GI112	C0407
	32A5R043M16-STD11D-C	32	66	17	–	–	–	43	M16	–	–	-8.5	6	5	–	22100	✓	0.20	GI112	C0407
ISO 6462 DIN 8030	40A05R-S90TD11D-C	40	–	16	12.4	–	–	40	–	8.4	5.6	-7.5	6	5	✓	19700	✓	0.23	GI112	C0408
	40A06R-S90TD11D-C	40	–	16	12.4	–	–	40	–	8.4	5.6	-7.5	6	6	–	19700	✓	0.23	GI112	C0408
	50A06R-S90TD11D-C	50	–	22	18.1	–	–	40	–	10.4	6.3	-6	6	6	✓	17700	✓	0.37	GI112	C0409
	50A07R-S90TD11D-C	50	–	22	18.1	–	–	40	–	10.4	6.3	-6	6	7	–	17700	✓	0.37	GI112	C0409
	63A06R-S90TD11D-C	63	–	22	18.1	–	–	40	–	10.4	6.3	-7	6	6	✓	15700	✓	0.54	GI112	C0409
	63A08R-S90TD11D-C	63	–	22	18.1	–	–	40	–	10.4	6.3	-7	6	8	✓	15700	✓	0.53	GI112	C0409
	63A09R-S90TD11D-C	63	–	22	18.1	–	–	40	–	10.4	6.3	-7	6	9	–	15700	✓	0.53	GI112	C0409
	80A10R-S90TD11D-C	80	–	27	22.1	–	–	50	–	12.4	7	-6.5	6	10	–	13900	✓	1.11	GI112	C0410

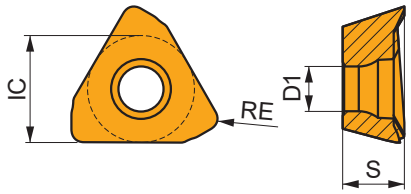
GI112	TD.T 11T3..

		Nm						
C0407	US 2506-T07P	1.2	M 2.5	6.3	Flag T07P	–	–	–
C0408	US 2506-T07P	1.2	M 2.5	6.3	–	D-T07P/T09P	FG-15	HS 90835
C0409	US 2506-T07P	1.2	M 2.5	6.3	–	D-T07P/T09P	FG-15	HS 1030C
C0410	US 2506-T07P	1.2	M 2.5	6.3	–	D-T07P/T09P	FG-15	HS 1230C

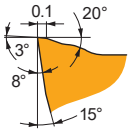
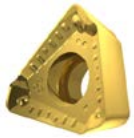
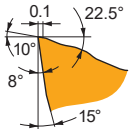
TDMT 11

DORMER PRAMET

	IC (mm)	D1 (mm)	S (mm)
11T3	6.900	2.90	3.97



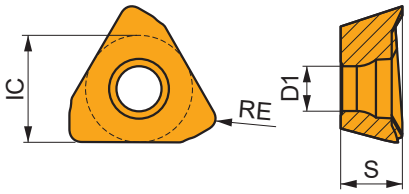
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ⇕ ✱	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
			**M** geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.																	
TDMT 11T304SR-M:M8330	●	0.4	■ 175	0.13	2.5	◪ 105	0.12	2.5	■ 165	0.13	2.5	–	–	–	◪ 40	0.10	2.0	–	–	–
TDMT 11T304SR-M:M8340	●	0.4	■ 160	0.13	2.5	◪ 95	0.12	2.5	◪ 150	0.13	2.5	–	–	–	◪ 40	0.10	2.0	–	–	–
TDMT 11T308SR-M:M6330	⇕	0.8	■ 180	0.13	2.5	◪ 125	0.12	2.5	–	–	–	–	–	–	◪ 50	0.10	2.0	–	–	–
TDMT 11T308SR-M:M8310	⇕	0.8	■ 235	0.13	2.5	◪ 115	0.12	2.5	■ 220	0.13	2.5	–	–	–	–	–	–	–	–	–
TDMT 11T308SR-M:M8330	⇕	0.8	■ 210	0.13	2.5	◪ 125	0.12	2.5	■ 195	0.13	2.5	–	–	–	◪ 50	0.10	2.0	–	–	–
TDMT 11T308SR-M:M8340	⇕	0.8	■ 195	0.13	2.5	◪ 115	0.12	2.5	◪ 185	0.13	2.5	–	–	–	◪ 45	0.10	2.0	–	–	–
TDMT 11T308SR-M:M9325	●	0.8	■ 270	0.13	2.5	–	–	–	■ 255	0.13	2.5	–	–	–	–	–	–	–	–	–
			**MM** geometry is sharp and used for finishing, suitable for large overhang or thin walled and slim workpiece applications. Designed with highly positive rake, narrow T-land and rounding of cutting edge for light machining.																	
TDMT 11T304SR-MM:M6330	●	0.4	■ 165	0.10	2.5	■ 115	0.09	2.5	–	–	–	–	–	–	■ 45	0.08	2.0	–	–	–
TDMT 11T304SR-MM:M8340	●	0.4	■ 170	0.10	2.5	■ 100	0.09	2.5	–	–	–	–	–	–	■ 40	0.08	2.0	–	–	–
TDMT 11T308SR-MM:M6330	⇕	0.8	■ 195	0.10	2.5	■ 135	0.09	2.5	–	–	–	–	–	–	■ 55	0.08	2.0	–	–	–
TDMT 11T308SR-MM:M8330	⇕	0.8	■ 225	0.10	2.5	■ 135	0.09	2.5	–	–	–	◪ 675	0.12	2.5	◪ 55	0.08	2.0	–	–	–
TDMT 11T308SR-MM:M8340	⇕	0.8	■ 205	0.10	2.5	■ 120	0.09	2.5	–	–	–	–	–	–	■ 50	0.08	2.0	–	–	–
TDMT 11T308SR-MM:M9340	⇕	0.8	■ 270	0.10	2.5	■ 160	0.09	2.5	–	–	–	–	–	–	■ 65	0.08	2.0	–	–	–

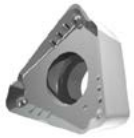
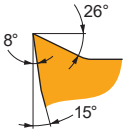
■ Primary use ◪ Possible use ● Continuous cut ⇕ Slightly interrupted cut ✱ Interrupted cut

TDET 11-FA

	IC	D1	S
	(mm)	(mm)	(mm)
11T3	6.900	2.90	3.97



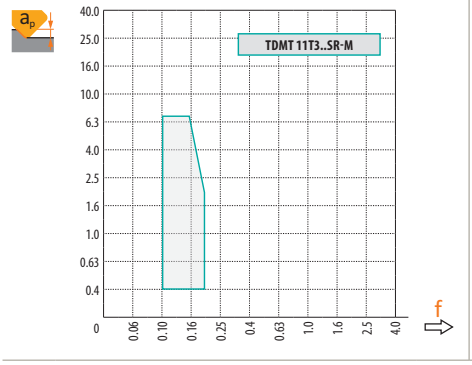
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

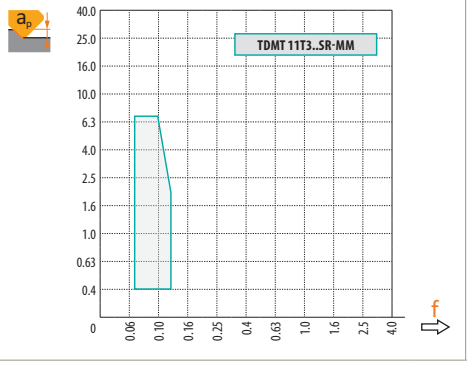
Product	● ✱ ✱	RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)
			**FA** geometry is sharp and used for non-ferrous alloys machining, suitable for large overhang or thin walled and slim workpiece applications. Polished and ground design with highly positive rake.																	
TDET 11T304FR-FA:HF7	●	0.4	–	–	–	–	–	–	–	–	–	■ 195	0.22	2.5	–	–	–	–	–	–
TDET 11T308FR-FA:HF7	●	0.8	–	–	–	–	–	–	–	–	–	■ 225	0.22	2.5	–	–	–	–	–	–
TDET 11T308FR-FA:M0315	●	0.8	–	–	–	–	–	–	–	–	–	■ 525	0.22	2.5	–	–	–	–	–	–

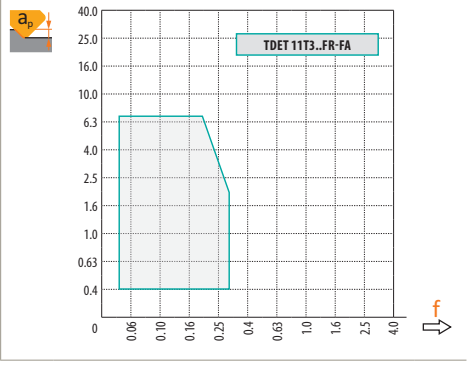
■ Primary use ◪ Possible use ● Continuous cut ✱ Slightly interrupted cut ✱ Interrupted cut

a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	TDMT 11-M		TDMT 11-MM		TDET 11-FA	
RE	0.4	0.8	0.4	0.8	0.4	0.8
BS	1.3	0.9	1.3	0.9	1.3	0.9







a_p	1.00	2.00	3.00	4.00	5.00	6.00	7.00
f	0.14	0.12	0.10	0.08	0.06	0.05	0.04

DC	RPMX	APMX/I
20	3.5	6.0/100
25	2.8	4.8/100
32	2.0	3.4/100
40	1.6	2.7/100
50	1.2	2.0/100
63	0.8	1.3/100
80	0.6	0.9/100

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
20	33.2	39.0	2.50	3.65
25	43.1	49.0	2.75	3.65
32	56.8	63.0	2.70	3.40
40	72.5	79.0	2.85	3.40
50	92.5	99.0	2.75	3.20
63	118.5	125.0	2.40	2.70
80	116.1	125.0	2.35	2.55

DC	a_p	f_{max}
20	0.75	0.07
25	0.80	0.07
32	0.85	0.06
40	0.95	0.06
50	0.95	0.05
63	0.95	0.05
80	0.95	0.04

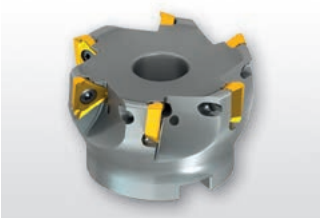
DC	a_{emax}	f_{max}
20	3.6	0.08
25	3.6	0.08
32	3.8	0.08
40	3.9	0.06
50	3.9	0.06
63	3.9	0.06
80	3.9	0.04

STD17

P M K N S H

S

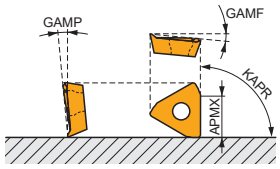
DORMER PRAMET

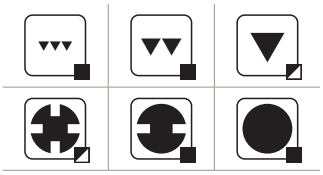


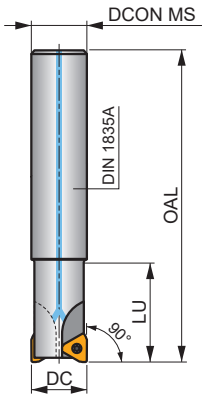
VER TD17 90° Square Shoulder Mill with Positive Design and Internal Coolant

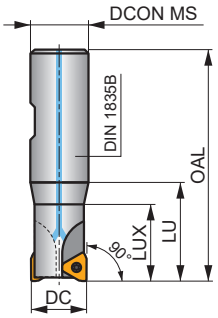
Versatile 90° square shoulder mill utilizing single sided TD.. 17 style insert with APMX of 11 mm. Suited for a wide range of applications in any workpiece material. Cylindrical, Weldon, modular and arbor style available, with differential tooth pitch. Body treated for longer tool life.

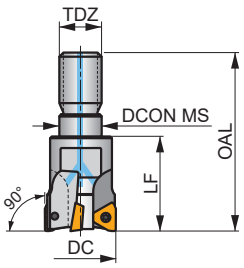
KAPR	90°
APMX	11 mm

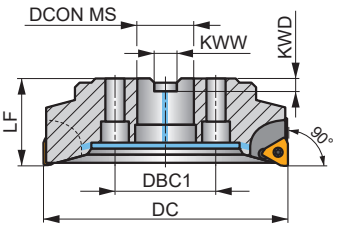


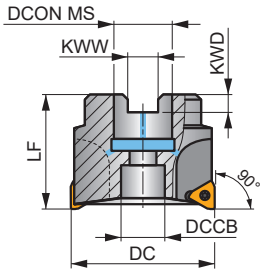












h_m	0.04 – 0.4
h_m	0.04 – 0.4

	Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg		
	32A2R034A32-STD17D-C	32	195	32	–	–	34	–	–	–	–	–	-9	6	2	–	17700	✓	1.09	GI113	C0411
	32A3R034A32-STD17D-C	32	195	32	–	–	34	–	–	–	–	–	-9	6	3	–	17700	✓	1.06	GI113	C0411
DIN 1835A	32A3R080A32-STD17D-C	32	195	32	–	–	80	–	–	–	–	–	-9	6	3	–	17700	✓	1.01	GI113	C0411
	35A3R034A32-STD17D-C	35	195	32	–	–	34	–	–	–	–	–	-9	6	3	–	17000	✓	1.09	GI113	C0411
	42A4R080A32-STD17D-C	42	195	32	–	–	80	–	–	–	–	–	-8.5	6	4	✓	15500	✓	0.59	GI113	C0411
	32A2R042B32-STD17D-C	32	110	32	–	–	42	38	–	–	–	–	-9	6	2	–	17700	✓	0.57	GI113	C0411
DIN 1835B	32A3R042B32-STD17D-C	32	110	32	–	–	42	38	–	–	–	–	-9	6	3	–	17700	✓	0.55	GI113	C0411
	40A3R050B32-STD17D-C	40	120	32	–	–	50	48	–	–	–	–	-8.5	6	3	–	15900	✓	0.68	GI113	C0411
	40A4R050B32-STD17D-C	40	120	32	–	–	50	48	–	–	–	–	-8.5	6	4	✓	15900	✓	0.67	GI113	C0411
	32A2R043M16-STD17D-C	32	66	17	–	–	–	–	43	M16	–	–	-9	6	2	–	17700	✓	0.20	GI113	C0411
MODULAR	32A3R043M16-STD17D-C	32	66	17	–	–	–	–	43	M16	–	–	-9	6	3	–	17700	✓	0.18	GI113	C0411
	40A3R043M16-STD17D-C	40	66	17	–	–	–	–	43	M16	–	–	-8.5	6	3	–	15900	✓	0.24	GI113	C0411
	40A4R043M16-STD17D-C	40	66	17	–	–	–	–	43	M16	–	–	-8.5	6	4	✓	15900	✓	0.24	GI113	C0411
	42A04R-S90TD17D-C	42	–	16	12.4	–	–	–	40	–	8.4	5.6	-8.5	6	4	✓	15500	✓	0.22	GI113	C0412
	50A04R-S90TD17D-C	50	–	22	18.1	–	–	–	40	–	10.4	6.3	-8	6	4	✓	14200	✓	0.33	GI113	C0413
	50A05R-S90TD17D-C	50	–	22	18.1	–	–	–	40	–	10.4	6.3	-8	6	5	✓	14200	✓	0.32	GI113	C0413
	52A05R-S90TD17D-C	52	–	22	18.1	–	–	–	40	–	10.4	6.3	-8	6	5	✓	13900	✓	0.34	GI113	C0413
	63A04R-S90TD17D-C	63	–	22	18.1	–	–	–	40	–	10.4	6.3	-7.5	6	4	✓	12600	✓	0.48	GI113	C0413
	63A06R-S90TD17D-C	63	–	22	18.1	–	–	–	40	–	10.4	6.3	-7.5	6	6	✓	12600	✓	0.49	GI113	C0413
ISO 6462 DIN 8030	66A06R-S90TD17D-C	66	–	22	18.1	–	–	–	40	–	10.4	6.3	-7.5	6	6	✓	12300	✓	0.63	GI113	C0413
	66A06R-S90TD17D-SC-C	66	–	27	22.1	–	–	–	50	–	12.4	7	-7.5	–	6	✓	12300	✓	0.59	GI113	C0413
	80A07R-S90TD17D-C	80	–	27	22.1	–	–	–	50	–	12.4	7	-7	6	7	✓	11200	✓	1.06	GI113	C0414
	80A08R-S90TD17D-C	80	–	27	22.1	–	–	–	50	–	12.4	7	-7	6	8	✓	11200	✓	1.03	GI113	C0414
	100A08R-S90TD17D-C	100	–	32	45.1	–	–	–	50	–	14.4	8	-6.5	6	8	✓	10000	✓	1.66	GI113	C0415
	100A10R-S90TD17D-C	100	–	32	45.1	–	–	–	50	–	14.4	8	-6.5	6	10	✓	10000	✓	1.62	GI113	C0415
	115A10R-S90TD17D-C	115	–	32	45.1	–	–	–	50	–	14.4	8	-6.5	6	10	✓	9300	✓	2.03	GI113	C0415
	125A08R-S90TD17D-C	125	–	40	56.1	–	–	–	63	–	16.4	9	-6.5	–	8	✓	8900	✓	3.04	GI113	C0415

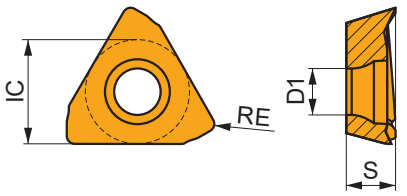
Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg		
125A10R-S90TD17D-C	125	–	40	56.1	–	–	–	63	–	16.4	9	-6.5	6	10	✓	8900	✓	3.00	GI113	C0415
125A12R-S90TD17D-C	125	–	40	56.1	–	–	–	63	–	16.4	9	-6.5	6	12	✓	8900	✓	2.98	GI113	C0415
140A08R-S90TD17D-C	140	–	40	56.1	–	–	–	63	–	16.4	9	-4	–	8	✓	8400	✓	3.55	GI113	C0415
140A12R-S90TD17D-C	140	–	40	56.1	–	–	–	63	–	16.4	9	-4	6	12	✓	8400	✓	3.56	GI113	C0415
160C10R-S90TD17D-C	160	–	40	–	66.7	–	–	63	–	16.4	9.25	-5	–	10	✓	7900	✓	4.94	GI113	C0416
160C13R-S90TD17D-C	160	–	40	–	66.7	–	–	63	–	16.4	9.25	-5	6	13	✓	7900	✓	4.96	GI113	C0416
175C14R-S90TD17D-C	175	–	40	–	66.7	–	–	63	–	16.4	9.25	-5	6	14	✓	7500	✓	5.66	GI113	C0416
200C14R-S90TD17D-C	200	–	60	–	101.6	–	–	63	–	25.7	14.25	-5	–	14	✓	7000	✓	8.17	GI113	C0417
200C15R-S90TD17D-C	200	–	60	–	101.6	–	–	63	–	25.7	14.25	-5	6	15	✓	7000	✓	8.12	GI113	C0417

GI113	TD.T 1704..

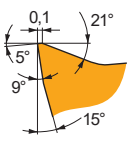
		Nm								
C0411	US 4008-T15P	3.5	M 4	8	Flag T15P	–	–	–	–	–
C0412	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	HCS 0840C	–	–	–
C0413	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	HS 1030C	–	–	–
C0414	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	HS 1230C	–	–	–
C0415	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	–	–	–	–
C0416	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	HS 1240C	HSD 0825C	CAC 160C	HXK 5
C0417	US 4008-T15P	3.5	M 4	8	–	SDR T15P-T	HS 1655C	HSD 1025C	CAC 200C	HXK 7

TDET 17

	IC (mm)	D1 (mm)	S (mm)
1704	10.300	4.40	4.76



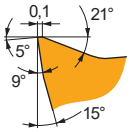
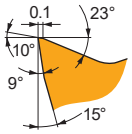
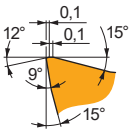
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ❖ ✱	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																				
TDET 170404SR-M:M8330	●	0.4	■ 165	0.14	4.0	◪ 95	0.13	4.0	■ 155	0.14	4.0	–	–	–	◪ 40	0.11	3.2	–	–	–
TDET 170404SR-M:M8340	●	0.4	■ 150	0.14	4.0	■ 90	0.13	4.0	◪ 140	0.14	4.0	–	–	–	◪ 35	0.11	3.2	–	–	–
TDET 170408SR-M:8215	❖	0.8	■ 200	0.14	4.0	◪ 120	0.13	4.0	■ 190	0.14	4.0	–	–	–	◪ 50	0.11	3.2	–	–	–
TDET 170408SR-M:M6330	❖	0.8	■ 170	0.14	4.0	■ 120	0.13	4.0	–	–	–	–	–	–	◪ 50	0.11	3.2	–	–	–
TDET 170408SR-M:M8310	❖	0.8	■ 220	0.14	4.0	◪ 110	0.13	4.0	■ 205	0.14	4.0	–	–	–	–	–	–	–	–	–
TDET 170408SR-M:M8330	❖	0.8	■ 195	0.14	4.0	■ 115	0.13	4.0	■ 185	0.14	4.0	–	–	–	◪ 45	0.11	3.2	–	–	–
TDET 170408SR-M:M8340	❖	0.8	■ 180	0.14	4.0	■ 105	0.13	4.0	◪ 170	0.14	4.0	–	–	–	◪ 45	0.11	3.2	–	–	–
TDET 170408SR-M:M9325	●	0.8	■ 250	0.14	4.0	–	–	–	■ 235	0.14	4.0	–	–	–	–	–	–	–	–	–

M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.

■ Primary use ◪ Possible use ● Continuous cut ❖ Slightly interrupted cut ✱ Interrupted cut

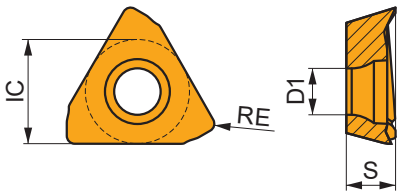
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	●	⬌	✱	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																						
M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.																						
TDET 170416SR-M:M8330		⬌		1.6	■ 220	0.14	4.0	■ 130	0.13	4.0	■ 205	0.14	4.0	–	–	–	◪ 55	0.11	3.2	–	–	–
TDET 170416SR-M:M8340		⬌		1.6	■ 200	0.14	4.0	■ 120	0.13	4.0	◪ 190	0.14	4.0	–	–	–	◪ 50	0.11	3.2	–	–	–
																						
MM geometry is sharp and used for finishing, suitable for large overhang or thin walled and slim workpiece applications. Designed with highly positive rake, narrow T-land and rounding of cutting edge for light machining.																						
TDET 170404SR-MM:M6330	●			0.4	■ 145	0.13	4.0	■ 105	0.12	4.0	–	–	–	–	–	–	■ 40	0.10	3.2	–	–	–
TDET 170404SR-MM:M8340	●			0.4	■ 155	0.13	4.0	■ 90	0.12	4.0	–	–	–	–	–	–	■ 35	0.10	3.2	–	–	–
TDET 170408SR-MM:M6330		⬌		0.8	■ 170	0.13	4.0	■ 120	0.12	4.0	–	–	–	–	–	–	■ 50	0.10	3.2	–	–	–
TDET 170408SR-MM:M8330		⬌		0.8	■ 205	0.13	4.0	■ 120	0.12	4.0	–	–	–	◪ 615	0.16	4.0	◪ 50	0.10	3.2	–	–	–
TDET 170408SR-MM:M8340		⬌		0.8	■ 185	0.13	4.0	■ 110	0.12	4.0	–	–	–	–	–	–	■ 45	0.10	3.2	–	–	–
TDET 170408SR-MM:M8345		⬌		0.8	■ 145	0.13	4.0	■ 85	0.12	4.0	–	–	–	–	–	–	■ 35	0.10	3.2	–	–	–
TDET 170408SR-MM:M9340		⬌		0.8	■ 235	0.13	4.0	■ 140	0.12	4.0	–	–	–	–	–	–	■ 55	0.10	3.2	–	–	–
TDET 170416SR-MM:M6330		⬌		1.6	■ 195	0.13	4.0	■ 135	0.12	4.0	–	–	–	–	–	–	■ 55	0.10	3.2	–	–	–
TDET 170416SR-MM:M8340		⬌		1.6	■ 200	0.13	4.0	■ 120	0.12	4.0	–	–	–	–	–	–	■ 50	0.10	3.2	–	–	–
																						
R geometry is strong and used for roughing and heavy working conditions. Designed with slightly positive rake, wide T-land and rounding of cutting edge for rough machining.																						
TDET 170408PR-R:8215		⬌		0.8	■ 185	0.20	4.0	◪ 110	0.18	4.0	■ 175	0.20	4.0	–	–	–	◪ 45	0.18	3.2	■ 35	0.13	1.1
TDET 170408PR-R:M5315		⬌		0.8	◪ 240	0.20	4.0	–	–	–	■ 225	0.20	4.0	–	–	–	–	–	–	■ 45	0.13	1.1
TDET 170408PR-R:M8310		⬌		0.8	■ 200	0.20	4.0	◪ 100	0.18	4.0	■ 190	0.20	4.0	–	–	–	–	–	–	■ 40	0.13	1.1
TDET 170408PR-R:M8330		✱		0.8	■ 185	0.20	4.0	◪ 110	0.18	4.0	■ 175	0.20	4.0	–	–	–	◪ 45	0.18	3.2	◪ 35	0.13	1.1
TDET 170408PR-R:M9325		⬌		0.8	■ 225	0.20	4.0	–	–	–	■ 210	0.20	4.0	–	–	–	–	–	–	◪ 45	0.13	1.1
TDET 170416PR-R:M5315		⬌		1.6	◪ 265	0.20	4.0	–	–	–	■ 250	0.20	4.0	–	–	–	–	–	–	■ 50	0.13	1.1
TDET 170416PR-R:M8330		✱		1.6	■ 200	0.20	4.0	◪ 120	0.18	4.0	■ 190	0.20	4.0	–	–	–	◪ 50	0.18	3.2	◪ 40	0.13	1.1

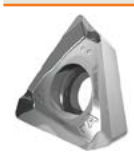
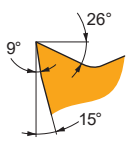
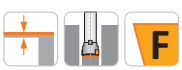
TDET 17-FA

DORMER PRAMET

	IC (mm)	D1 (mm)	S (mm)
1704	10.300	4.40	4.76

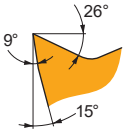


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	●	⬌	✱	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																						
																						
																						
FA geometry is sharp and used for non-ferrous alloys machining, suitable for large overhang or thin walled and slim workpiece applications. Polished and ground design with highly positive rake.																						
TDET 170404FR-FA:HF7	●			0.4	–	–	–	–	–	–	–	–	–	■ 180	0.24	4.0	–	–	–	–	–	–
TDET 170408FR-FA:HF7	●			0.8	–	–	–	–	–	–	–	–	–	■ 210	0.24	4.0	–	–	–	–	–	–

■ Primary use ◪ Possible use ● Continuous cut ⬌ Slightly interrupted cut ✱ Interrupted cut

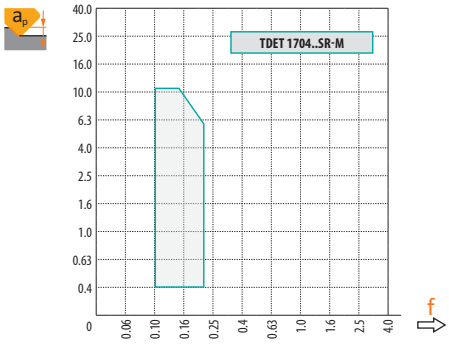
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

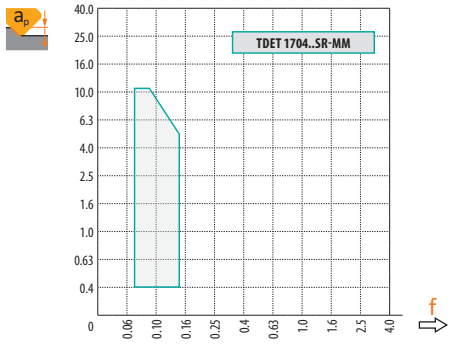
Product	●	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																				
FA geometry is sharp and used for non-ferrous alloys machining, suitable for large overhang or thin walled and slim workpiece applications. Polished and ground design with highly positive rake.																				
TDET 170408FR-FA:M0315	●	0.8	–	–	–	–	–	–	–	–	–	■ 480	0.24	4.0	–	–	–	–	–	–

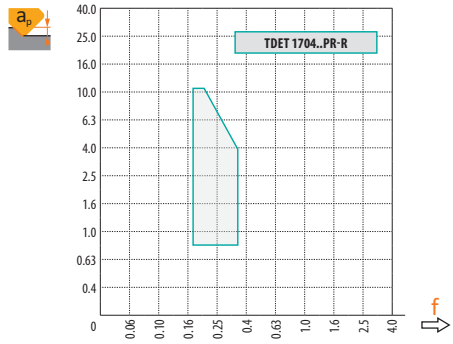
■ Primary use ◪ Possible use ● Continuous cut ⧓ Slightly interrupted cut ✠ Interrupted cut

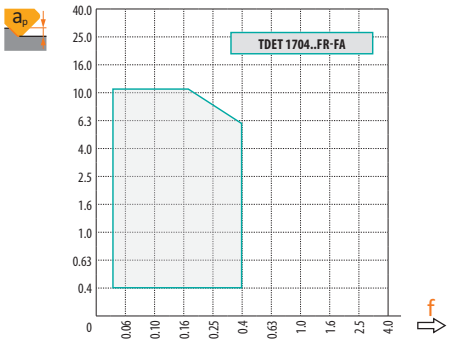
a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	TDET 17-M			TDET 17-MM			TDET 17-R		TDET 17-FA
RE	0.4	0.8	1.6	0.4	0.8	1.6	0.8	1.6	0.8
BS	1.7	1.3	0.5	1.7	1.3	0.5	1.3	0.5	1.3









a_p	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
1 f	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10

DC	RPMX	APMX/l
32	2.3°	3.9/100
35	2.1°	3.5/100
40	2.0°	3.3/100
42	2.0°	3.3/100
50	1.0°	1.6/100
52	1.0°	1.6/100
63	1.0°	1.6/100
66	0.8°	1.2/100

DC	RPMX	APMX/l
80	0.8°	1.2/100
100	0.7°	1.1/100
115	0.5°	0.7/100
125	0.5°	0.7/100
140	0.4°	0.5/100
160	0.4°	0.5/100
175	0.4°	0.5/100
200	0.3°	0.4/100

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
32	54.1	63.0	2.8	3.9
35	63.7	69.0	3.3	3.9
40	70.5	79.0	3.3	4.3
42	74.5	83.0	3.6	4.5
50	90.3	99.0	2.2	2.7
52	94.3	103.0	2.3	2.8
63	116.1	125.0	2.9	3.4
66	122.1	131.0	2.5	2.9

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
80	150.0	159.0	3.1	3.5
100	190.0	199.0	3.5	3.8
115	220.0	229.0	2.9	3.1
125	240.0	249.0	3.2	3.4
140	270.0	279.0	2.9	3.0
160	310.0	319.0	3.3	3.5
175	340.0	349.0	3.6	3.8
200	390.0	399.0	3.1	3.3

DC	a_p	f_{max}
32	1.2	0.14
35	1.2	0.14
40	1.2	0.13
42	1.2	0.13
50	1.2	0.13
52	1.2	0.13
63	1.2	0.12
66	1.2	0.12

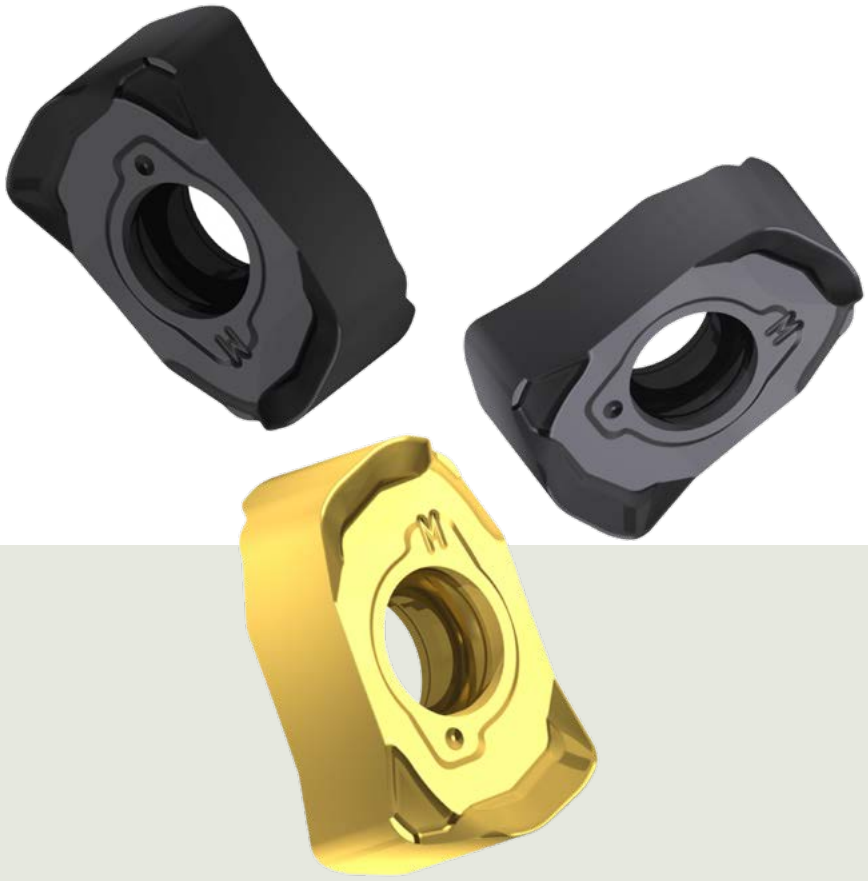
DC	a_p	f_{max}
80	1.2	0.12
100	1.2	0.11
115	1.2	0.11
125	1.2	0.11
140	1.2	0.10
160	1.2	0.10
175	1.2	0.10
200	1.2	0.10

DC	a_{emax}	f_{max}
32	2.5	0.10
35	2.5	0.10
40	2.5	0.10
42	2.5	0.10
50	2.5	0.10
52	2.5	0.10
63	2.5	0.11
66	2.5	0.11

DC	a_{emax}	f_{max}
80	2.5	0.11
100	2.5	0.12
115	2.5	0.12
125	2.5	0.12
140	2.5	0.13
160	2.5	0.13
175	2.5	0.13
200	2.5	0.13

Reliable high-feed roughing for steel and cast iron – range extension

A cost-effective solution for productive roughing



The new BNMX direct-pressed inserts complement the existing BNGX ground insert range for the most common application areas. The BNMX inserts with M geometry offer a more cost-effective solution for machining (HFC) steel (ISO P) and cast iron (ISO K) materials.

Manufactured using state-of-the-art pressing technology, it features M-tolerance and a robust edge for reliable and predictable performance in demanding machining environments.

The BNMX 10 is fully compatible with existing SBN10 cutter bodies, available in cylindrical, modular, and shell mill configurations. Combining durability, process reliability, and economical performance, it is ideally suited for small- to mid-batch roughing operations in general engineering and die and mold applications.

Related products

SBN10

Cylindrical shank

Metric range: 16 – 35 mm

Inch range: .625 – 1.250“

SBN10

Modular shank

Metric range: 16 – 40 mm

Inch range: .625 – 1.250“

SBN10

Shell body

Metric range: 40 – 66 mm

Inch range: 1.500 – 2.000“

BNGX 10-M

Precision ground insert

For steel, cast iron and hardened materials

BNGX 10-MM

Precision ground insert

For steel, stainless steels and super alloys

BNGX 10-HM

Precision ground insert

Hardened materials and cast iron

BNMX 10-M

New

Direct pressed insert

For steel and cast iron

SBN10

P M K S H

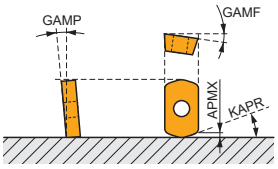
S

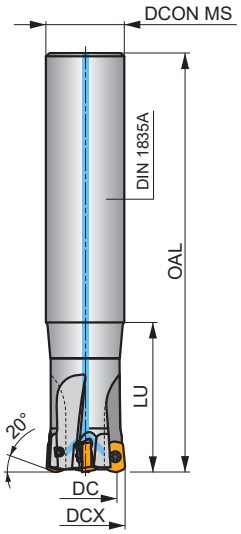
DORMER PRAMET

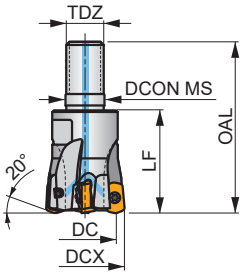
High Feed Milling Cutter for BN.. 10 inserts with Internal Coolant

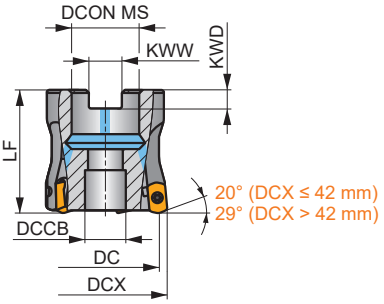
High-feed milling cutter for smaller diameters utilizing double-sided BN.X 10 inserts with four cutting edges and APMX of 1 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

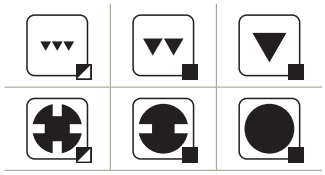
KAPR	20° (29°)
APMX	1.0 mm











h_m	0.17 – 0.41
h_m	0.17 – 0.41

	Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	KAPR (°)	GAMF (°)	GAMP (°)			max.		kg		
	16E2R030A16-SBN10-C	16	9.4	100	16	–	30	–	–	–	–	20	-12	-10	2	✓	31100	✓	0.13	GI329	C0310
	16E2R050A16-SBN10-C	16	9.4	150	16	–	50	–	–	–	–	20	-12	-10	2	–	31100	✓	0.18	GI329	C0310
	16E2R030A14-SBN10-C	16	9.4	150	14	–	30	–	–	–	–	20	-12	-10	2	–	31100	✓	0.18	GI329	C0310
	18E2R030A16-SBN10-C	18	11.4	150	16	–	30	–	–	–	–	20	-11	-10	2	–	29200	✓	0.23	GI329	C0310
	20E3R040A20-SBN10-C	20	13.4	130	20	–	40	–	–	–	–	20	-10	-10	3	–	27700	✓	0.25	GI329	C0310
	20E3R080A20-SBN10-C	20	13.4	160	20	–	80	–	–	–	–	20	-10	-10	3	–	27700	✓	0.29	GI329	C0310
	20E3R040A18-SBN10-C	20	13.4	180	18	–	40	–	–	–	–	20	-10	-10	3	–	27700	✓	0.29	GI329	C0310
	20E4R040A20-SBN10-C	20	13.4	130	20	–	40	–	–	–	–	20	-10	-10	4	–	27700	✓	0.28	GI329	C0310
DIN 1835A	25E4R050A25-SBN10-C	25	18.4	140	25	–	50	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.42	GI329	C0310
	25E4R100A25-SBN10-C	25	18.4	180	25	–	100	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.51	GI329	C0310
	25E4R050A22-SBN10-C	25	18.4	220	22	–	50	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.58	GI329	C0310
	25E5R050A25-SBN10-C	25	18.4	140	25	–	50	–	–	–	–	20	-9	-10	5	–	24800	✓	0.42	GI329	C0310
	32E5R070A32-SBN10-C	32	25.4	150	32	–	70	–	–	–	–	20	-8	-10	5	✓	21900	✓	0.73	GI329	C0310
	32E6R070A32-SBN10-C	32	25.4	150	32	–	70	–	–	–	–	20	-8	-10	6	✓	21900	✓	0.76	GI329	C0310
	32E5R120A32-SBN10-C	32	25.4	200	32	–	120	–	–	–	–	20	-8	-10	5	✓	21900	✓	0.96	GI329	C0310
	35E5R050A32-SBN10-C	35	28.4	200	32	–	50	–	–	–	–	20	-7.5	-10	5	✓	21000	✓	1.08	GI329	C0310
	35E6R050A32-SBN10-C	35	28.4	200	32	–	50	–	–	–	–	20	-7.5	-10	6	✓	21000	✓	1.08	GI329	C0310
	16E2R025M08-SBN10-C	16	9.4	43	8.5	–	–	25	M8	–	–	20	-12	-10	2	–	31100	✓	0.05	GI329	C0310
	18E2R025M08-SBN10-C	18	11.4	43	8.5	–	–	25	M8	–	–	20	-11	-10	2	–	29200	✓	0.05	GI329	C0310
	20E3R030M10-SBN10-C	20	13.4	49	10.5	–	–	30	M10	–	–	20	-10	-10	3	–	27700	✓	0.07	GI329	C0310
	20E4R030M10-SBN10-C	20	13.4	49	10.5	–	–	30	M10	–	–	20	-10	-10	4	–	27700	✓	0.06	GI329	C0310
MODULAR	25E4R033M12-SBN10-C	25	18.4	55	12.5	–	–	33	M12	–	–	20	-9	-10	4	✓	24800	✓	0.08	GI329	C0310
	25E5R033M12-SBN10-C	25	18.4	55	12.5	–	–	33	M12	–	–	20	-9	-10	5	–	24800	✓	0.09	GI329	C0310
	28E5R035M12-SBN10-C	28	21.4	57	12.5	–	–	35	M12	–	–	20	-8.5	-10	5	✓	23400	✓	0.12	GI329	C0310
	32E5R040M16-SBN10-C	32	25.4	63	17	–	–	40	M16	–	–	20	-8	-10	5	✓	21900	✓	0.20	GI329	C0310
	32E6R040M16-SBN10-C	32	25.4	63	17	–	–	40	M16	–	–	20	-8	-10	6	✓	21900	✓	0.21	GI329	C0310
	35E6R043M16-SBN10-C	35	28.4	66	17	–	–	43	M16	–	–	20	-7.5	-10	6	✓	21000	✓	0.23	GI329	C0310

	Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	KAPR (°)	GAMF (°)	GAMP (°)			max.		kg		
MODULAR	40E6R043M16-SBN10-C	40	33.4	66	17	–	–	43	M16	–	–	20	-7	-10	6	✓	19600	✓	0.27	GI329	C0310
MODULAR	40E7R043M16-SBN10-C	40	33.4	66	17	–	–	43	M16	–	–	20	-7	-10	7	✓	19600	✓	0.26	GI329	C0310
MODULAR	42E5R043M16-SBN10-C	42	35.4	66	17	–	–	43	M16	–	–	20	-7	-10	5	✓	19100	✓	0.28	GI329	C0310
MODULAR	42E7R043M16-SBN10-C	42	35.4	66	17	–	–	43	M16	–	–	20	-7	-10	7	✓	19100	✓	0.27	GI329	C0310
	40A05R-SMOBN10-C	40	33.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	5	✓	19600	✓	0.23	GI329	C0312
	40A07R-SMOBN10-C	40	33.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	7	✓	19600	✓	0.27	GI329	C0312
	42A05R-SMOBN10-C	42	35.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	5	✓	19100	✓	0.23	GI329	C0312
	42A07R-SMOBN10-C	42	35.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	7	✓	19100	✓	0.36	GI329	C0312
ISO 6462 DIN 8030	50A07R-SMOBN10-C	50	45	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	7	✓	17500	✓	0.46	GI343	C0311
ISO 6462 DIN 8030	50A08R-SMOBN10-C	50	45	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	8	✓	17500	✓	0.34	GI343	C0311
ISO 6462 DIN 8030	52A07R-SMOBN10-C	52	47	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	7	✓	17200	✓	0.49	GI343	C0311
ISO 6462 DIN 8030	52A08R-SMOBN10-C	52	47	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	8	✓	17200	✓	0.37	GI343	C0311
ISO 6462 DIN 8030	66A08R-SMOBN10-C	66	61	–	27	22.1	–	50	–	12.4	7	29	-6	-7	8	✓	15200	✓	0.89	GI343	C0313

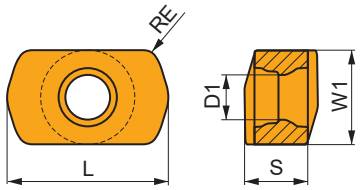
GI329	BN.X 10T3…	ANHX 10T3..
GI343	BN.X 10T3…	–

		Nm						
C0310	US 42507-T07P	1.2	M 2.5	7	Flag T07P	–	–	–
C0313	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 1230C
C0312	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 0830C
C0311	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 1030C

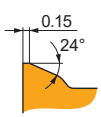
BNGX 10

DORMER PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.92	3.90

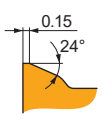
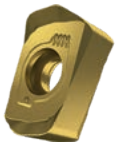
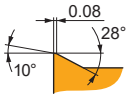
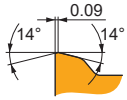


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																			
M geometry with positive design for high feed machining.																			
BNGX 10T308SR-M:8215	0.8	■ 240	0.65	0.7	–	–	–	■ 225	0.65	0.7	–	–	–	–	–	–	◪ 45	0.36	0.5
BNGX 10T308SR-M:M6330	0.8	■ 210	0.65	0.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-M:M8310	0.8	■ 250	0.65	0.7	–	–	–	■ 235	0.65	0.7	–	–	–	–	–	–	◪ 50	0.36	0.5
BNGX 10T308SR-M:M8330	0.8	■ 240	0.65	0.7	–	–	–	■ 225	0.65	0.7	–	–	–	–	–	–	◪ 45	0.36	0.5
BNGX 10T308SR-M:M8340	0.8	■ 225	0.65	0.7	–	–	–	◪ 210	0.65	0.7	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-M:M8345	0.8	■ 180	0.65	0.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

■ Primary use ◪ Possible use ● Continuous cut ⧓ Slightly interrupted cut ✱ Interrupted cut

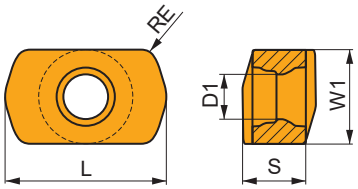
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
 **M** geometry with positive design for high feed machining.																			
BNGX 10T308SR-M:M9325	0.8	■ 275	0.65	0.7	–	–	–	■ 260	0.65	0.7	–	–	–	–	–	–	◪ 55	0.36	0.5
  **MM** geometry with highly positive design for high feed machining.																			
BNGX 10T308SR-MM:M6330	0.8	◪ 215	0.65	0.6	■ 150	0.59	0.6	–	–	–	–	–	–	■ 60	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8310	0.8	◪ 255	0.65	0.6	◪ 130	0.59	0.6	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-MM:M8330	0.8	◪ 245	0.65	0.6	■ 145	0.59	0.6	–	–	–	–	–	–	◪ 60	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8340	0.8	◪ 230	0.65	0.6	■ 135	0.59	0.6	–	–	–	–	–	–	■ 55	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8345	0.8	◪ 180	0.65	0.6	■ 105	0.59	0.6	–	–	–	–	–	–	■ 45	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M9325	0.8	◪ 280	0.65	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-MM:M9340	0.8	◪ 250	0.65	0.6	■ 150	0.59	0.6	–	–	–	–	–	–	■ 60	0.46	0.5	–	–	–
 **HM** geometry with strong design for high feed machining.																			
BNGX 10T308SR-HM:8215	0.8	–	–	–	–	–	–	◪ 240	0.65	0.4	–	–	–	–	–	–	■ 50	0.65	0.4
BNGX 10T308SR-HM:M8310	0.8	–	–	–	–	–	–	◪ 250	0.65	0.4	–	–	–	–	–	–	■ 50	0.65	0.4
BNGX 10T308SR-HM:M8330	0.8	–	–	–	–	–	–	◪ 240	0.65	0.4	–	–	–	–	–	–	◪ 50	0.65	0.4

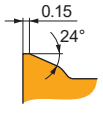
BNMX 10

DORMER PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.92	3.90



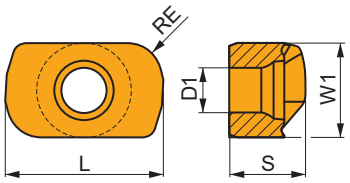
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
 **M** geometry with positive design for high feed machining.																			
BNMX 10T308SR-M:8215	0.8	■ 215	0.65	0.7	–	–	–	■ 200	0.65	0.7	–	–	–	–	–	–	–	–	–
BNMX 10T308SR-M:M8330	0.8	■ 215	0.65	0.7	–	–	–	■ 200	0.65	0.7	–	–	–	–	–	–	–	–	–
BNMX 10T308SR-M:M8340	0.8	■ 205	0.65	0.7	–	–	–	◪ 190	0.65	0.7	–	–	–	–	–	–	–	–	–
BNMX 10T308SR-M:M9315	0.8	■ 255	0.65	0.7	–	–	–	■ 240	0.65	0.7	–	–	–	–	–	–	–	–	–
BNMX 10T308SR-M:M9325	0.8	■ 250	0.65	0.7	–	–	–	■ 235	0.65	0.7	–	–	–	–	–	–	–	–	–

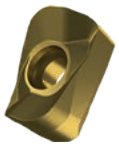
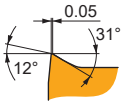
■ Primary use ◪ Possible use ● Continuous cut ⬌ Slightly interrupted cut ✱ Interrupted cut

ANHX 10

	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
10T3	5.800	2.76	9.72	4.70



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

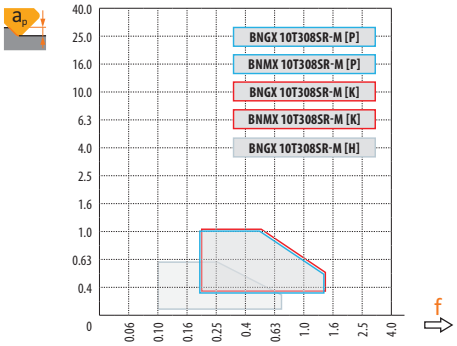
		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)
																				
F geometry with positive design for finish and semi-finish machining.																				
ANHX 10T320SR-F:M8310		2.0	■ 380	0.10	2.5	◪ 190	0.09	2.5	–	–	–	–	–	–	–	–	–	–	–	–
ANHX 10T320SR-F:M8330		2.0	■ 340	0.10	2.5	◪ 200	0.09	2.5	–	–	–	–	–	–	–	–	–	–	–	–

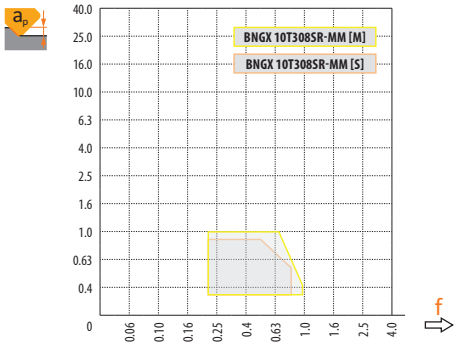
■ Primary use ◪ Possible use ● Continuous cut ⬌ Slightly interrupted cut ✣ Interrupted cut

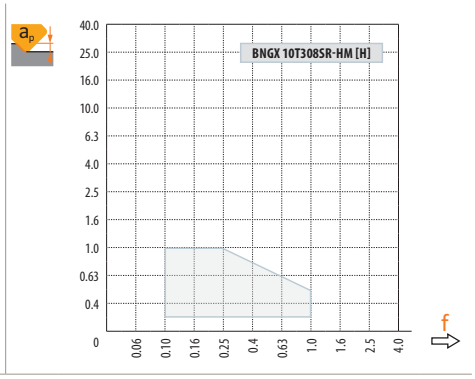
a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

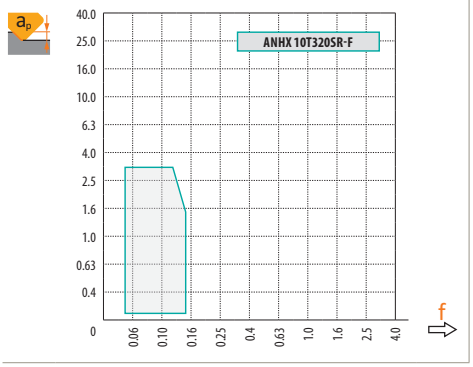
	BNGX 10-M	BNGX 10-MM	BNGX 10-HM	BNMX 10-M
RE	0.8	0.8	0.8	0.8
BS	–	–	–	–

	ANHX 10 - F
RE	2.0
BS	0.92









BN.X 10 (HFC)

DCX	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
16		9.40	12.85	13.36	13.80	14.20	14.56	14.88	15.19	15.47
18		11.40	14.85	15.36	15.80	16.20	16.56	16.88	17.19	17.47
20		13.40	16.85	17.36	17.80	18.20	18.56	18.88	19.19	19.47
25		18.40	21.85	22.36	22.80	23.20	23.56	23.88	24.19	24.47
32		25.40	28.85	29.36	29.80	30.20	30.56	30.88	31.19	31.47
35	DEF	28.40	31.85	32.36	32.80	33.20	33.56	33.88	34.19	34.47
40		33.40	36.85	37.36	37.80	38.20	38.56	38.88	39.19	39.47
42		35.40	38.85	39.36	39.80	40.20	40.56	40.88	41.19	41.47
50		43.98	46.09	46.45	46.82	47.18	47.54	47.90	48.26	48.56
52		45.98	48.09	48.45	48.82	49.18	49.54	49.90	50.26	50.56
66		59.98	62.09	62.45	62.82	63.18	63.54	63.90	64.26	64.56
	a_p	**0.00**	**0.30**	**0.40**	**0.50**	**0.60**	**0.70**	**0.80**	**0.90**	**1.00**
	f	–	1.30	1.10	0.90	0.80	0.72	0.68	0.65	0.50

BN.X 10

DCX	a_{emax}	f_{max}
16	3.5	0.12
18	3.5	0.12
20	4.0	0.15
25	4.0	0.15
32	4.0	0.17
35	4.0	0.17
40	4.0	0.17
42	4.0	0.17
50	4.5	0.30
52	4.5	0.30
66	4.5	0.30

BN.X 10 (HFC)

a_p	0.3	0.6	1.0
f	1.10	0.60	0.30

DCX	BN.X 10 (HFC) RPMX	BN.X 10 (HFC) APMX/I	ANHX 10 RPMX	ANHX 10 APMX/I
16	3.8	1/17	1.6°	2.65/100
18	3.8	1/17	1.3°	2.15/100
20	3.8	1/17	1.1°	1.80/100
25	2.6	1/24	0.8°	1.25/100
32	1.8	1/33	0.5°	0.75/100
35	1.6	1/37	0.5°	0.75/100
40	1.3	1/46	0.4°	0.55/100
42	1.3	1/46	0.4°	0.55/100
50	0.4	0.55/100	–	–
52	0.4	0.55/100	–	–
66	0.3	0.4/100	–	–

BN.X 10 (HFC)

DCX	a_p	f_{max}
16	0.4	0.15
18	0.7	0.15
20	0.7	0.15
25	0.7	0.15
32	0.7	0.2
35	0.7	0.2
40	0.7	0.2
42	0.7	0.2
50	0.3	0.2
52	0.3	0.2
66	0.3	0.2

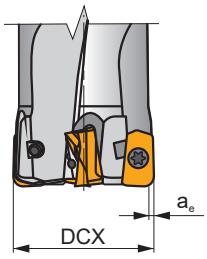
BN.X 10 (HFC)

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
16	22.4	31.8	0.5	0.5
18	25.4	35.8	0.5	0.5
20	29.4	39.8	0.5	0.5
25	39.4	49.8	0.5	0.5
32	53.4	63.8	0.5	0.5
35	59.4	69.8	0.5	0.5
40	69.4	79.8	0.5	0.5
42	73.4	83.8	0.5	0.5
50	89.6	99.6	0.5	0.5
52	93.6	103.6	0.5	0.5
66	121.6	131.6	0.5	0.5

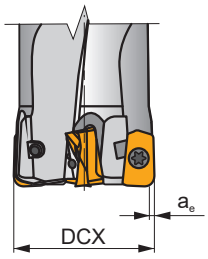
DCX	µm	3	5	10	15	20	30	40	50	60	80	100
16	FE	0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099

ANHX 10

RE	µm	3	5	10	15	20	30	40	50	60	80	100
2.0	FE	0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265



	R	T
BNGX 10T308	1.60	0.44
BNMX 10T308	1.60	0.44



	max a_e/DCX
ANHX 10T320	0.05

ISO group		WMG (Work Material Group)			Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Free machining steel (carbon steels with increased machinability)	Sulfurized	< 240 HB	≤ 830
		P1.2		Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Plain carbon steel (steels comprised of mainly iron and carbon)	Containing <0.25 % C	< 180 HB	≤ 620
		P2.2		Containing <0.55 % C	< 240 HB	≤ 830
		P2.3		Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Alloy steel (carbon steels with an alloying content ≤ 10%)	Annealed	< 180 HB	≤ 620
		P3.2		Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3			260 – 360 HB	> 900 ≤ 1240
	P4	P4.1	Tool steel (special alloy steel for tools, dies and molds)	Annealed	< 26 HRC	≤ 900
		P4.2		Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240
		P4.3			39 – 45 HRC	> 1240 ≤ 1450
M	M1	M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)		< 160 HB	≤ 520
		M1.2			160 – 220 HB	> 520 ≤ 700
	M2	M2.1	Martensitic stainless steel (straight chromium hardenable alloys)	Annealed	< 200 HB	≤ 670
		M2.2		Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)		< 200 HB	≤ 750
		M3.2			200 – 260 HB	> 750 ≤ 870
		M3.3			260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel		< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel		300 – 380 HB	≤ 1320
K	K1	K1.1	Gray iron or Automotive Gray iron (GG) (iron-carbon castings with a lamellar graphite microstructure)	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2		Ferritic-pearlictic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3		Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Malleable iron (GTS/GTW) (iron-carbon castings with a graphite-free microstructure)	Ferritic	< 160 HB	≤ 400
		K2.2		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3		Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ductile iron (GGG) (iron-carbon castings with a nodular graphite microstructure)	Ferritic	< 180 HB	≤ 560
		K3.2		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3		Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)		< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)		< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)		< 280 HB	> 840 ≤ 980
		K4.4			280 – 320 HB	> 980 ≤ 1130
		K4.5			320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Compacted graphite iron CGI (ASTM A842) (iron-carbon castings with a vermicular graphite structure)	Ferritic	< 180 HB	≤ 400
		K5.2		Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3		Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium		< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys	Half hard tempered	60 – 100 HB	> 240 ≤ 400
		N1.3		Full hard tempered	100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys		< 75 HB	≤ 240
		N2.2			75 – 90 HB	> 240 ≤ 270
		N2.3			90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties		–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties		–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		–	–
	N4	N4.1	Thermoplastic polymers		–	–
		N4.2	Thermosetting polymers		–	–
		N4.3	Reinforced polymers or composites		–	–
	N5	N5.1	Graphite		–	–
S	S1	S1.1	Titanium or titanium alloys		< 200 HB	≤ 660
		S1.2			200 – 280 HB	> 660 ≤ 950
		S1.3			280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys		< 200 HB	≤ 690
		S2.2			200 – 280 HB	> 690 ≤ 970
	S3	S3.1	Ni-based high-temperature alloys		< 280 HB	≤ 940
		S3.2			280 – 360 HB	> 940 ≤ 1200
	S4	S4.1	Co-based high-temperature alloys		< 240 HB	≤ 800
		S4.2			240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron		< 440 HB	–
	H2	H2.1	Hardened cast iron		< 55 HRC	–
		H2.2			> 55 HRC	–
	H3	H3.1	Hardened steel < 55 HRC		< 51 HRC	–
		H3.2			51 – 55 HRC	–
	H4	H4.1	Hardened steel > 55 HRC		55 – 59 HRC	–
		H4.2			> 59 HRC	–

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