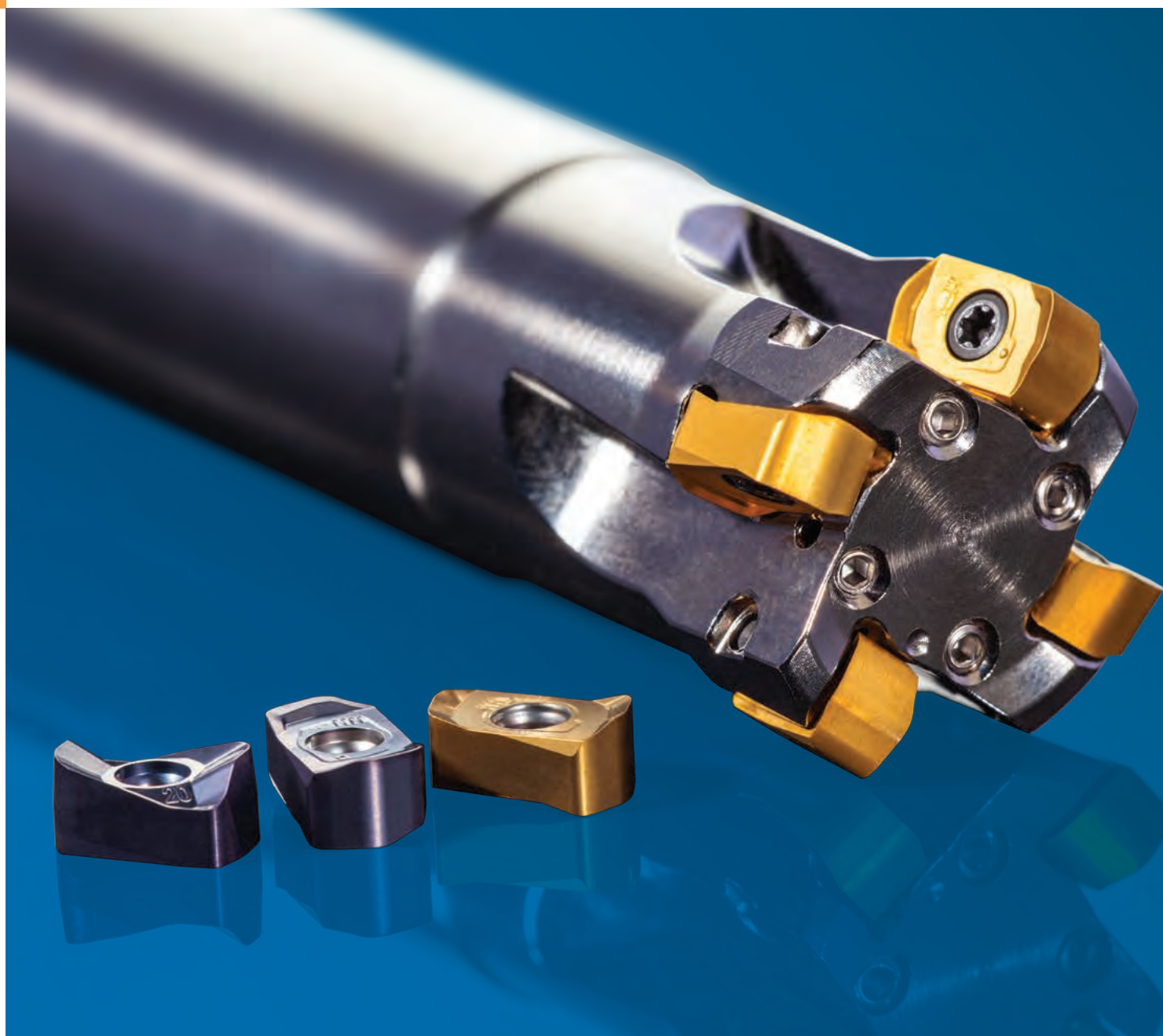




New products

2017.2



MILLING CUTTERS AND INSERTS

4

- SBN10 / BNGX10
Economical high feed milling tools

15

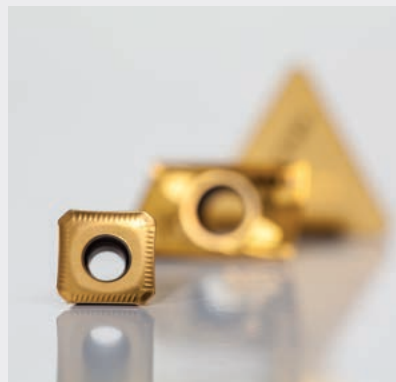
- SRC10 / RCMT10
Productive copy milling cutters



MILLING INSERTS

23

- M8330
Versatile milling grade for steels



TURNING INSERTS

78

- KNUX16
Inserts for longitudinal and copy turning



MILLING CUTTERS AND INSERTS





ECONOMICAL HIGH FEED MILLING TOOLS

New range of versatile cutters with HFC inserts featuring four edges for productive machining of a wide range of materials. Its unique pocket design can also carry inserts for shoulder milling, offering a complete package for mold and die applications, from roughing to finishing.

FEATURES & BENEFITS

- Cutters for copy milling, ramping, helical interpolation, slotting and plunging. Also, for face and shoulder milling
- BNGX10 inserts for high feed roughing
- ANHX10 for finishing operations
- Three geometries suitable for wide range of materials (see below for details)
- Unique design for smoother cut
- Wide range of cutter diameters (16 - 42 mm) and types (end mills, modular and shell mills)
- Special through coolant design directs lubrication nearer to cutting edges
- **Complete mold and die offer** - One cutter enables machining from roughing to finishing
- **Productivity** - High feed rates with axial depth of cut up to 1mm
- **Process security** - Higher ramping angle improves chip control
- **Adaptable** - Suitable for unstable set-ups and excessive overhang
- **Cost savings** - versatile cutters with BNGX10 inserts featuring four cutting edges

INSERT TYPES

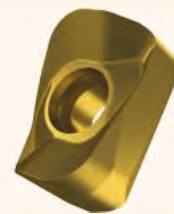


BNGX

BNGX 10

High feed roughing

- Double sided insert with four cutting edges
- HFC design makes it suitable for high feed roughing even with long overhang
- Compatible with three geometries covering most machined materials



ANHX

ANHX 10

Finishing, shoulder and face milling

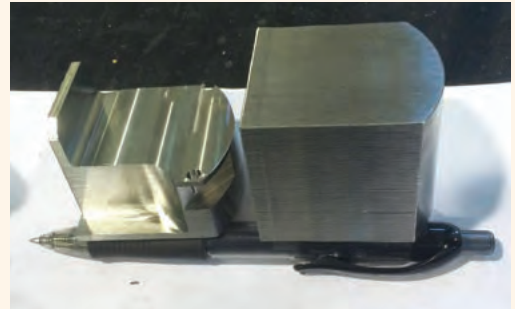
- Single sided insert with two cutting edges
- Positive geometry suitable for long overhang, decreased vibrations and lower noise during finishing

SBN10 / BNGX 10

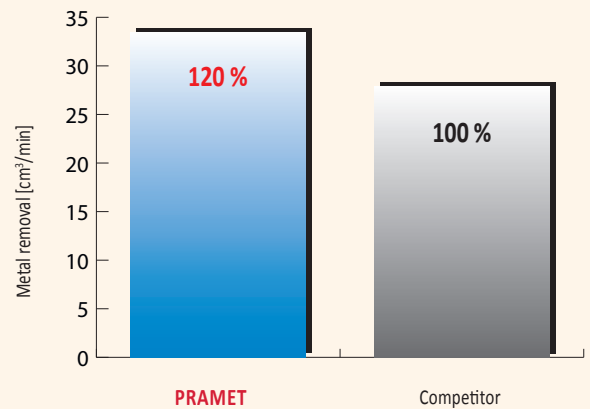
MILLING CUTTERS AND INSERTS

BNGX10 - MACHINING EXAMPLE

Material: DIN 1.4541 (900Mpa)
 Material group: M
 Workpiece: AIRCRAFT PARTS
 Insert: **BNGX 10T308SR-MM:M8345**
 Coolant: Yes



			PRAMET	Competitor
Operation			High feed copy milling	
Tool			32E6R040M16-SBN10-C	D=32 mm; 5 teeth
Cutting speed	v_c	m/min	80	80
Feed tooth	f_z	mm/tooth	0,5	0,5
Feed	f	mm/min	2389	1990
Axial depth of cut	a_p	mm	0,7	0,7
Radial depth of cut	a_e	mm	20	20
Metal removal	Q	cm ³ /min	33,4	27,9
Durability	T	min	44	19,5
		pcs	8	3



After 8 pieces

After 3 pieces

BNGX10 INSERT GEOMETRIES



M

GEOMETRY M

- Steels and cast irons



MM

GEOMETRY MM

- Low carbon steels, stainless steels and super alloys



HM

GEOMETRY HM

- Hardened steel

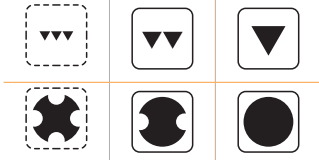
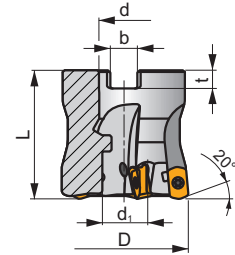
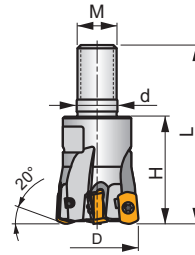
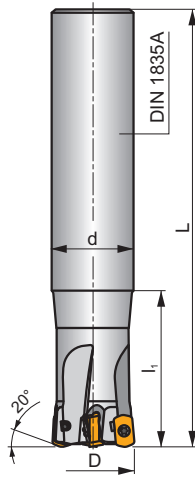
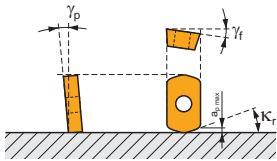
SBN10

P M K S H

S



κ_r	20°
a_{pmax}	1,0 mm



0,17-0,41
 h_m

0,17-0,41
 h_m



ISO	D	L	d	d_1	l_1	H	M	b	t	γ_p°	γ_f°					kg		
16E2R030A16-SBN10-C	16	100	16	-	30	-	-	-	-	-10	-12	2	-	31100	✓	0,12	GI329	CO310
16E2R050A16-SBN10-C	16	150	16	-	50	-	-	-	-	-10	-12	2	-	31100	✓	0,18	GI329	CO310
16E2R030A14-SBN10-C	16	150	14	-	30	-	-	-	-	-10	-12	2	-	31100	✓	0,15	GI329	CO310
18E2R030A16-SBN10-C	18	150	16	-	30	-	-	-	-	-10	-11	2	-	29200	✓	0,20	GI329	CO310
20E3R040A20-SBN10-C	20	130	20	-	40	-	-	-	-	-10	-10	3	-	27700	✓	0,25	GI329	CO310
20E3R080A20-SBN10-C	20	160	20	-	80	-	-	-	-	-10	-10	3	-	27700	✓	0,29	GI329	CO310
20E3R040A18-SBN10-C	20	180	18	-	40	-	-	-	-	-10	-10	3	-	27700	✓	0,30	GI329	CO310
20E4R040A20-SBN10-C	20	130	20	-	40	-	-	-	-	-10	-10	4	-	27700	✓	0,26	GI329	CO310
25E4R050A25-SBN10-C	25	140	25	-	50	-	-	-	-	-10	-9	4	✓	24800	✓	0,42	GI329	CO310
25E4R100A25-SBN10-C	25	180	25	-	100	-	-	-	-	-10	-9	4	✓	24800	✓	0,51	GI329	CO310
25E4R050A22-SBN10-C	25	220	22	-	50	-	-	-	-	-10	-9	4	✓	24800	✓	0,54	GI329	CO310
25E5R050A25-SBN10-C	25	140	25	-	50	-	-	-	-	-10	-9	5	-	24800	✓	0,50	GI329	CO310
32E5R070A32-SBN10-C	32	150	32	-	70	-	-	-	-	-10	-8	5	✓	21900	✓	0,73	GI329	CO310
32E6R070A32-SBN10-C	32	150	32	-	70	-	-	-	-	-10	-8	6	✓	21900	✓	0,73	GI329	CO310
32E5R120A32-SBN10-C	32	200	32	-	120	-	-	-	-	-10	-8	5	✓	21900	✓	0,94	GI329	CO310
35E5R050A32-SBN10-C	35	200	32	-	50	-	-	-	-	-10	-7,5	5	✓	21000	✓	1,08	GI329	CO310
35E6R050A32-SBN10-C	35	200	32	-	50	-	-	-	-	-10	-7,5	6	✓	21000	✓	1,08	GI329	CO310
16E2R025M08-SBN10-C	16	43	8,5	-	-	25	M8	-	-	-10	-12	2	-	31100	✓	0,03	GI329	CO310
18E2R025M08-SBN10-C	18	43	8,5	-	-	25	M8	-	-	-10	-11	2	-	29200	✓	0,03	GI329	CO310
20E3R030M10-SBN10-C	20	49	10,5	-	-	30	M10	-	-	-10	-10	3	-	27700	✓	0,05	GI329	CO310
20E4R030M10-SBN10-C	20	49	10,5	-	-	30	M10	-	-	-10	-10	4	-	27700	✓	0,05	GI329	CO310
25E4R033M12-SBN10-C	25	55	12,5	-	-	33	M12	-	-	-10	-9	4	✓	24800	✓	0,08	GI329	CO310
25E5R033M12-SBN10-C	25	55	12,5	-	-	33	M12	-	-	-10	-9	5	-	24800	✓	0,19	GI329	CO310
28E5R035M12-SBN10-C	28	57	12,5	-	-	35	M12	-	-	-10	-8,5	5	✓	23400	✓	0,10	GI329	CO310
32E5R040M16-SBN10-C	32	63	17	-	-	40	M16	-	-	-10	-8	5	✓	21900	✓	0,19	GI329	CO310
32E6R040M16-SBN10-C	32	63	17	-	-	40	M16	-	-	-10	-8	6	✓	21900	✓	0,19	GI329	CO310
35E6R043M16-SBN10-C	35	66	17	-	-	43	M16	-	-	-10	-7,5	6	✓	21000	✓	0,22	GI329	CO310

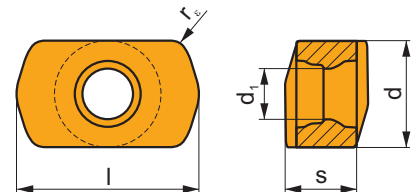
ISO	D	L	d	d ₁	l ₁	H	M	b	t	γ _p °	γ _f °							
40E6R043M16-SBN10-C	40	66	17	-	-	43	M16	-	-	-10	-7	6	✓	19600	✓	0,26	GI329	CO310
40E7R043M16-SBN10-C	40	66	17	-	-	43	M16	-	-	-10	-7	7	✓	19600	✓	0,26	GI329	CO310
40A05R-SMOBN10-C	40	40	16	14,1	-	-	-	8,4	5,6	-10	-7	5	✓	19600	✓	0,21	GI329	CO312
40A07R-SMOBN10-C	40	40	16	14,1	-	-	-	8,4	5,6	-10	-7	7	✓	19600	✓	0,22	GI329	CO312
42A05R-SMOBN10-C	42	40	16	14,1	-	-	-	8,4	5,6	-10	-7	5	✓	19100	✓	0,23	GI329	CO312
42A07R-SMOBN10-C	42	40	16	14,1	-	-	-	8,4	5,6	-10	-7	7	✓	19100	✓	0,24	GI329	CO312

GI329	BNGX 10T3..	ANHX 10T3..

CO310	US42507-T07P	0,9	M 2,5	7	-	-	Flag T07P	-
CO312	US42507-T07P	0,9	M 2,5	7	D-T07P/T09P	FG-15	-	HS0830C

BNGX 10

	d	d ₁	l	s
10T3	5,800	2,76	9,92	3,90



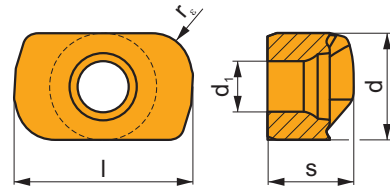
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 	 	BNGX 10T308SR-M	M9325	■	□					⚙	---	0,8	0,20	1,05	0,3	1,0
			M8310	■	□	■			▣	⚙	-	0,8	0,20	1,40	0,3	1,0
			M8330	■	□	■			▣	⚙	-	0,8	0,20	1,40	0,3	1,0
			M8340	■	□	▣				⚙	+/-	0,8	0,20	1,40	0,3	1,0
			M8345	■	□				▣	⚙	+/-	0,8	0,20	1,40	0,3	1,0
			8215	■	□	■			▣	⚙	-	0,8	0,20	1,40	0,3	1,0
 	 	BNGX 10T308SR-MM	M9325	▣	▣				▣	⚙	---	0,8	0,20	0,83	0,3	1,0
			M9340	▣	■				▣	⚙	---	0,8	0,20	0,83	0,3	1,0
			M6330	▣	■				▣	⚙	-	0,8	0,25	1,10	0,3	1,0
			M8310	▣	▣	□			□	⚙	-	0,8	0,25	1,10	0,3	1,0
			M8330	▣	▣	□	□		□	⚙	-	0,8	0,25	1,10	0,3	1,0
			M8340	▣	■	□			▣	⚙	+/-	0,8	0,25	1,10	0,3	1,0
M8345	▣	■				▣	⚙	+/-	0,8	0,25	1,10	0,3	1,0			

		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$	
		BNGX 10T308SR-HM	M8310	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0
			M8330	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0
			8215	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0

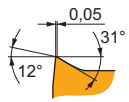
ISO	f_{min}	f_{max}	M9325	M9340	M6330	M8310	M8330	M8340	M8345	8215
P		0,20	1,40	296	264	212	267	244	222	257
		0,20	1,16	272	243	195	246	224	204	236
		0,20	0,93	234	209	167	205	187	175	194
M		0,25	1,10	149	155	149	127	137	132	142
		0,25	0,88	137	143	137	117	126	121	130
		0,25	0,66	117	123	117	100	108	104	112
K		0,20	1,50	-	-	-	253	230	208	242
		0,20	1,25	-	-	-	233	211	191	223
		0,20	1,00	-	-	-	200	181	164	191
S		0,20	0,90	68	72	65	59	63	59	-
		0,20	0,77	62	66	60	54	58	54	-
		0,10	0,66	53	57	52	46	50	46	-
H		0,05	0,70	-	-	-	53	48	-	51
		0,05	0,56	-	-	-	49	45	-	47
		0,05	0,42	-	-	-	42	38	-	40

ANHX 10

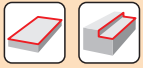
	d	d ₁	l	s
10T3	5,800	2,76	9,72	4,70



i	ISO	M8310	P	M	K	N	S	H	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}	
															W
	ANHX 10T320SR-F	M8310	■	■	□	□	□	■	●	-	2,0	0,05	0,15	0,1	3,0
		M8330	■	■	□	□	□	■	✘	-	2,0	0,05	0,15	0,1	3,0
		M8340	■	■	□	□	■	□	✘	+/-	2,0	0,05	0,15	0,1	3,0



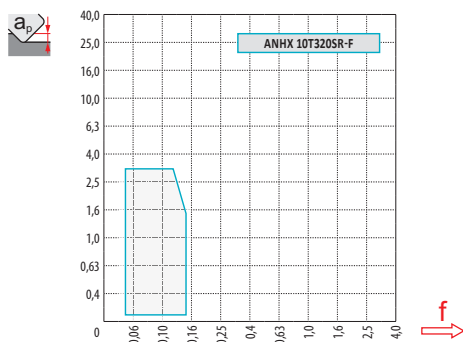
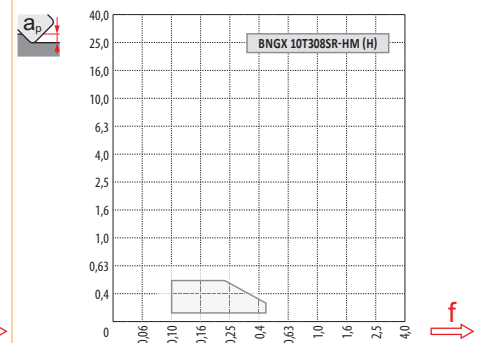
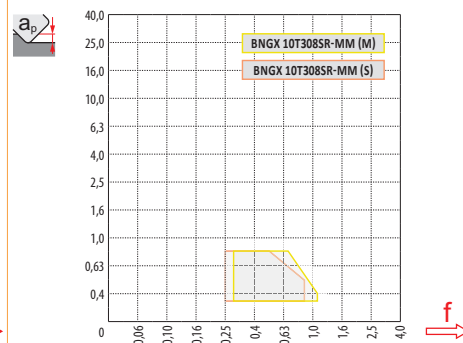
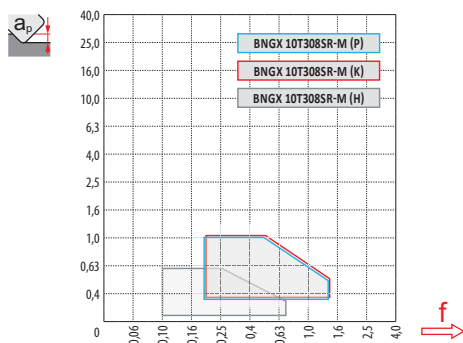
ISO	f _{min}	f _{max}	M8310	M8330	M8340
P	●	0,05	400	323	323
	●	0,05	368	297	297
	✘	0,05	316	255	255
M	●	0,05	203	190	213
	●	0,05	186	175	196
	✘	0,05	160	150	168
K	●	0,05	378	303	340
	●	0,05	347	278	313
	✘	0,05	298	239	269
S	●	0,05	90	85	95
	●	0,05	83	78	87
	✘	0,05	71	67	75
H	●	0,05	78	70	-
	●	0,05	71	64	-
	✘	0,05	61	55	-



$\frac{a_p}{D}$	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
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	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	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
r_ϵ	0,8	0,8	0,8
a	-	-	-

	ANHX 10 - F
r_ϵ	2,0
a	0,92



BNGX 10 (HFC)

		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		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

	0,00	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00
	-	1,30	1,10	0,90	0,80	0,72	0,68	0,65	0,50


BNGX 10

16	3,5	0,12
18	3,5	0,12
20	4,0	0,15
25	4,0	0,15
28	4,0	0,17
32	4,0	0,17
35	4,0	0,17
40	4,0	0,17
42	4,0	0,17

BNGX 10 (HFC)

	0,3	0,6	1,0
	1,10	0,60	0,30


BNGX 10 (HFC)

16	4,0	1/16
18	4,0	1/16
20	4,0	1/16
25	2,8	1/22
28	2,3	1/26
32	1,9	1/32
35	1,7	1/35
40	1,3	1/46
42	1,3	1/46

ANHX 10

16	1,6	2,65/100
18	1,3	2,15/100
20	1,1	1,80/100
25	0,8	1,25/100
28	0,7	1,10/100
32	0,5	0,75/100
35	0,5	0,75/100
40	0,4	0,55/100
42	0,4	0,55/100


BNGX 10 (HFC)

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

BNGX 10 (HFC)

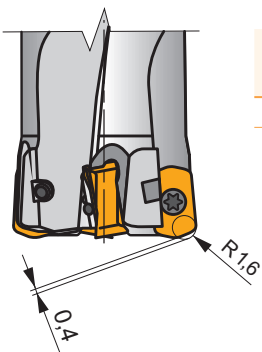
	d_{min}	d_{max}		
16	22,4	31,8	0,5	0,5
18	25,4	35,8	0,5	0,5
20	29,4	39,8	0,5	0,5
25	39,4	49,8	0,5	0,5
28	45,4	55,8	0,5	0,5
32	53,4	63,8	0,5	0,5
35	59,4	69,8	0,5	0,5
40	69,4	79,8	0,5	0,5
42	73,4	83,8	0,5	0,5



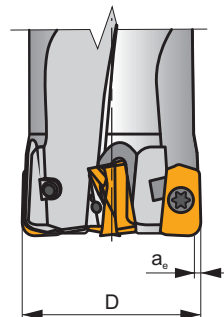
		3	5	10	15	20	30	40	50	60	80	100
16		0,438	0,566	0,800	0,980	1,131	1,386	1,600	1,789	1,960	2,263	2,530
18		0,465	0,600	0,849	1,039	1,200	1,470	1,697	1,897	2,078	2,400	2,683
20		0,490	0,632	0,894	1,095	1,265	1,549	1,789	2,000	2,191	2,530	2,828
25		0,548	0,707	1,000	1,225	1,414	1,732	2,000	2,236	2,449	2,828	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

		3	5	10	15	20	30	40	50	60	80	100
2,0		0,219	0,283	0,400	0,490	0,566	0,693	0,800	0,894	0,980	1,131	1,265

i


	R	t
BNGX 10T308	1,60	0,44



	max a_e/D
ANHX 10T320	0,05





PRODUCTIVE COPY MILLING CUTTERS

We have expanded our existing line of SRC copy milling tools with a new range of smaller diameter cutters. Also, we have added a range of RCMT10 inserts to support a variety of cutters which offer versatile and productive machining.

FEATURES & BENEFITS

- Suitable for face milling, helical interpolation, ramping, progressive plunging and high feed cutting
- RCMT10 inserts designed to allow high feed per tooth, bigger depth of cut up to 5 mm and high durability
- Compatible with three geometries suitable for a wide range of materials (see below for details)
- Double negative design for stable cutting action
- Comprehensive assortment of cutters (end mills, modular and shell mills) and diameters 25-66 mm.
- All cutters feature through coolant
- **Universal** - Designed for copy milling from roughing to finishing
- **Productive** - Copy milling cutters with higher number of teeth
- **High metal removal rate** - Roughing with up to 5 mm depth of cut
- **Reliability** - Pocket design to give maximal support to inserts with eight location facets

INSERT GEOMETRIES



F

GEOMETRY F

- Stainless steels, super alloys, low carbon steels



M

GEOMETRY M

- Steels, stainless steels



R

GEOMETRY R

- Cast iron, hardened materials

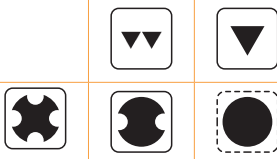
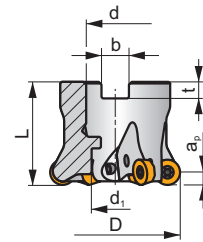
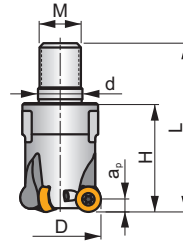
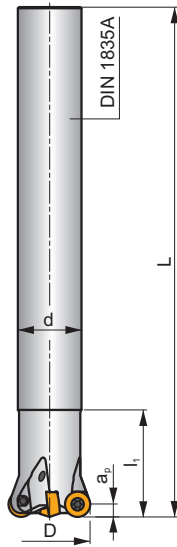
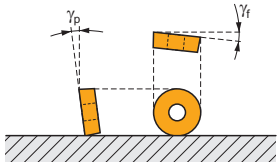
SRC10

P M K N S H

S



a_{pmax} 5,0 mm



h_m 0,08-0,15

h_m 0,05-0,12



ISO	D	D ₁	L	d	d ₁	l ₁	H	M	b	t	γ_p°	γ_f°			max.		kg		
25E2R034A20-SRC10-C	25	-	170	20	-	34	-	-	-	-	-7	-3	2	-	20900	✓	0,37	GI328	CO010
25E3R034A20-SRC10-C	25	-	170	20	-	34	-	-	-	-	-7	-3	3	-	20900	✓	0,36	GI328	CO010
32E3R042A25-SRC10-C	32	-	200	25	-	42	-	-	-	-	-7	-2,6	4	-	18500	✓	0,67	GI328	CO010
32E4R042A25-SRC10-C	32	-	200	25	-	42	-	-	-	-	-7	-2,6	3	-	18500	✓	0,67	GI328	CO010
25E2R032M12-SRC10-C	25	21	54	12,5	-	-	32	M12	-	-	-7	-3	2	-	20900	✓	0,08	GI328	CO010
25E3R032M12-SRC10-C	25	21	54	12,5	-	-	32	M12	-	-	-7	-3	3	-	20900	✓	0,08	GI328	CO010
32E3R042M16-SRC10-C	32	29	65	17	-	-	42	M16	-	-	-7	-2,6	3	-	18500	✓	0,18	GI328	CO010
32E4R042M16-SRC10-C	32	29	65	17	-	-	42	M16	-	-	-7	-2,6	4	-	18500	✓	0,18	GI328	CO010
35E4R042M16-SRC10-C	35	29	65	17	-	-	42	M16	-	-	-7	-2,4	4	-	17700	✓	0,20	GI328	CO010
42E4R042M16-SRC10-C	42	29	65	17	-	-	42	M16	-	-	-7	-2,1	4	-	16100	✓	0,22	GI328	CO010
42E5R042M16-SRC10-C	42	29	65	17	-	-	42	M16	-	-	-7	-2,1	5	-	16100	✓	0,22	GI328	CO010
40A05R-SMORC10-C	40	-	40	16	14	-	-	-	8,4	5,6	-7	-2,2	5	-	16500	✓	0,14	GI328	CO012
50A05R-SMORC10-C	50	-	40	22	18	-	-	-	10,4	6,3	-7	-2	5	-	14800	✓	0,25	GI328	CO013
50A06R-SMORC10-C	50	-	40	22	18	-	-	-	10,4	6,3	-7	-2	6	-	14800	✓	0,24	GI328	CO013
52A05R-SMORC10-C	52	-	40	22	18	-	-	-	10,4	6,3	-7	-2	5	-	14500	✓	0,26	GI328	CO013
52A06R-SMORC10-C	52	-	40	22	18	-	-	-	10,4	6,3	-7	-2	6	-	14500	✓	0,26	GI328	CO013
63A06R-SMORC10-C	63	-	40	22	18	-	-	-	10,4	6,3	-7	-1,8	6	-	13200	✓	0,43	GI328	CO013
63A07R-SMORC10-C	63	-	40	22	18	-	-	-	10,4	6,3	-7	-1,8	7	-	13200	✓	0,42	GI328	CO013
66A06R-SMORC10-C	66	-	50	27	22	-	-	-	12,4	7	-7	-1,4	6	-	12800	✓	0,54	GI328	CO014
66A07R-SMORC10-C	66	-	50	27	22	-	-	-	12,4	7	-7	-1,4	7	-	12800	✓	0,52	GI328	CO014



GI328

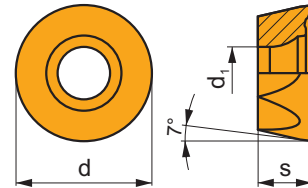


RCMT 10T3MO..

CO010	US 63509-T10P	3,0	M 3,5	9	Flag T10P	-
CO012	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 8030C
CO013	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 1030C
CO014	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 1230C

RCMT 10

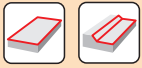
	d	d ₁	s
10T3	10,00	3,90	3,97



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}		
 	 0,08	RCMT 10T3MOSN-F	M6330	▣	■	□	□	□	□	✘	-	-	0,08	0,18	0,3	5,0		
			M8310	■	▣	□	□	□	□	□	✘	-	-	0,08	0,18	0,3	5,0	
			M8330	■	▣	□	□	□	□	□	□	✘	-	-	0,08	0,18	0,3	5,0
			M8340	■	■	□	□	□	□	□	□	✘	+/-	-	0,08	0,18	0,3	5,0
 	 0,1	RCMT 10T3MOSN-M	M9325	■	▣	□	□	□	□	✘	---	-	0,10	0,24	0,3	5,0		
			M9340	▣	■	□	□	□	□	□	✘	---	-	0,10	0,24	0,3	5,0	
			M6330	▣	■	□	□	□	□	□	□	✘	-	-	0,10	0,27	0,3	5,0
			M8310	■	▣	■	□	□	□	□	□	✘	-	-	0,10	0,27	0,3	5,0
			M8330	■	▣	■	□	□	□	□	□	✘	-	-	0,10	0,27	0,3	5,0
			M8340	■	■	▣	□	□	□	□	□	✘	+/-	-	0,10	0,27	0,3	5,0
 	 0,15	RCMT 10T3MOSN-R	M5315	▣	■	□	□	□	□	✘	---	-	0,15	0,38	0,5	5,0		
			M9325	■	▣	□	□	□	□	□	✘	---	-	0,15	0,38	0,5	5,0	
			M8310	■	▣	■	□	□	□	□	□	✘	-	-	0,15	0,40	0,5	5,0
			M8330	■	▣	■	□	□	□	□	□	✘	-	-	0,15	0,40	0,5	5,0
			M8340	■	▣	▣	□	□	□	✘	+/-	-	0,15	0,40	0,5	5,0		

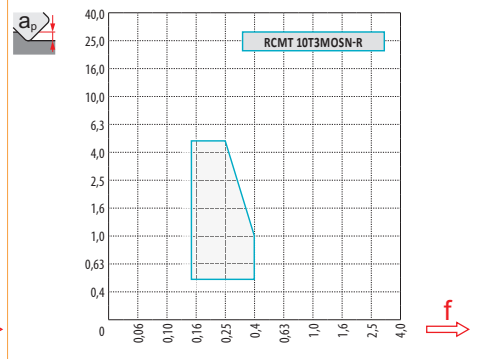
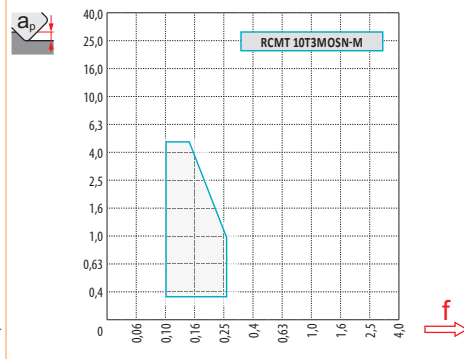
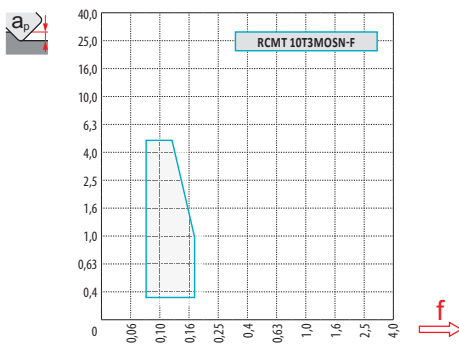
ISO		f _{min}	f _{max}	M5315	M9325	M9340	M6330	M8310	M8330	M8340	M8345
P	●	0,10	0,35	373	383	380	299	358	322	293	235
	⊙	0,10	0,25	335	344	342	269	322	290	257	212
	✘	0,10	0,15	298	306	304	239	286	257	221	188

ISO		f_{\min}	f_{\max}	M5315	M9325	M9340	M6330	M8310	M8330	M8340	M8345
M	●	0,10	0,25	-	193	225	211	179	192	176	138
	●	0,10	0,20	-	173	203	190	161	173	153	124
	✱	0,10	0,15	-	154	180	169	143	153	131	110
K	●	0,10	0,35	353	-	-	-	338	303	275	-
	●	0,10	0,25	317	-	-	-	304	272	243	-
	✱	0,10	0,15	282	-	-	-	270	242	212	-
S	●	0,10	0,25	-	84	100	91	78	83	86	60
	●	0,10	0,20	-	75	90	82	71	74	77	54
	✱	0,10	0,15	-	67	80	73	63	66	63	48
H	●	0,10	0,20	73	-	-	-	64	59	-	-
	●	0,10	0,15	65	-	-	-	57	53	-	-
	✱	0,10	0,12	58	-	-	-	51	47	-	-



$\frac{a_e}{D}$	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
	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
	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	1,00
	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

	RCMT 10-F	RCMT 10-M	RCMT 10-R
	5,0	5,0	5,0
	-	-	-



$\frac{D}{D_{ef}}$	$\frac{a_p}{f}$	0,00	0,15	0,30	0,50	0,75	1,00	1,25	1,50	2,00	2,50	3,00	4,00	5,00
25		15,00	17,43	18,41	19,36	20,27	21,00	21,61	22,14	23,00	23,66	24,17	24,80	25,00
32		22,00	24,43	25,41	26,36	27,27	28,00	28,61	29,14	30,00	30,66	31,17	31,80	32,00
35		25,00	27,43	28,41	29,36	30,27	31,00	31,61	32,14	33,00	33,66	34,17	34,80	35,00
40		30,00	32,43	33,41	34,36	35,27	36,00	36,61	37,14	38,00	38,66	39,17	39,80	40,00
42		32,00	34,43	35,41	36,36	37,27	38,00	38,61	39,14	40,00	40,66	41,17	41,80	42,00
50		40,00	42,43	43,41	44,36	45,27	46,00	46,61	47,14	48,00	48,66	49,17	49,80	50,00
52		42,00	44,43	45,41	46,36	47,27	48,00	48,61	49,14	50,00	50,66	51,17	51,80	52,00
63		53,00	55,43	56,41	57,36	58,27	59,00	59,61	60,14	61,00	61,66	62,17	62,80	63,00
66		56,00	58,43	59,41	60,36	61,27	62,00	62,61	63,14	64,00	64,66	65,17	65,80	66,00
		-	0,15	0,30	0,50	0,75	1,00	1,25	1,50	2,00	2,50	3,00	4,00	5,00
	-	0,90	0,64	0,50	0,41	0,35	0,32	0,29	0,25	0,23	0,21	0,19	0,17	



$\varnothing D$	α_{\max}°	a_p/l
25	13,2	5/23
32	12,6	5/24
35	12,3	5/24
40	9,5	5/31
42	6,5	5/45
50	6,4	5/46
52	6,1	5/48
63	4,7	5/62
66	4,4	5/66



$\varnothing D$	d_{\min}	d_{\max}	S_{\min} d_{\min}	S_{\max} d_{\max}
25	32,0	50,0	3,0	3,0
32	45,0	64,0	3,0	3,0
35	51,0	70,0	3,0	3,0
40	61,0	80,0	3,0	3,0
42	65,0	84,0	3,0	3,0
50	81,0	100,0	3,0	3,0
52	85,0	104,0	3,0	3,0
63	107,0	126,0	3,0	3,0
66	113,0	132,0	3,0	3,0

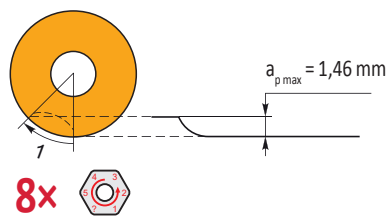
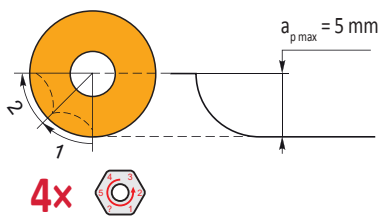


2,24



$\varnothing D$	μm	3	5	10	15	20	30	40	50	60	80	100
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
50		0,775	1,000	1,414	1,732	2,000	2,449	2,828	3,162	3,464	4,000	4,472
52		0,790	1,020	1,442	1,766	2,040	2,498	2,884	3,225	3,533	4,079	4,561
63		0,869	1,122	1,587	1,944	2,245	2,750	3,175	3,550	3,888	4,490	5,020
66		0,890	1,149	1,625	1,990	2,298	2,814	3,250	3,633	3,980	4,596	5,138

r_{ϵ}	μm	3	5	10	15	20	30	40	50	60	80	100
5,0		0,346	0,447	0,632	0,775	0,894	1,095	1,265	1,414	1,549	1,789	2,000





MILLING INSERTS



M8330

MILLING INSERTS

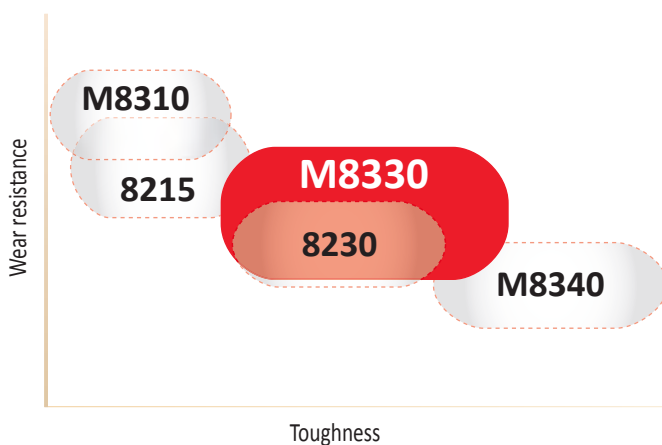
NEW VERSATILE MILLING GRADE FOR STEELS

New grade for general machining, which replaces the existing 8230 grade. Developed mainly for steels, M8330 offers improved productivity and wear resistance.

FEATURES & BENEFITS

- Versatile choice for steels and cast irons
- Also suitable for stainless steels, super alloys and hardened steels
- New milling grade with nanolayered PVD coating
- Added to more than 90 different types of inserts
- Compared with 8230 it offers **GREATER**
 - Resistance to heat-related cracks
 - Wear resistance
 - Toughness and impact strength
- **Versatility** – suitable for finishing to roughing even in unfavorable conditions
- **Reliability and high performance** when machining with and without coolant
- **High durability** machining steels with medium-high cutting speeds
- **Easy to use** - gold surface finish to help visually monitor wear progression

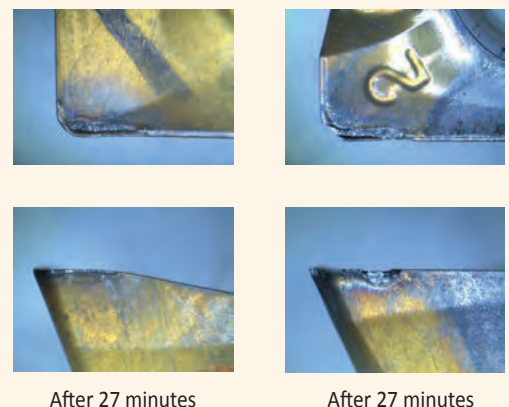
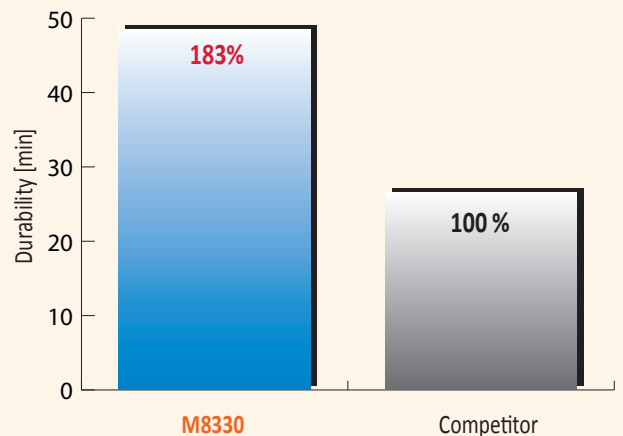
AREA OF APPLICATION



MACHINING EXAMPLE USING M8330 GRADE

Material: 12050.9
 Material group: P
 Insert: ADMX 160608SR-M
 Coolant: No

			PRAMET	Competitor
Grade			M8330	
Cutting speed	v_c	m/min	280	280
Feed tooth	f_z	mm/tooth	0,2	0,2
Axial length of cut	a_p	mm	2,5	2,5
Durability	T	min	48,5	26,5

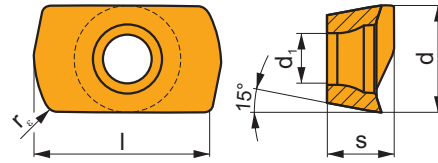


After 27 minutes

After 27 minutes

ADEX 11-HF

	d	d ₁	l	s
11T3	6,450	2,90	10,67	3,82

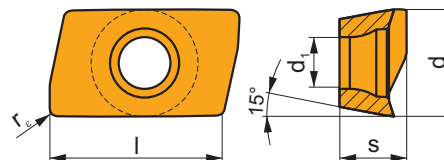


2017
M98

i	ISO	M8330	Material						?	r _s	f _{min}	f _{max}	a _{p min}	a _{p max}	
			P	M	K	N	S	H							
 	ADEX 11T308SR-HF	M8330	■	▣	□		□	□	●	-	0,8	0,40	1,30	0,1	0,6
 	ADEX 11T308SR-HF2	M8330	■	▣	■		□	▣	●	-	0,8	0,40	1,30	0,2	0,6

ADEX 16

	d	d ₁	l	s
1606	10,000	4,50	16,00	6,25

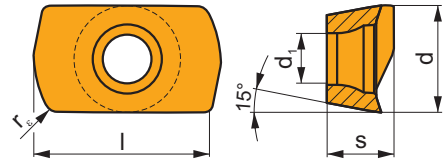


2017
M107, M136

i	ISO	M8330	Material						?	r _s	f _{min}	f _{max}	a _{p min}	a _{p max}	
			P	M	K	N	S	H							
 	ADEX 160608SR-FM	M8330	■	▣	■		□		●	-	0,8	0,10	0,25	0,3	13,0

ADEX 16-HF

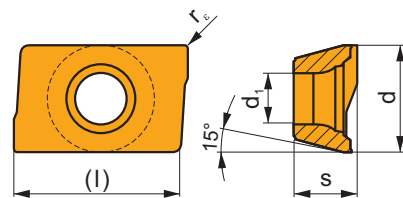
	d	d ₁	l	s
1606	10,00	4,50	16,00	5,88



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		ADEX 160612SR-HF	M8330	■	▣	□		□	□		-	1,2	0,60	1,30	0,3	1,3
		ADEX 160612SR-HF2	M8330	■	▣	■		□	▣		-	1,2	0,60	1,30	0,3	1,3

ADKT 15

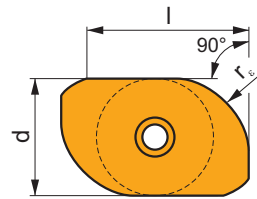
	d	d ₁	l	s
1505	9,525	4,40	15,55	5,60



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		ADKT 1505PDER-M	M8330	■	▣	■		□			-	0,8	0,15	0,30	1,0	13,0

ADKX 15

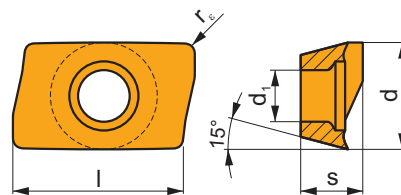
	d	l	s
15T3	9,525	12,20	3,97



		ISO		P	M	K	N	S	H			r_c	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		ADKX 15T304ER-F	M8330	■	▣	□	□	□			-	0,4	0,05	0,09	0,3	10,0
		ADKX 15T308ER-F	M8330	■	▣	□	□	□			-	0,8	0,05	0,12	0,3	10,0
		ADKX 15T330ER-F	M8330	■	▣	□	□	□			-	3,0	0,05	0,15	0,3	10,0
		ADKX 15T340ER-F	M8330	■	▣	□	□	□			-	4,0	0,05	0,19	0,3	10,0
		ADKX 15T360ER-F	M8330	■	▣	□	□	□			-	6,0	0,05	0,26	0,3	10,0

ADMX 07

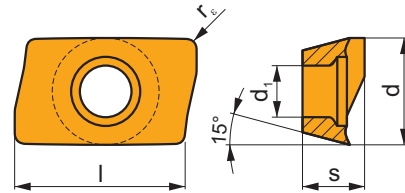
	d	d_1	l	s
0702	4,482	2,20	6,95	2,48



		ISO		P	M	K	N	S	H			r_c	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		ADMX 070202SR-M	M8330	■	▣	■		□			-	0,2	0,03	0,12	0,1	5,0
		ADMX 070204SR-M	M8330	■	▣	■		□			-	0,4	0,03	0,12	0,1	5,0
		ADMX 070208SR-M	M8330	■	▣	■		□			-	0,8	0,03	0,12	0,1	5,0
		ADMX 070220SR-M	M8330	■	▣	■		□			-	2,0	0,03	0,12	0,1	5,0

ADMX 11

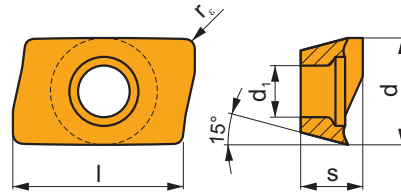
	d	d ₁	l	s
11T3	6,530	2,90	11,00	3,97



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}	
 	ADMX 11T304SR-F	M8330	■	▣	▣	□	□		●	-	0,4	0,07	0,12	0,2	9,0
	ADMX 11T308SR-F	M8330	■	▣	▣	□	□		●	-	0,8	0,07	0,12	0,2	9,0
 	ADMX 11T302SR-M	M8330	■	▣	■		□		●	-	0,2	0,10	0,14	0,2	9,0
	ADMX 11T304SR-M	M8330	■	▣	■		□		●	-	0,4	0,10	0,18	0,2	9,0
	ADMX 11T308SR-M	M8330	■	▣	■		□		●	-	0,8	0,10	0,18	0,2	9,0
	ADMX 11T310SR-M	M8330	■	▣	■		□		✘	-	1,0	0,10	0,22	0,2	9,0
	ADMX 11T312SR-M	M8330	■	▣	■		□		✘	-	1,2	0,10	0,22	0,2	9,0
	ADMX 11T316SR-M	M8330	■	▣	■		□		✘	-	1,6	0,10	0,22	0,2	9,0
	ADMX 11T320SR-M	M8330	■	▣	■		□		✘	-	2,0	0,10	0,22	0,2	9,0
	ADMX 11T325SR-M	M8330	■	▣	■		□		✘	-	2,5	0,10	0,22	0,2	9,0
	ADMX 11T330SR-M	M8330	■	▣	■		□		✘	-	3,0	0,10	0,22	0,2	9,0
	 	ADMX 11T308PR-R	M8330	■	▣	■		□	▣	✘	-	0,8	0,15	0,25	0,8
ADMX 11T316PR-R		M8330	■	▣	■		□	▣	✘	-	1,6	0,15	0,25	0,8	9,0

ADMX 16

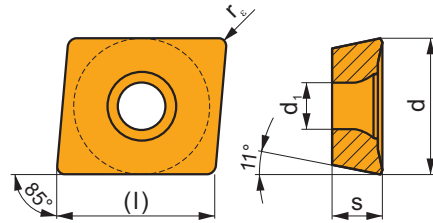
	d	d ₁	l	s
1606	9,950	4,50	16,00	6,25



i	ISO	M8330	P	M	K	N	S	H	?	Water	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
 	ADMX 160608SR-F	M8330	■	▣	▣	□	□		☉	-	0,8	0,07	0,15	0,3	13,0
	ADMX 160604SR-M	M8330	■	▣	■		□		☉	-	0,4	0,10	0,25	0,3	13,0
	ADMX 160608SR-M	M8330	■	▣	■		□		☉	-	0,8	0,10	0,25	0,3	13,0
	ADMX 160616SR-M	M8330	■	▣	■		□		☉	-	1,6	0,10	0,30	0,3	13,0
	ADMX 160620SR-M	M8330	■	▣	■		□		☉	-	2,0	0,10	0,30	0,3	13,0
	ADMX 160630SR-M	M8330	■	▣	■		□		☉	-	3,0	0,10	0,30	0,3	13,0
	ADMX 160632SR-M	M8330	■	▣	■		□		☉	-	3,2	0,10	0,30	0,3	13,0
	ADMX 160640SR-M	M8330	■	▣	■		□		☉	-	4,0	0,10	0,30	0,3	13,0
	ADMX 160650SR-M	M8330	■	▣	■		□		☉	-	5,0	0,10	0,30	0,3	13,0
	 	ADMX 160608PR-R	M8330	■	▣	■		□	▣	☉	-	0,8	0,17	0,35	1,0
ADMX 160616PR-R		M8330	■	▣	■		□	▣	☉	-	1,6	0,17	0,35	1,0	13,0

APET 15

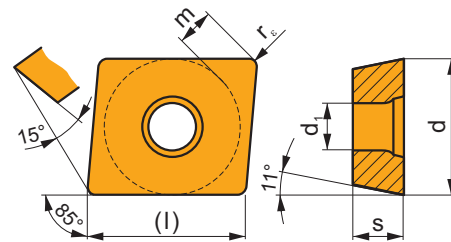
	d	d ₁	l	s
1504	12,700	5,50	15,90	4,76



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		APET 150412EN	M8330	■	▣	▣		□	□		-	1,2	0,10	0,35	1,5	12,0
		APET 150412SN	M8330	■	▣	▣		□	□		-	1,2	0,20	0,35	1,5	12,0

APEW 15

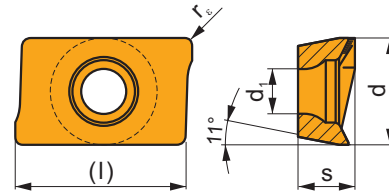
	d	d ₁	l	m	s
1504	12,700	5,50	15,90	3,71	4,76



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		APEW 150412ER	M8330	▣	□	■			▣		-	1,2	0,10	0,30	1,2	12,0
		APEW 150412SR	M8330	▣	□	■			▣		-	1,2	0,20	0,40	1,2	12,0

APKT 10

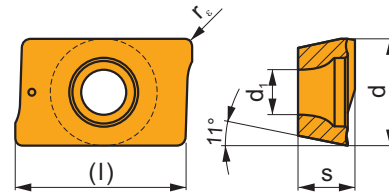
	d	d ₁	l	s
1003	6,700	2,88	11,00	3,50



i	ISO	M8330	P	M	K	N	S	H	?	☹	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
1	APKT 1003PDER-M	M8330	■	▣	■	□	□	□	☹	-	0,5	0,10	0,25	1,0	9,0
U															
E															

APKT 16

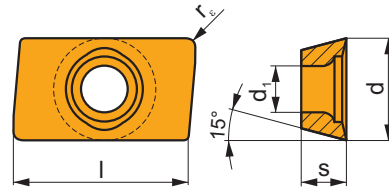
	d	d ₁	l	s
1604	9,440	4,60	17,00	5,67



i	ISO	M8330	P	M	K	N	S	H	?	☹	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
1	APKT 1604PDR-GM	M8330	■	▣	■	□	□	□	☹	-	0,8	0,15	0,30	1,0	13,0
U															
S															
1	APKT 1604PDR-HM	M8330	■	▣	■	□	□	□	☹	-	0,8	0,20	0,35	1,0	13,0
S															
S															

APMT 16

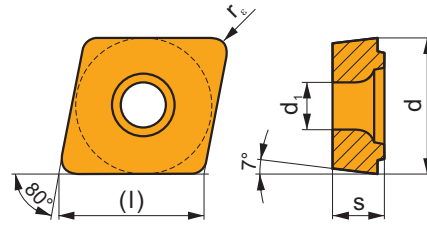
	d	d ₁	l	s
1604	9,600	4,50	17,00	4,76



i	ISO	M8330	P	M	K	N	S	H	?	-	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
	APMT 1604PDER-F	M8330	■	▣	▣	□	□			-	-	0,07	0,15	0,3	13,0
	APMT 1604PDER-FM	M8330	■	▣	▣	□	□			-	-	0,12	0,25	0,6	13,0
	APMT 1604PDER-R	M8330	■	□	■					-	-	0,15	0,30	0,8	13,0
	APMT 1604PDSR-R	M8330	■	□	■					-	-	0,17	0,40	0,8	13,0

CCMX

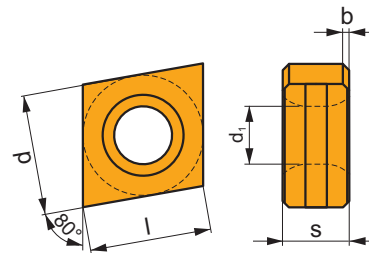
	d	d ₁	l	s
0603	6,350	2,80	6,40	3,50
08T3	8,030	3,50	8,10	4,40
09T3	9,525	3,50	9,70	3,97



i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
U		CCMX 060304S-TS1	M8330	■	▣	■	□	□	□	☹	-	0,4	0,08	0,14	-	-
S		CCMX 08T308S-TS1	M8330	■	▣	■	□	□	□	☹	-	0,8	0,10	0,16	-	-
		CCMX 09T308S-TS1	M8330	■	▣	■	□	□	□	☹	-	0,8	0,10	0,18	-	-

CNHQ

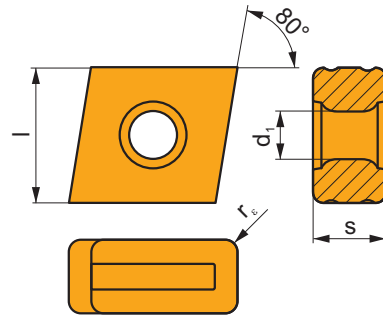
	b	d	d ₁	l	s
1005	0,5 x 45°	10,00	4,70	10,00	5,40



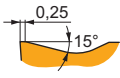
i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
U		CNHQ 1005AZTN	M8330	■	▣	■	□	□	□	☹	-	-	0,10	0,50	-	-
T																

CNM

	d_1	l	s
63	5,50	15,00	8,00

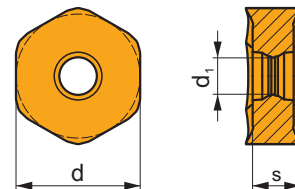


i		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		CNM 563	M8330	■	■	■	■	■	■	●	-	1,2	0,20	0,40	2,0	14,0

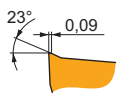
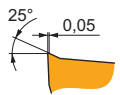


HNGX 06

	d	d_1	s
0604	10,500	3,70	4,76



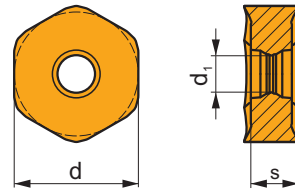
i		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		HNGX 0604ANSN-F	M8330	■	■	□	□	■	■	●	-	-	0,08	0,17	0,3	3,0
		HNGX 0604ANSN-M	M8330	■	■	■	□	■	□	✱	-	-	0,13	0,25	0,6	3,0



		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p, min}$	$a_{p, max}$
		HNGX 0604ANSN-R	M8330	■	▣	■			▣	✱	-	-	0,18	0,30	1,0	3,0

HNGX 09

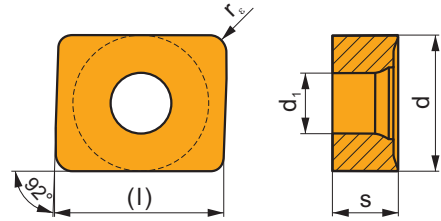
	d	d_1	s
0906	16,500	4,90	6,35



		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p, min}$	$a_{p, max}$
		HNGX 0906ANEN-FF	M8330	■	▣	□	□			●	-	-	0,05	0,20	0,5	5,0
		HNGX 0906ANSN-F	M8330	■	▣	□	□			●	-	-	0,10	0,20	0,5	5,0
		HNGX 0906ANSN-M	M8330	■	▣	■	□		□	✱	-	-	0,17	0,35	0,8	5,0
		HNGX 0906ANSN-R	M8330	■	▣	■			▣	✱	-	-	0,30	0,50	1,0	5,0

LNET 16

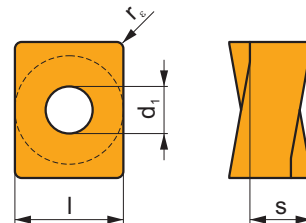
	d	d ₁	l	s
1606	13,200	5,90	16,40	6,38



i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		LNET 160616SR-M	M8330	■	□	■				✱	-	1,6	0,15	0,35	1,6	15,0
		LNET 160616SR-R	M8330	■	□	■				✱	-	1,6	0,15	0,40	1,6	15,0

LNGU 12

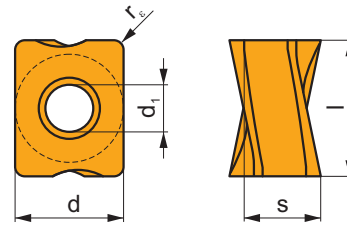
	d	d ₁	l	s
1205	9,500	4,50	12,00	5,96



i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		LNGU 120525ER-M	M8330	■	□	■		□	□	✱	-	2,5	0,05	0,25	0,2	9,0
		LNGU 120530ER-M	M8330	■	□	■		□	□	✱	-	3,0	0,05	0,25	0,2	9,0

LNGX 12

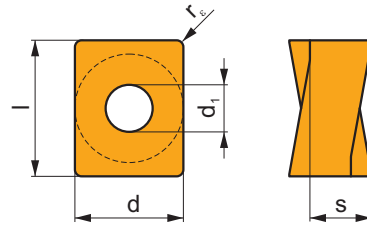
	d	d ₁	l	s
1205	9,500	4,50	12,00	5,96



		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		LNGX 120504ER-F	M8330	■	▣	▣		□		●	-	0,4	0,04	0,15	0,2	9,0
		LNGX 120508ER-F	M8330	■	▣	▣		□		●	-	0,8	0,04	0,15	0,2	9,0
		LNGX 120504ER-M	M8330	■	□	■		□	□	●	-	0,4	0,05	0,25	0,2	9,0
		LNGX 120508ER-M	M8330	■	□	■		□	□	●	-	0,8	0,05	0,25	0,2	9,0
		LNGX 120510ER-M	M8330	■	□	■		□	□	●	-	1,0	0,05	0,25	0,2	9,0
		LNGX 120512ER-M	M8330	■	□	■		□	□	●	-	1,2	0,05	0,25	0,2	9,0
		LNGX 120516ER-M	M8330	■	□	■		□	□	●	-	1,6	0,05	0,25	0,2	9,0
		LNGX 120520ER-M	M8330	■	□	■		□	□	✘	-	2,0	0,05	0,25	0,2	9,0
		LNGX 120508SR-R	M8330	■	□	■		□	□	●	-	0,8	0,15	0,35	1,0	9,0
		LNGX 120516SR-R	M8330	■	□	■		□	□	✘	-	1,6	0,15	0,35	1,0	9,0

LNMU 16

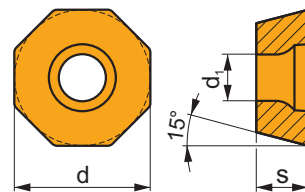
	d	d ₁	l	s
1607	13,200	5,70	16,60	7,50



		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		LNMU 160708ER-F	M8330	■	■	■	■	■	■	■	-	0,8	0,08	0,20	0,3	13,0
		LNMU 160708SR-M	M8330	■	■	■	■	■	□	✘	-	0,8	0,10	0,30	0,3	13,0
		LNMU 160720SR-M	M8330	■	■	■	■	■	□	✘	-	2,0	0,10	0,30	0,3	13,0
		LNMU 160730SR-M	M8330	■	■	■	■	■	□	✘	-	3,0	0,10	0,30	0,3	13,0
		LNMU 160740SR-M	M8330	■	■	■	■	■	□	✘	-	4,0	0,10	0,30	0,3	13,0
		LNMU 160708SR-R	M8330	■	■	■	■	■	■	✘	-	0,8	0,15	0,40	1,0	13,0
		LNMU 160716SR-R	M8330	■	■	■	■	■	■	✘	-	1,6	0,15	0,40	1,0	13,0

ODEW 06

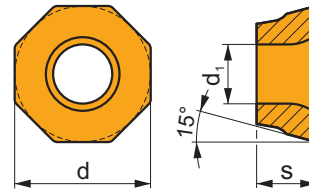
	d	d ₁	s
0605	15,875	5,50	5,56



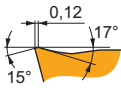
		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		ODEW 0605ZZN	M8330	■	□	■	■	■	■	✘	-	-	0,15	0,45	1,0	3,1

ODKT 05IM

	d	d ₁	s
0505	12,700	5,5	5,56

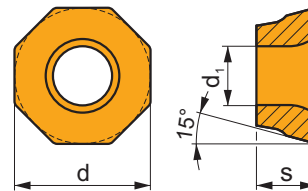


i	ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
1	ODKT 0505ADSR-FM	M6330	☑	☑			☐		✘	-	0,8	0,17	0,35	0,3	2,7
			M8330	☑	☑	☑		☐	☑	☑	-	0,8	0,17	0,35	0,3
S															

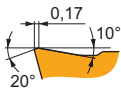


ODMT 05IM

	d	d ₁	s
0505	12,700	5,5	5,56

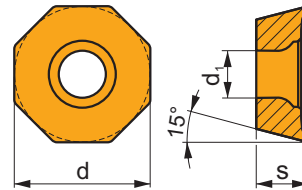


i	ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
1	ODMT 050508SN-R	M8330	☑		☑				✘	-	0,8	0,23	0,45	0,3	3,0
S															



ODMT 06

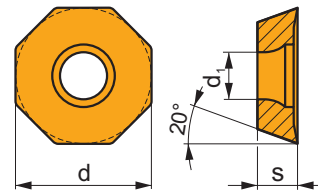
	d	d ₁	s
0605	15,875	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
1		ODMT 0605ZZN	M8330	■		■			□	☛	-	-	0,15	0,45	1,0	3,1
S																


OEHT 06

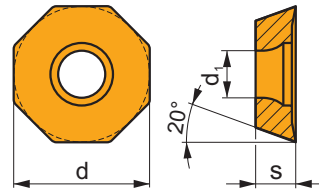
	d	d ₁	s
0604	16,050	5,50	4,76

















i		ISO		P	M	K	N	S	H	?		r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		OEHT 0604AEER-MF	M8330	■	■			□	□	☛	-	-	0,08	0,20	0,5	3,3
E																
1		OEHT 0604AEER-MM	M8330	■	■			□	□	☛	-	-	0,08	0,25	0,5	3,3
E																
		OEHT 0604AESR-M	M8330	■	■				□	☛	-	-	0,08	0,35	0,5	3,3
S																

OEHT 09

	d	d ₁	s
0906	24,100	8,60	7,15

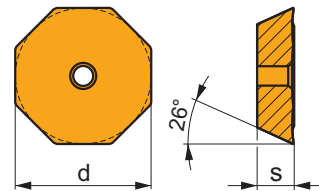


2017
M57









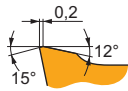

		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		OEHT 0906AEER-MM	M8330	█	█		□	□			-	-	0,12	0,35	1,0	5,0
																
		OEHT 0906AESR-M	M8330	█	█			□			-	-	0,12	0,45	1,2	5,0
																
																

OFKR 07

	d	d ₁	s
0704	17,845	2,65	4,56

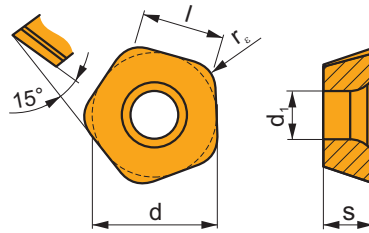


2017
M325

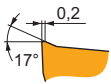
		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		OFKR 0704SN-M	M8330	█	█	█					-	-	0,10	0,30	0,5	12,0
																
																

PDKT 09

	d	d ₁	l	s
0905	13,500	5,50	9,00	5,47

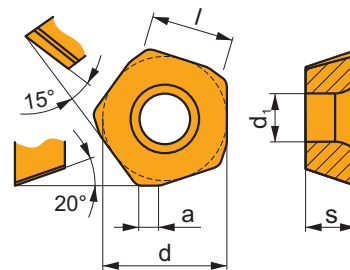


i	ISO	M8330	P	M	K	N	S	H	?	r _e	f _{min}	f _{max}	a _{p min}	a _{p max}	
U	PDKT 090530ER-FM	M8330	■	■	■	□	□		☞	-	3,0	0,50	2,50	0,3	2,0
HFC															
S															

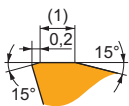


PDMX 09

	a	d	d ₁	l	s
0905	2,00	13,500	5,50	9,00	5,47

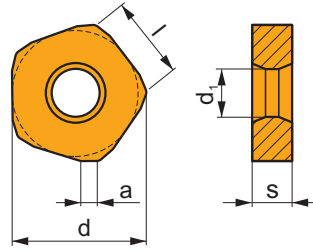


i	ISO	M8330	P	M	K	N	S	H	?	r _e	f _{min}	f _{max}	a _{p min}	a _{p max}	
1	PDMX 0905ZEER-M	M8330	■	■	■	□	□		☞	-	-	0,50	2,50	0,3	2,0
HFC															
S															
	PDMX 0905ZESR-R	M8330	■	□	■			■	☞	-	-	0,50	2,50	0,3	2,0
HFC															
P															

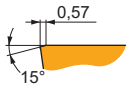


PNMQ 13

	a	d	d ₁	l	s
1308	3,00	24,400	10,00	13,00	7,94

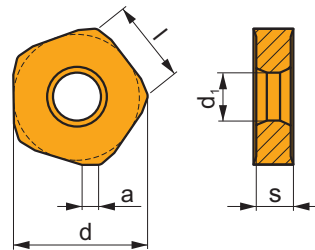


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		PNMQ 1308DNSN	M8330	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,30	0,70	0,5	10,0

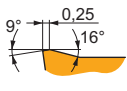


PNMU 13

	a	d	d ₁	l	s
1308	3,00	24,400	10,00	13,00	7,94

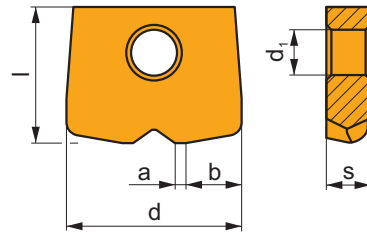


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		PNMU 1308DNSR-M	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,25	0,70	0,5	10,0



PPHF

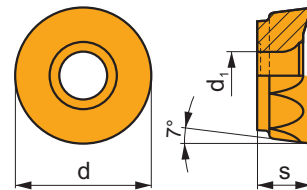
	a	b	d	d ₁	l	s
0800	0,40	2,60	8,000	2,50	7,0	2,40
1000	0,50	3,20	10,000	3,00	8,5	2,60
1200	0,60	3,90	12,000	3,50	10,0	3,00
1600	0,80	5,20	16,000	4,00	12,0	4,00
2000	1,00	6,40	20,000	5,00	15,0	5,00
2500	1,20	7,90	25,000	6,00	18,5	6,00



i		ISO		P	M	K	N	S	H	?		r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		PPHF 080004-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,20	0,40	0,1	0,4
HFC		PPHF 100005-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,20	0,50	0,1	0,5
E	2.5°	PPHF 120006-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,30	0,60	0,1	0,6
		PPHF 160008-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,40	0,80	0,1	0,8
		PPHF 200010-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,50	1,00	0,1	1,0
		PPHF 250012-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,60	1,50	0,2	1,2

RCMT 12

	d	d ₁	s
1204	12,000	4,40	4,76

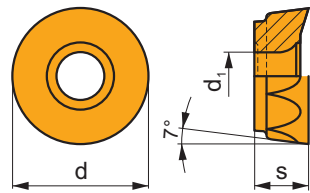


i		ISO		P	M	K	N	S	H	?		r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		RCMT 1204MOEN-F	M8330	■	▣	□	□	□		●	-	-	0,05	0,20	0,3	6,0
	20°															
		RCMT 1204MOSN-M	M8330	■	▣	■	□	□	□	✱	-	-	0,15	0,40	0,3	6,0
	0,14 20°															

		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		RCMT 1204MOEN-R	M8330	■	▣	■	□	▣	▣	✘	-	-	0,20	0,50	0,3	6,0

RCMT 16

	d	d ₁	s
1606	16,000	5,50	6,35

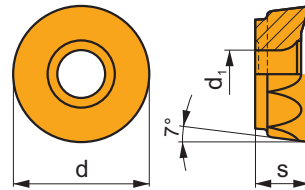


2017
M201

		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		RCMT 1606MOEN-F	M8330	■	▣	□	□	□	□	✘	-	-	0,05	0,25	0,3	8,0
		RCMT 1606MOSN-M	M8330	■	▣	■	□	□	□	✘	-	-	0,15	0,45	0,3	8,0
		RCMT 1606MOSN-R	M8330	■	▣	■	□	▣	▣	✘	-	-	0,20	0,60	0,3	8,0

RCMT 20

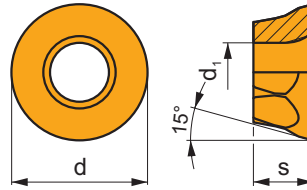
	d	d ₁	s
2006	20,00	5,50	6,35



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}	
 	RCMT 2006MOSN-F	M8330	■	▣	□	□	□		✱	-	-	0,08	0,30	0,3	10,0
 	RCMT 2006MOSN-M	M8330	■	▣	■	□	□	□	✱	-	-	0,15	0,45	0,3	10,0
 	RCMT 2006MOSN-R	M8330	■	▣	■		□	▣	✱	-	-	0,20	0,60	0,3	10,0

RDGT 12IM

	d	d ₁	s
1205	12,700	5,5	5,56

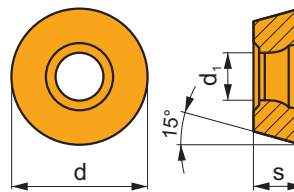


i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		RDGT 120500SN-FM	M8330	■	■	■		□		●	-	-	0,12	0,35	0,2	6,0

Technical drawing details: Chamfer width 0,12, Chamfer angle 17°, Chamfer angle 15°.

RDHX 16

	d	d ₁	s
1604	16,000	5,20	4,76

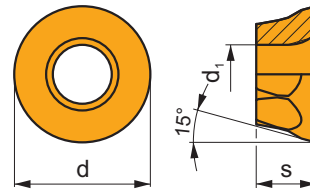


i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		RDHX 1604MOT	M9325							✘	---	-	0,20	0,40	1,0	4,0
				■	□											

Technical drawing details: Chamfer width 0,20, Chamfer angle 20°.

RDMT 12IM

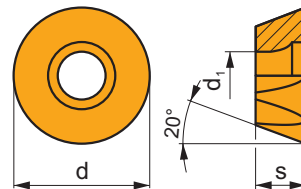
	d	d ₁	s
1205	12,700	5,5	5,56



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		RDMT 120500SN-R	M8330	■	■	■	■	■	■		-	-	0,17	0,45	0,3	6,0

REHT 16

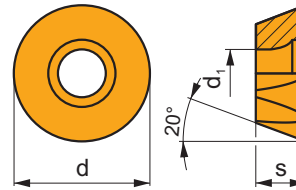
	d	d ₁	s
1604	16,000	5,50	4,76



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		REHT 1604MOEN-MM	M8330	■	■	■	■	■	■		-	-	0,08	0,25	0,5	4,0
		REHT 1604MOSN-M	M8330	■	■	■	■	■	■		-	-	0,08	0,35	0,5	4,0

REHT 24

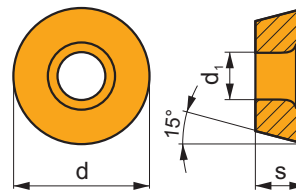
	d	d ₁	s
2406	24,000	8,60	7,15



i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
		REHT 2406M0EN-MM	M8330	☑	☑		☐	☐		☛	-	-	0,12	0,35	0,6	6,0
		REHT 2406M0SN-M	M8330	☐	☑			☐		☛	-	-	0,12	0,45	0,5	6,0

RPET 12

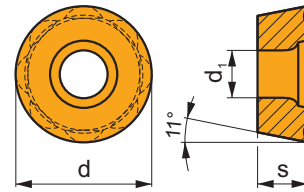
	d	d ₁	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
		RPET 1204MOSN	M8330	☐	☑	☑		☐	☐	☛	-	-	0,12	0,40	0,5	3,0

RPET 15

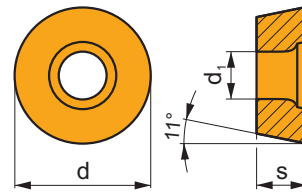
	d	d ₁	s
1505	15,785	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		RPET 1505MOS-M	M8330	■	▣	▣		□	□	✖	-	-	0,12	0,50	0,5	3,5
HFC																
S																

RPEW 12

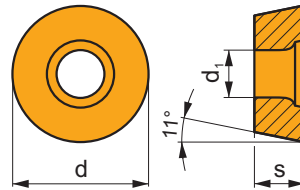
	d	d ₁	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		RPEW 1204MOSN	M8330	▣	□	■			▣	✖	-	-	0,10	0,40	0,5	3,0
HFC																
S																

RPEW 15

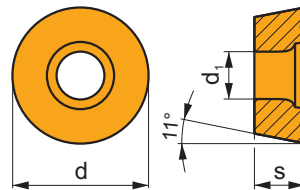
	d	d ₁	s
1505	15,785	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r _s	f _{min}	f _{max}	a _{p min}	a _{p max}
		RPEW 1505MOS	M8330	■	□	■			■	✘	-	-	0,15	0,50	0,5	3,5
HFC																
S																

RPEX

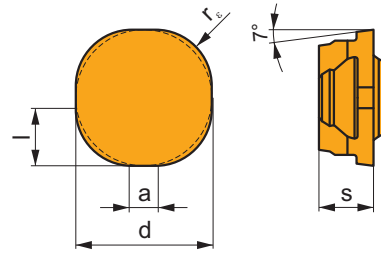
	d	d ₁	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r _s	f _{min}	f _{max}	a _{p min}	a _{p max}
		RPEX 1204MOSN-12	M8330	■	■	■		□	□	✘	-	-	0,12	0,40	0,5	3,0
HFC																
S																

SCKR 09

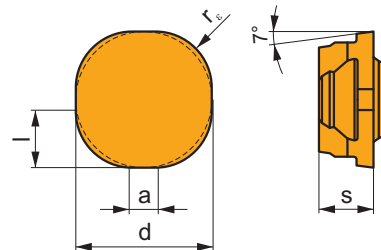
	a	d	l	s
09T3	1,50	9,525	4,000	3,97



i		ISO		P	M	K	N	S	H			r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SCKR 09T340EN-F	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			-	4,0	0,08	0,26	0,3	4,0

SCKR 12

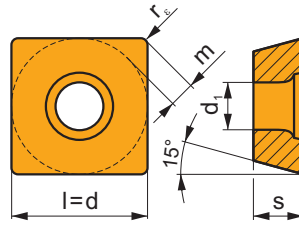
	a	d	l	s
12T3	1,10	12,700	6,000	3,97



i		ISO		P	M	K	N	S	H			r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SCKR 12T360EN-F	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			-	6,0	0,08	0,26	0,3	6,0

SDEW 09

	d	d ₁	l	m	s
0903	9,525	4,40	9,525	1,64	3,18

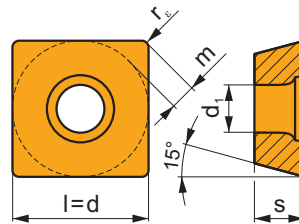


2017
M302

i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
U		SDEW 090308EN	M8330	☑	☐	☑				☑	☑	0,8	0,10	0,30	1,0	4,5
E																
S		SDEW 090308SN	M8330	☑	☐	☑				☑	☑	0,8	0,15	0,30	1,0	4,5

SDEX 09

	d	d ₁	l	m	s
0903	9,525	4,40	9,525	1,64	3,18

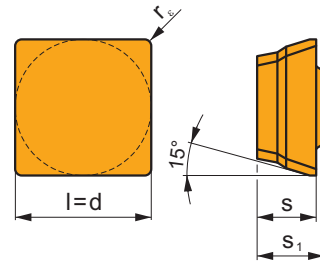


2017
M302

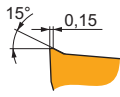
i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
F		SDEX 090308FN-74	M8330	☑	☑	☑	☐	☐		☑	☑	0,8	0,10	0,30	0,5	4,5

SDGX 12

	d	l	s	s ₁
1205	12,700	12,700	5,56	6,35

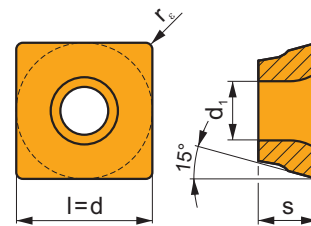


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SDGX 120508EN-FM	M8330	■	▣	■		□			-	0,8	0,07	0,15	1,0	12,0

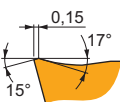


SDKT 12IM

	d	d ₁	l	s
1205	12,700	5,5	12,700	5,56

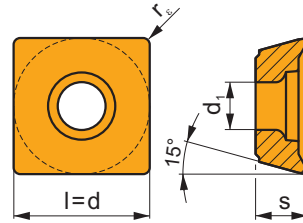


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SDKT 1205PDSR-FM	M8330	■	▣	▣		□			-	0,8	0,15	0,35	0,2	10,0
		SDKT 1205AESN-FM	M8330	■	▣	▣		□			-	-	0,15	0,35	0,2	10,0



SDMT 12

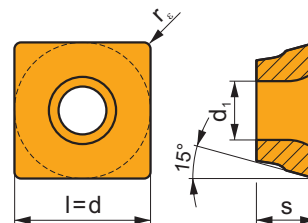
	d	d ₁	l	s
1205	12,700	4,40	12,700	5,00



i	ISO	M8330	P	M	K	N	S	H	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}	
	SDMT 120508SR-F	M8330	■	▣	▣	□	□			-	0,8	0,07	0,25	1,0	5,0
	SDMT 120508SR-M	M8330	■	▣	▣	□	□			-	0,8	0,10	0,25	1,0	10,0
	SDMT 120508PR-R	M8330	■	▣	▣		□			-	0,8	0,20	0,45	1,0	10,0

SDMT 12IM

	d	d ₁	l	s
1205	12,700	5,5	12,700	5,56

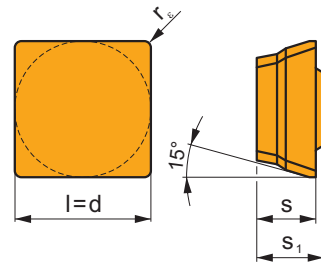


i	ISO	M8330	P	M	K	N	S	H	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}	
	SDMT 120508SN-F	M8330	■	▣		□	□			-	0,8	0,15	0,30	0,3	10,0

		ISO		P	M	K	N	S	H			r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SDMT 120508SN-R	M8330	■	■	■	■	■	■	✘	-	0,8	0,17	0,45	0,3	10,0
		SDMT 1205AESN-R	M8330	■	■	■	■	■	■	✘	-	-	0,17	0,45	0,3	10,0

SDMX 12

	d	l	s	s_1
1205	12,700	12,700	5,56	6,35

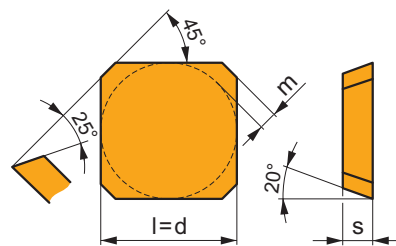


2017
M168

		ISO		P	M	K	N	S	H			r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SDMX 120508EN-M	M8330	■	■	□	□	□	□	☉	-	0,8	0,07	0,15	1,0	12,0

SEEN

	d	l	m	s
1203	12,700	12,700	1,60	3,18
1204	12,700	12,700	1,60	4,76
1504	15,875	15,875	2,00	4,76



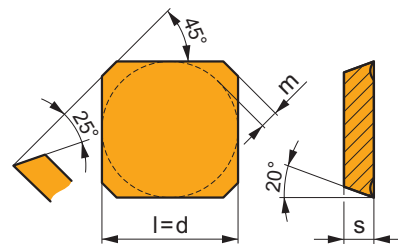
2017
M329

		ISO		P	M	K	N	S	H			r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SEEN 1203AFFN	M8330	■	■	□	□	□	□	☉	-	-	0,05	0,30	0,5	6,5
		SEEN 1204AFFN	M8330	■	■	□	□	□	□	☉	-	-	0,05	0,40	0,5	6,5

		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		SEEN 1203AFSN	M8330	■	▣	□	□			✘	-	-	0,15	0,40	1,0	6,5
		SEEN 1204AFSN	M8330	■	▣	□	□			✘	-	-	0,15	0,40	1,0	6,5
		SEEN 1504AFSN	M8330	■	▣	□	□			✘	-	-	0,20	0,40	1,0	9,0

SEER

	d	l	m	s
1203	12,700	12,700	1,60	3,18
1204	12,700	12,700	1,60	4,76
1504	15,875	15,875	2,00	4,76

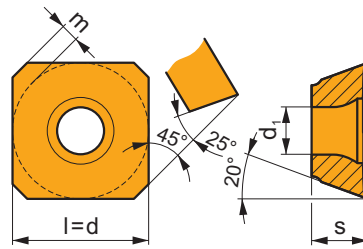


2017
M330

		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p\ min}$	$a_{p\ max}$
		SEER 1203AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,30	0,5	6,5
		SEER 1204AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	6,5
		SEER 1504AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	9,0
		SEER 1203AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	1,0	6,5
		SEER 1204AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	1,0	6,5
		SEER 1504AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	9,0

SEET 09

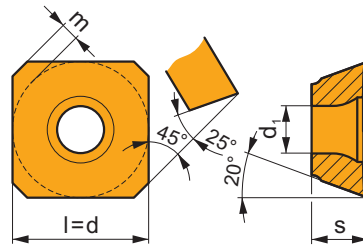
	d	d ₁	l	m	s
09T3	9,525	3,50	9,525	1,21	3,97



i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		SEET 09T3AFEN	M8330	■	■		□	□			-	-	0,08	0,30	0,3	4,5

SEET 12

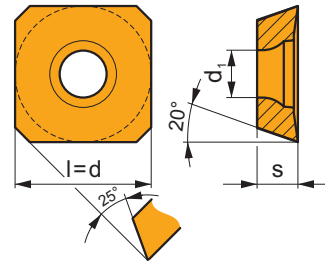
	d	d ₁	l	m	s
1204	12,700	5,50	12,700	1,60	4,76



i		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		SEET 1204AFEN	M8330	■	■	■		□	□		-	-	0,20	0,40	0,5	6,5
		SEET 1204AFSN	M8330	■	■	■		□	□		-	-	0,20	0,40	1,0	6,5

SEET 12-PM

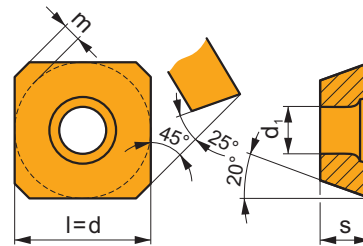
	d	d ₁	l	s
12T3	13,400	4,20	13,400	3,97



i	ISO	M8330	P	M	K	N	S	H	?	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
SEET 12T3M-PM	M8330	■	■	■	□	□	□	□	☞	-	-	0,20	0,35	1,0	6,5

SEEW 12

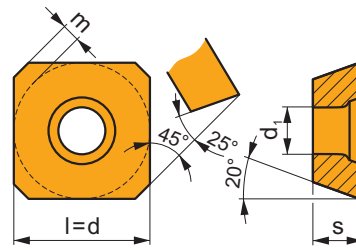
	d	d ₁	l	m	s
1204	12,700	5,50	12,700	1,60	4,76



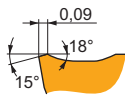
i	ISO	M8330	P	M	K	N	S	H	?	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
SEEW 1204AFEN	M8330	■	□	■	□	□	□	□	☞	-	-	0,10	0,40	0,5	6,5
SEEW 1204AFSN	M8330	■	□	■	□	□	□	□	☞	-	-	0,15	0,40	1,0	6,5

SEMT 09

	d	d ₁	l	m	s
09T3	9,525	3,50	9,525	1,21	3,97

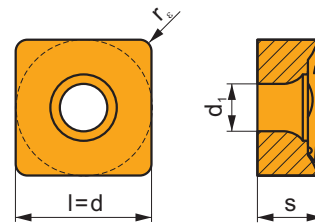


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SEMT 09T3AFSN	M8330	■	■	■	□	□		●	-	-	0,12	0,35	0,5	4,5

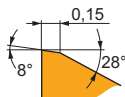


SNET 13

	d	d ₁	l	s
1305	13,200	5,90	13,200	6,33

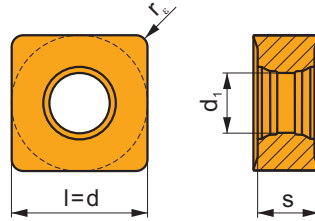


		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SNET 130512SR-M	M8330	■	□	■				✘	-	1,2	0,15	0,35	1,2	12,0



SNGX 13

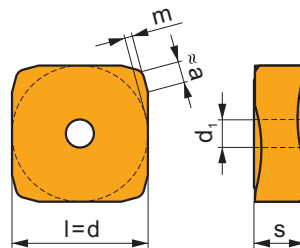
	d	d ₁	l	s
1305	13,200	5,90	13,200	5,96



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
U		SNGX 130512SN-M	M8330	■	□	■				✘	-	1,2	0,15	0,35	1,2	12,0
S																
1		SNGX 130512PN-R	M8330	■	□	■				✘	-	1,2	0,15	0,40	1,2	12,0
S																

SNHF

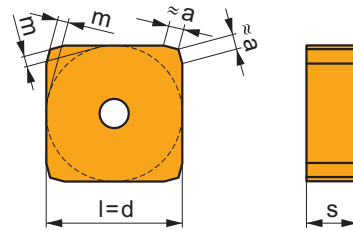
	a	d	l	m	s
1204	2,00	12,700	12,700	0,50	4,76
1504	1,40	15,875	15,875	1,10	4,76



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
1		SNHF 1204ENSR-M	M8330	■	▣	■		□		✘	-	-	0,15	0,40	1,0	6,0
S																
1		SNHF 1504ENSR-M	M8330	■	▣	■		□		✘	-	-	0,15	0,40	1,0	9,0

SNHN

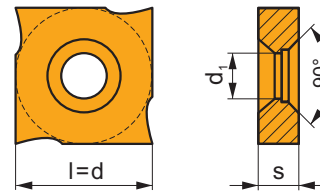
	a	d	l	m	s
1204	1,40	12,700	12,700	0,95	4,76
1504	1,40	15,875	15,875	1,30	4,76



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
U		SNHN 1204ENEN	M8330	█	□	█			█	●	-	-	0,10	0,40	0,5	9,0
		SNHN 1504ENEN	M8330	█	□	█			█	●	-	-	0,10	0,40	0,5	13,5
E																

SNHQ AZ

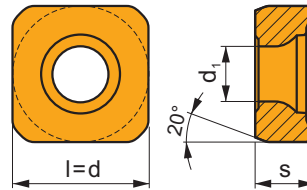
	d	d ₁	l	s
1102	11,000	4,30	11,000	2,30
1103	11,000	4,30	11,000	2,70
1203	12,700	5,00	12,700	3,20
1204	12,700	5,00	12,700	4,50
1205	12,700	5,00	12,700	5,40
1207	12,700	5,00	12,700	7,00



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
U	15° 0,15 15°	SNHQ 1102AZTN	M8330	█	█	█	□	□	□	●	-	-	0,10	0,40	-	-
		SNHQ 1103AZTN	M8330	█	█	█	□	□	□	●	-	-	0,10	0,40	-	-
T	0,2 15°	SNHQ 1203AZTN	M8330	█	█	█	□	□	□	●	-	-	0,10	0,40	-	-
		SNHQ 1204AZTN	M8330	█	█	█	□	□	□	●	-	-	0,20	0,50	-	-
		SNHQ 1205AZTN	M8330	█	█	█	□	□	□	●	-	-	0,20	0,50	-	-
		SNHQ 1207AZTN	M8330	█	█	█	□	□	□	●	-	-	0,20	0,50	-	-

SNKT 12

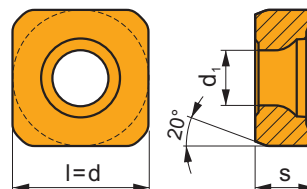
	d	d ₁	l	s
1205	12,700	5,20	12,700	5,56



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
1		SNKT 1205AZSR-M	M8330	■	▣	▣		□	□	✘	-	-	0,15	0,50	3,2	3,2
S																

SNMT 12

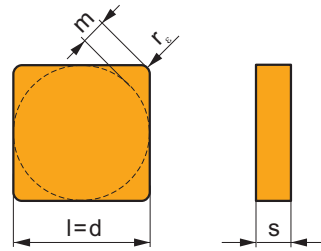
	d	d ₁	l	s
1205	12,700	5,20	12,700	5,56



i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		SNMT 1205AZSR-M	M8330	■	▣	▣		□	□	✘	-	-	0,15	0,50	1,0	6,5
S																
		SNMT 1205AZSR-R	M8330	■	▣	▣		□	□	✘	-	-	0,18	0,50	1,0	6,5
S																

SNUN

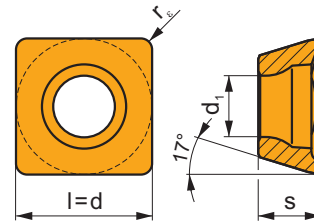
	d	l	m	s
1204	12,700	12,700	2,30	4,76
1504	15,875	15,875	2,80	4,76



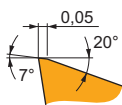
		ISO		P	M	K	N	S	H			r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SNUN 120408	M8330	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	0,8	0,10	0,40	1,0	9,0
	SNUN 120412	M8330	M8330	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	1,2	0,10	0,40	1,2	9,0
	SNUN 150412	M8330	M8330	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	1,2	0,10	0,40	1,2	13,5

SOMT 05

	d	d_1	l	s
0502	5,570	2,5	5,570	2,63

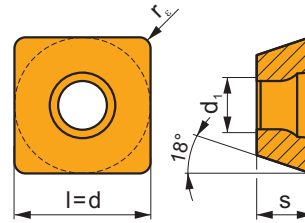


		ISO		P	M	K	N	S	H			r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SOMT 050204SR-M	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		-	0,4	0,03	0,12	0,4	4,5
		SOMT 050208SR-M	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		-	0,8	0,03	0,12	0,4	4,5



SOMT 09

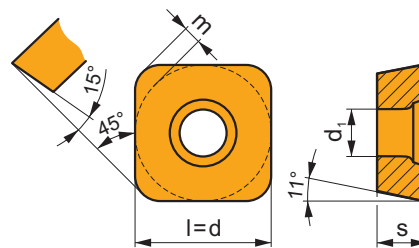
	d	d ₁	l	s
09T3	9,550	3,50	9,550	3,97



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}	
			■	▣	■	□	□								
1	SOMT 09T308-M	M8330	■	▣	■	□	□		●	-	0,8	0,12	0,40	1,0	8,0
U															
S															
	SOMT 09T304-MI	M8330	■	▣	■	□	□		●	-	0,4	0,08	0,35	0,5	8,0
	SOMT 09T304-P	M8330	■	▣	▣	□	□		●	-	0,4	0,08	0,35	0,5	8,0

SPET 12

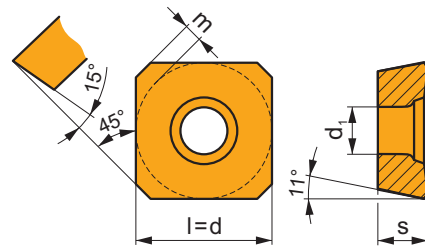
	d	d ₁	l	m	s
1204	12,700	5,50	12,700	1,90	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}	
			■	▣	▣	□	□								
	SPET 120408S	M8330	■	▣	▣	□	□		●	-	0,8	0,17	0,40	1,0	12,0

SPET 12 AD

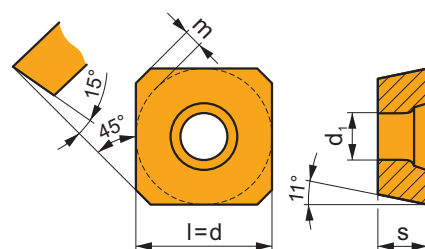
	d	d ₁	l	m	s
1204	12,700	5,50	12,700	1,90	4,76



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SPET 1204ADEN	M8330	■	▣	▣		□	□		-	-	0,12	0,40	1,0	12,0
		SPET 1204ADSN	M8330	■	▣	▣		□	□		-	-	0,12	0,40	1,0	12,0

SPEW 12 AD

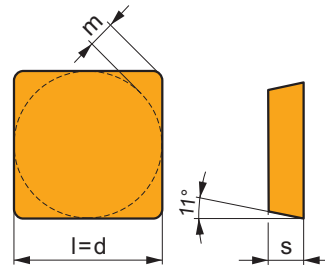
	d	d ₁	l	m	s
1204	12,700	5,50	12,700	1,92	4,76



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		SPEW 1204ADEN	M8330	▣	□	■			▣		-	-	0,10	0,35	1,0	12,0
		SPEW 1204ADSN	M8330	▣	□	■			▣		-	-	0,15	0,40	1,0	12,0

SPGN

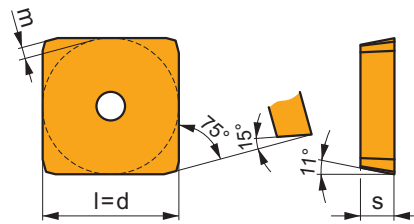
	d	l	m	s
1203	12,700	12,700	2,30	3,18
1504	15,875	15,875	2,80	4,76



i		ISO		P	M	K	N	S	H	?		r_e	f_{min}	f_{max}	$a_{p_{min}}$	$a_{p_{max}}$
E		SPGN 120304	M8330	☑	☐	☐			☑	☐	-	0,4	0,10	0,25	0,5	9,0
		SPGN 120308	M8330	☑	☐	☐			☑	☐	-	0,8	0,10	0,25	1,0	9,0
		SPGN 150408	M8330	☑	☐	☐			☑	☐	-	0,8	0,10	0,35	1,0	13,5
		SPGN 150412	M8330	☑	☐	☐			☑	☐	-	1,2	0,10	0,35	1,2	13,5

SPKN

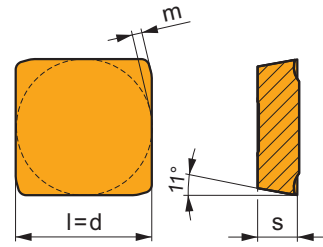
	d	l	m	s
1203	12,700	12,700	0,88	3,18
1504	15,875	15,875	1,26	4,76



i		ISO		P	M	K	N	S	H	?		r_e	f_{min}	f_{max}	$a_{p_{min}}$	$a_{p_{max}}$
E		SPKN 1203EDER	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,25	1,0	9,0
		SPKN 1504EDEL	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,35	1,0	13,0
		SPKN 1504EDER	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,35	1,0	13,0
U		SPKN 1203EDSL	M8330	☑	☐	☐			☑	☐	-	-	0,15	0,30	1,0	9,0
		SPKN 1203EDSR	M8330	☑	☐	☐			☑	☐	-	-	0,15	0,30	1,0	9,0
S		SPKN 1504EDSR	M8330	☑	☐	☐			☑	☐	-	-	0,20	0,40	1,0	13,0

SPKR

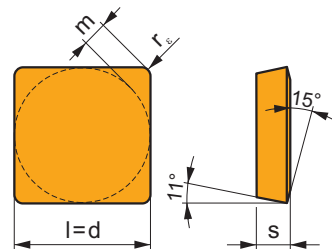
	d	l	m	s
1203	12,700	12,700	0,90	3,18
1504	15,875	15,875	1,22	4,76



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SPKR 1203EDSR	M8330	■	▣	▣		□	□	☹	-	-	0,15	0,30	1,0	9,0
1																
S		SPKR 1504EDSR	M8330	■	▣	▣		□	□	☹	-	-	0,25	0,45	1,0	12,0

SPUN

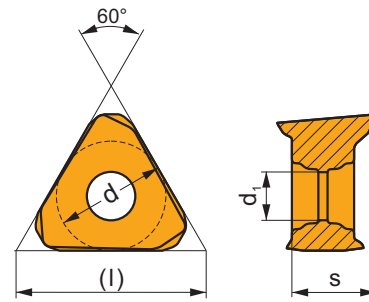
	d	l	m	s
1203	12,700	12,700	2,14	3,18
1504	15,875	15,875	2,80	4,76
1904	19,050	19,050	3,45	4,76



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		SPUN 120304	M8330	▣	□	■			▣	☹	-	0,4	0,10	0,30	0,4	9,0
		SPUN 120308	M8330	▣	□	■			▣	☹	-	0,8	0,10	0,30	1,0	9,0
		SPUN 120312	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,30	1,2	9,0
E		SPUN 150412	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,40	1,2	13,0
		SPUN 190408	M8330	▣	□	■			▣	☹	-	0,8	0,10	0,40	1,0	16,0
		SPUN 190412	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,40	1,2	16,0

TNGX 10

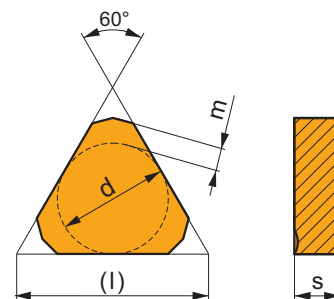
	d	d ₁	l	s
1004	6,000	2,8	10,39	4,69



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}	
	TNGX 100402SR-F	M8330	■	■	■				●	-	0,2	0,03	0,11	0,1	5,0
	TNGX 100404SR-F	M8330	■	■	■				●	-	0,4	0,03	0,11	0,1	5,0
	TNGX 100408SR-F	M8330	■	■	■				●	-	0,8	0,03	0,11	0,1	5,0
	TNGX 100404SR-M	M8330	■	■	■				●	-	0,4	0,05	0,15	0,3	5,0
	TNGX 100408SR-M	M8330	■	■	■				●	-	0,8	0,05	0,15	0,3	5,0

TNJF

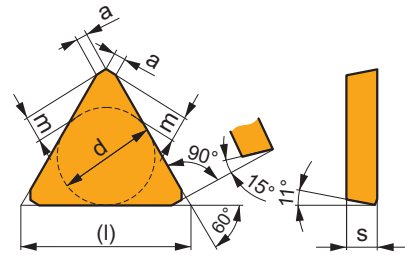
	a	d	l	m	s
1204	10,73	12,700	22,00	2,41	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
	TNJF 1204ANEN	M8330	■	■	■				●	-	0,10	0,40	2,0	6,0

TPCN 16

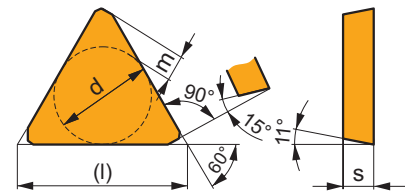
	a	d	l	m	s
1603	1,20	9,530	16,10	2,45	3,18



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		TPCN 1603PDSN	M8330	■	■	■	□	□	□	●	-	-	0,12	0,25	-	-
U																
S																

TPKN

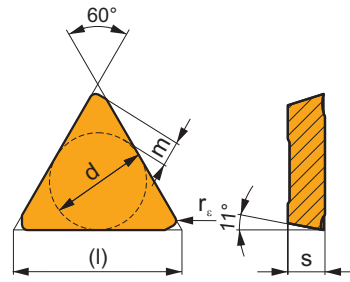
	d	l	m	s
1603	9,530	16,50	2,45	3,18
2204	12,700	22,00	3,55	4,76



i		ISO		P	M	K	N	S	H	?		r_c	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		TPKN 1603PDER	M8330	■	□	■	□	□	□	●	-	-	0,10	0,20	1,0	12,0
		TPKN 2204PDER	M8330	■	□	■	□	□	□	●	-	-	0,10	0,25	1,0	17,0
E																
U																
S																

TPKR

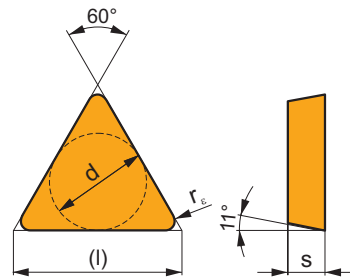
	d	l	m	s
1603	9,530	16,50	2,45	3,18
2204	12,700	22,00	3,55	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
			■	□	■	□	□	□						
1	TPKR 1603PDSR	M8330	■	□	■	□	□	□	●	-	0,10	0,30	1,0	12,0
	TPKR 2204PDSR	M8330	■	□	■	□	□	□	●	-	0,10	0,40	1,0	17,0
S														

TPUN

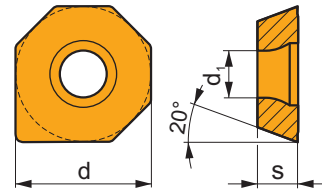
	d	l	s
1103	6,350	11,0	3,18
1603	9,525	16,5	3,18
2204	12,700	22,0	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
			□	□	■	□	□	□						
E	TPUN 110304	M8330	□	□	■	□	□	□	●	0,4	0,10	0,15	0,5	8,0
	TPUN 110308	M8330	□	□	■	□	□	□	●	0,8	0,10	0,15	0,8	8,0
	TPUN 160304	M8330	□	□	■	□	□	□	●	0,4	0,10	0,20	0,5	12,0
	TPUN 160308	M8330	□	□	■	□	□	□	●	0,8	0,10	0,20	1,0	12,0
	TPUN 160312	M8330	□	□	■	□	□	□	●	1,2	0,10	0,20	1,2	12,0
	TPUN 220408	M8330	□	□	■	□	□	□	●	0,8	0,10	0,25	1,0	17,0
	TPUN 220412	M8330	□	□	■	□	□	□	●	1,2	0,10	0,25	1,2	17,0

XEHT 06

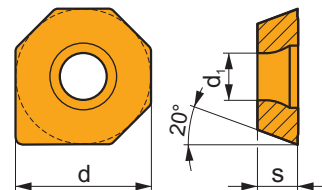
	d	d ₁	s
0604	16,050	5,50	4,76



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		XEHT 0604AESR	M8330								-	-	0,08	0,35	0,1	3,3

XEHT 09

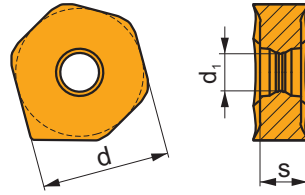
	d	d ₁	s
0906	24,100	8,60	7,15



i		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		XEHT 0906AESR	M8330								-	-	0,12	0,45	0,5	5,0

XNGX 09

	d	d ₁	s
0906	16,500	4,90	6,35

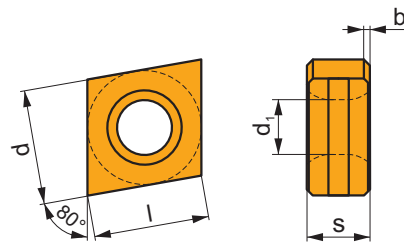


		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		XNGX 0906ANSN	M8330	■	▣	■				✘	-	-	0,17	0,50	0,8	5,0

0,12
22°

XNHQ

	b	d	d ₁	l	s
1205	0,5 x 45°	10,000	4,70	12,70	5,40
1606	0,5 x 45°	12,000	5,90	16,00	6,40

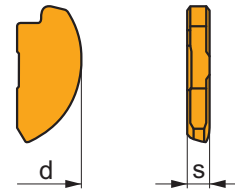


		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		XNHQ 1205AZTN	M8330	■	▣	■	□	□	□	☉	-	-	0,10	0,50	-	-
		XNHQ 1606AZTN	M8330	■	▣	■	□	□	□	☉	-	-	0,10	0,60	-	-

15°
10°
0,10

XP

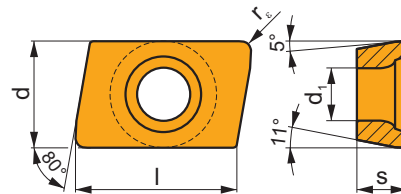
	d	s
16	16	2,00
20	20	2,50
25	25	3,17
32	32	4,00



i		ISO		P	M	K	N	S	H	?		r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		XP 16ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,05	0,15	0,3	8,0
		XP 20ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,07	0,17	0,3	10,0
		XP 25ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,07	0,20	0,3	12,5
		XP 32ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,10	0,25	0,3	16,0

XPHT 16

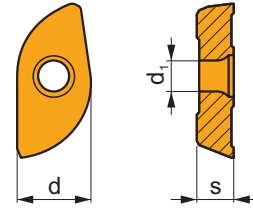
	d	d_1	l	s
1604	9,525	4,40	15,88	4,76



i		ISO		P	M	K	N	S	H	?		r_e	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
		XPHT 160412E	M6330	▣	■			□		●	-	1,2	0,05	0,30	1,2	15,0
			M8330	■	▣	▣		□		●	-	1,2	0,05	0,30	1,2	15,0
		XPHT 160412S	M8330	■	▣	▣		□		✱	-	1,2	0,10	0,30	1,2	15,0

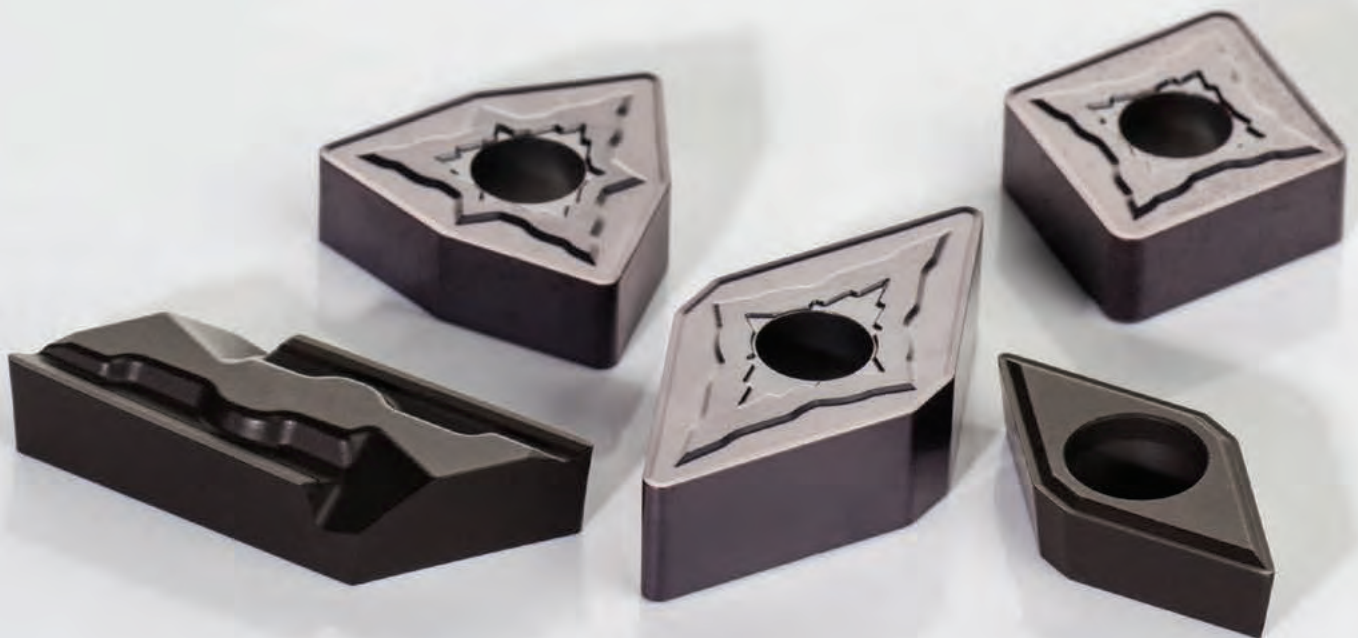
ZP

	d	d ₁	s
12	12	2,90	2,38
16	16	2,90	3,18
20	20	4,00	3,97
25	25	4,70	4,76
32	32	5,90	6,35



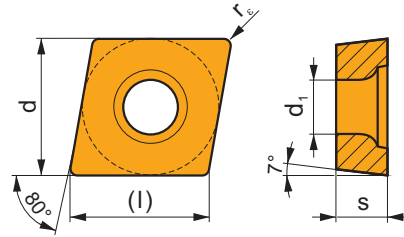
		ISO		P	M	K	N	S	H			r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		ZP 12ER-M	M8330	■	▣	▣		□	□		-	-	0,06	0,13	0,3	10,7
		ZP 16ER-M	M8330	■	▣	▣		□	□		-	-	0,07	0,16	0,3	15,0
		ZP 20ER-M	M8330	■	▣	▣		□	□		-	-	0,07	0,16	0,3	17,9
		ZP 25ER-M	M8330	■	▣	▣		□	□		-	-	0,08	0,20	0,3	22,3
		ZP 32ER-M	M8330	■	▣	▣		□	□		-	-	0,10	0,25	0,3	28,6
		ZP 32ER-R	M8330	■	▣	▣	□	□	□		-	-	0,12	0,31	0,3	28,6

TURNING INSERTS



CCMT

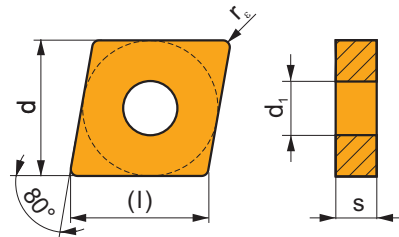
	d	d ₁	l	s
0602	6,350	2,80	6,4	2,38
09T3	9,525	4,40	9,7	3,97



i		ISO		P	M	K	N	S	H	?		r _s	f _{min}	f _{max}	a _{p min}	a _{p max}
U		CCMT 060202E-FF	T9315	■		▣				●	+	0,2	0,05	0,15	0,2	2,0
		CCMT 060204E-FF	T9315	■		▣				●	+	0,4	0,05	0,23	0,2	2,0
		CCMT 09T304E-FF	T9315	■		▣				●	+	0,4	0,05	0,23	0,2	2,0

CNMG

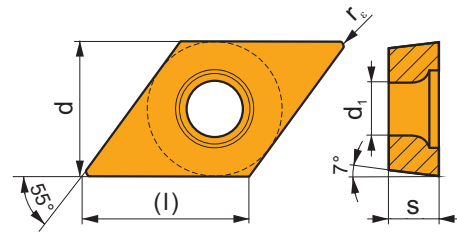
	d	d ₁	l	s
1204	12,700	5,16	12,9	4,76
1906	19,050	7,94	19,3	6,35



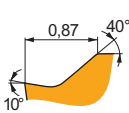
i		ISO		P	M	K	N	S	H	?		r _s	f _{min}	f _{max}	a _{p min}	a _{p max}
		CNMG 120404E-NMR	T6310	▣	■			▣		●	+	0,4	0,20	0,30	0,4	4,0
		CNMG 120408E-NMR	T6310	▣	■			▣		●	++	0,8	0,20	0,55	0,8	5,0
		CNMG 120412E-NMR	T6310	▣	■			▣		●	++	1,2	0,22	0,60	1,2	5,5
		CNMG 190608E-NMR	T6310	▣	■			▣		●	++	0,8	0,20	0,60	0,8	7,5
		CNMG 190612E-NMR	T6310	▣	■			▣		●	++	1,2	0,22	0,65	1,2	8,0

DCMT

	d	d ₁	l	s
11T3	9,525	4,40	11,6	3,97

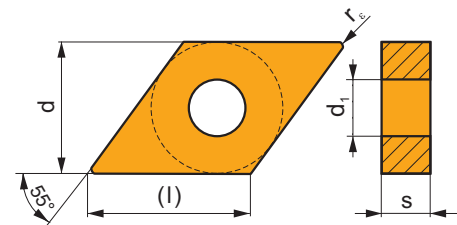


i		ISO		P	M	K	N	S	H	?		r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}
		DCMT 11T302E-FF	T9315	■		▣				●	++	0,2	0,05	0,12	0,2	2,0
		DCMT 11T304E-FF	T9315	■		▣				●	++	0,4	0,05	0,23	0,2	2,0
		DCMT 11T308E-FF	T9315	■		▣				●	++	0,8	0,05	0,23	0,2	2,0

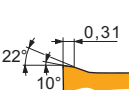


DNMG


	d	d ₁	l	s
1506	12,700	5,16	15,5	6,35

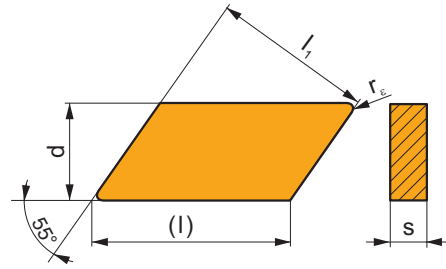










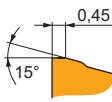



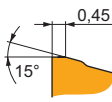



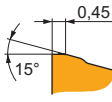



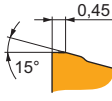



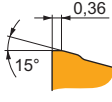



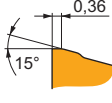



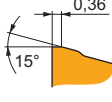
i		ISO		P	M	K	N	S	H	?		r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
		DNMG 150608E-NMR	T6310	▣	■				▣	●	++	0,8	0,20	0,48	0,8	4,0



KNUX

	d	l	l ₁	s
1604	9,525	19,5	16,2	4,76



		ISO		P	M	K	N	S	H			r _c	f _{min}	f _{max}	a _{p min}	a _{p max}
  		KNUX 160405L-22	T5315	█	□	█				●	++	0,5	0,23	0,40	0,5	4,8
			T7325	█	█					●	++	0,5	0,23	0,40	0,5	4,8
			T7335	█	█					●	+++	0,5	0,23	0,40	0,5	4,8
			T9325	█	█	█				●	++	0,5	0,23	0,40	0,5	4,8
			T9335	█	█					●	+++	0,5	0,23	0,40	0,5	4,8
  		KNUX 160405R-22	T5315	█	□	█				●	++	0,5	0,23	0,40	0,5	4,8
			T7325	█	█					●	++	0,5	0,23	0,40	0,5	4,8
			T7335	█	█					●	+++	0,5	0,23	0,40	0,5	4,8
			T9325	█	█	█				●	++	0,5	0,23	0,40	0,5	4,8
			T9335	█	█					●	+++	0,5	0,23	0,40	0,5	4,8
  		KNUX 160410L-22	T9335	█	█					●	+++	1,0	0,23	0,55	1,0	4,8
			  		KNUX 160410R-22	T9335	█	█					●	+++	1,0	0,23
  		KNUX 160405L-32				T5315	█	□	█				●	++	0,5	0,25
			T7325	█	█					●	++	0,5	0,25	0,40	0,5	4,8
			T7335	█	█					●	+++	0,5	0,25	0,40	0,5	4,8
			T9325	█	█	█				●	++	0,5	0,25	0,40	0,5	4,8
			T9335	█	█					●	+++	0,5	0,25	0,40	0,5	4,8
  		KNUX 160405R-32	T5315	█	□	█				●	++	0,5	0,25	0,40	0,5	4,8
			T7325	█	█					●	++	0,5	0,25	0,40	0,5	4,8
			T7335	█	█					●	+++	0,5	0,25	0,40	0,5	4,8
			T9325	█	█	█				●	++	0,5	0,25	0,40	0,5	4,8
			T9335	█	█					●	+++	0,5	0,25	0,40	0,5	4,8
  		KNUX 160410L-32	T9325	█	█	█				●	++	1,0	0,25	0,60	1,0	4,8
			T9335	█	█					●	+++	1,0	0,25	0,60	1,0	4,8

i		ISO		P	M	K	N	S	H			r_ϵ	f_{min}	f_{max}	$a_{p min}$	$a_{p max}$
U		KNUX 160410R-32	T9325	■	▣	▣					++	1,0	0,25	0,60	1,0	4,8
E			T9335	■	▣						+++	1,0	0,25	0,60	1,0	4,8

GEOMETRY OF CUTTING INSERTS

22

KNUX 160405L-22

P	M	K	N	S	H
■	▣	■			
f		0,23 – 0,55			
a_p		0,50 – 4,80			
?		KNUX			

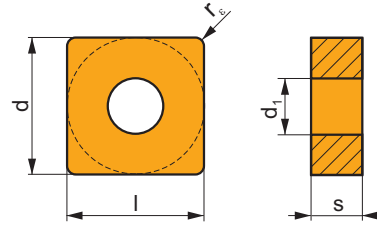
32

KNUX 160405L-32

P	M	K	N	S	H
■	▣	■			
f		0,25 – 0,6			
a_p		0,50 – 4,80			
?		KNUX			

SNMG

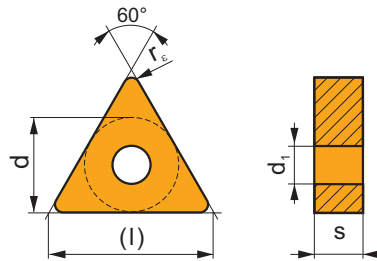
	d	d ₁	l	s
1204	12,700	5,16	12,700	4,76
1506	15,875	6,35	15,875	6,35
1906	19,050	7,94	19,050	6,35



i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
		SNMG 120408E-NMR	T6310	☑	☐	☐	☐	☑		●	+	0,8	0,20	0,55	0,8	5,0
		SNMG 120412E-NMR	T6310	☑	☐	☐	☐	☑		●	+	1,2	0,22	0,60	1,2	5,5
		SNMG 150612E-NMR	T6310	☑	☐	☐	☐	☑		●	++	1,2	0,22	0,65	1,2	6,0
		SNMG 190612E-NMR	T6310	☑	☐	☐	☐	☑		●	++	1,2	0,22	0,65	1,2	8,0
		SNMG 190616E-NMR	T6310	☑	☐	☐	☐	☑		●	++	1,6	0,25	0,70	1,6	8,0

TNMG

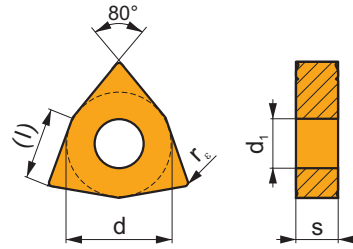
	d	d ₁	l	s
1604	9,525	3,81	16,5	4,76
2204	12,700	5,16	22,0	4,76



i		ISO		P	M	K	N	S	H	?		r _e	f _{min}	f _{max}	a _{p min}	a _{p max}
		TNMG 160404E-NMR	T6310	☑	☐	☐	☐	☑		●	+	0,4	0,20	0,24	0,4	4,0
		TNMG 160408E-NMR	T6310	☑	☐	☐	☐	☑		●	++	0,8	0,20	0,48	0,8	4,0
		TNMG 220408E-NMR	T6310	☑	☐	☐	☐	☑		●	++	0,8	0,20	0,48	0,8	6,0
		TNMG 220412E-NMR	T6310	☑	☐	☐	☐	☑		●	++	1,2	0,22	0,70	1,2	6,0

WNMG

	d	d ₁	l	s
0604	9,525	3,81	6,5	4,76
0804	12,700	5,16	8,7	4,76



i	ISO	T	P	M	K	N	S	H	?	r _ε	f _{min}	f _{max}	a _{p min}	a _{p max}	
															?
	WNMG 060404E-NMR	T6310	█	█			█		●	+	0,4	0,20	0,30	0,4	3,5
	WNMG 060408E-NMR	T6310	█	█			█		●	+	0,8	0,20	0,45	0,8	3,5
	WNMG 080404E-NMR	T6310	█	█			█		●	+	0,4	0,20	0,30	0,4	4,0
	WNMG 080408E-NMR	T6310	█	█			█		●	++	0,8	0,20	0,55	0,8	5,0
	WNMG 080412E-NMR	T6310	█	█			█		●	++	1,2	0,22	0,60	1,2	5,0

SIMPLY RELIABLE

As a professional you can judge the quality of work by just looking at the chip. Our chip is a clean and uncomplicated shape that in itself tells a story. It is a clear and consistent signal and that's why we use it as a symbol for being **simply reliable**.

Argentina

T: 54 (11) 6777-6777
F: 54 (11) 4441-4467
info.ar@dormerpramet.com

Australia

T: 1300 131 274
F: 1300 809 510
info.au@dormerpramet.com

Austria

T: +31 10 2080 240
F: +31 10 2080 282
info.at@dormerpramet.com

Belgium & Luxembourg

T: +32 3 440 59 01
F: +32 3 449 15 43
info.be@dormerpramet.com

Brazil

T: +55 11 5660 3000
F: +55 11 5667 5883
info.br@dormerpramet.com

Canada

T: (888) 336 7637
En Français: (888) 368 8457
F: (905) 542 7000
cs.canada@dormerpramet.com

China

T: +86 21 2416 0508
F: +86 21 5442 6315
info.cn@dormerpramet.com

Croatia

T: +385 98 407 489
info.hr@dormerpramet.com

Czech Republic

T: +420 583 381 111
F: +420 583 215 401
info.cz@dormerpramet.com

Denmark

T: 808 82106
F: +46 35 16 52 90
info.se@dormerpramet.com

Finland

T: 0205 44 7003
F: 0205 44 7004
info.fi@dormerpramet.com

France

T: +33 (0)2 47 62 57 01
F: +33 (0)2 47 62 52 00
info.fr@dormerpramet.com

Germany

T: +49 9131 933 08 70
F: +49 9131 933 08 742
info.de@dormerpramet.com

Hungary

T: +36-96 / 522-846
F: +36-96 / 522-847
info.hu@dormerpramet.com

India

T: +91 11 4601 5686
info.in@dormerpramet.com

Italy

T: +39 02 38 04 51
F: +39 02 38 04 52 43
info.it@dormerpramet.com

Kazakhstan

T: +7 771 305 11 45
info.kz@dormerpramet.com

Mexico

T: +52 (555) 7293981
F: +52 (555) 7293981
cs.mexico@dormerpramet.com

Netherlands

T: +31 10 2080 240
F: +31 10 2080 282
info.nl@dormerpramet.com

New Zealand

T: 0800 800 922
info.int@dormerpramet.com

Norway

T: 800 10 113
F: +46 35 16 52 90
info.se@dormerpramet.com

Poland

T: +48 32 78-15-890
F: +48 32 78-60-406
info.pl@dormerpramet.com

Portugal

T: +351 21 424 54 21
F: +351 21 424 54 25
info.pt@dormerpramet.com

Romania

T: +4(0)730 015 885
info.ro@dormerpramet.com

Russia

T: +7 495 775 10 28
F: +7 (499) 763 38 90
info.ru@dormerpramet.com

Slovakia

T: +421 (41) 764 54 60
F: +421 (41) 763 74 49
info.sk@dormerpramet.com

Slovenia

T: +385 98 407 489
info.si@dormerpramet.com

Spain

T: +34 935717722
F: +34 935717765
info.es@dormerpramet.com

Sweden

responsible for **Iceland**
T: +46 35 16 52 96
F: +46 35 16 52 90
info.se@dormerpramet.com

Switzerland

T: +31 10 2080 240
F: +31 10 2080 282
info.ch@dormerpramet.com

Turkey

T: +90 533 212 45 47
info.tr@dormerpramet.com

Ukraine

T: +38 056 736 30 21
F: +38 067 220 97 48
info.ua@dormerpramet.com

United Kingdom

responsible for **Ireland**
T: 0870 850 4466
F: 0870 850 8866
info.uk@dormerpramet.com

United States of America

T: (800) 877-3745
F: (847) 783-5760
cs@dormerpramet.com

Other countries

South America

T: +55 11 5660 3000
F: +55 11 5667 5883
info.br@dormerpramet.com

Central and Eastern Europe

T: +420 583 381 526
F: +420 583 381 401
info.rcee@dormerpramet.com

Rest of the World

Dormer Pramet International UK
T: +44 1246 571338
F: +44 1246 571339
info.int@dormerpramet.com

Dormer Pramet International CZ

T: +420 583 381 520
F: +420 583 215 401
info.int.cz@dormerpramet.com



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