

PROMOTION

Strong Clamping

Inserts for all applications and materials.

One promotion price

1.490,-SEK

ARNO® SET-promotion: « 1 SAN holder + 10 inserts »

SET promotion

SAN NC-mono block grooving tools

Set consist of

1 ARNO® SAN holder¹ and

10 Inserts to suit

(*1 --> Please see inside for tool selection)

ARNO®
WERKZEUGE

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Tools for radial grooving

The new SAN NC – mono block holders.

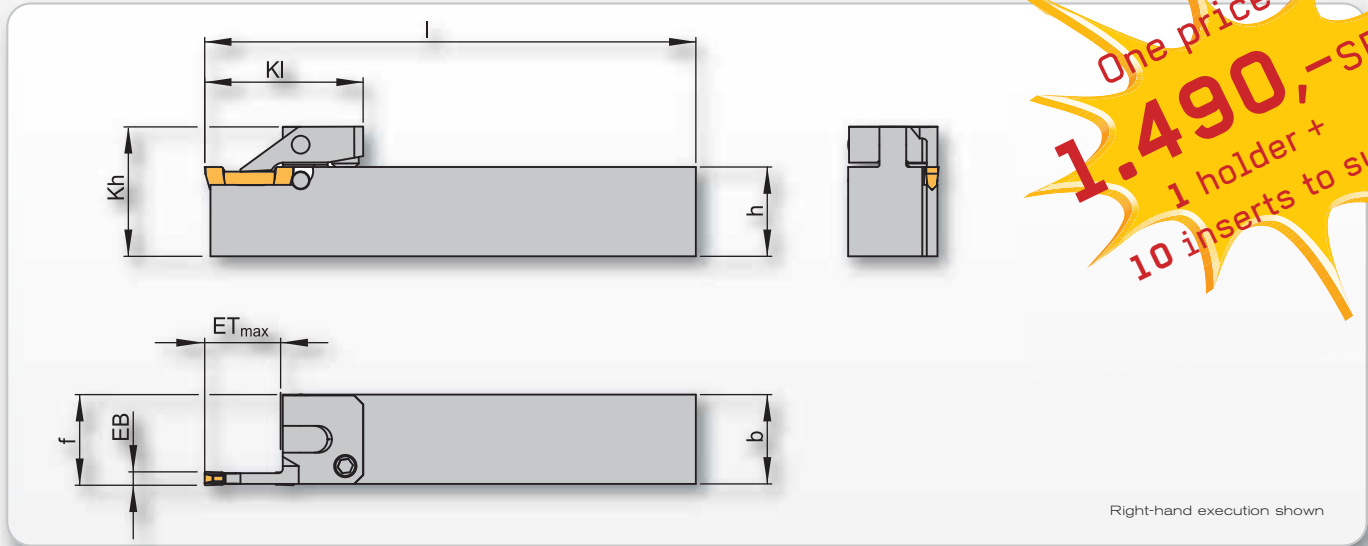
- 3 - 6 mm groove width
- 17 - 27 mm groove depth
- Inserts are fully interchangeable with NC modular
- External and internal tools

New



Holder selection >>

The „NEW“ **SAN** NC-mono block tools for radial grooving.



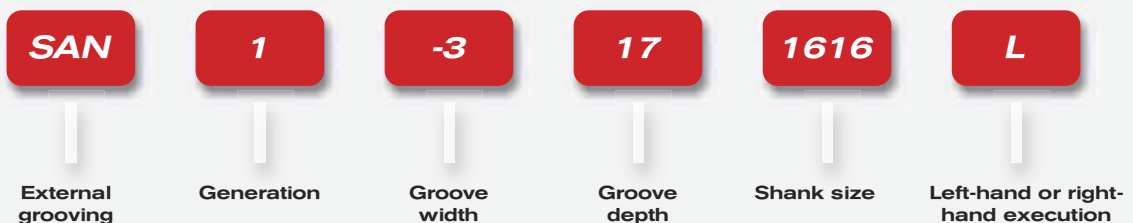
Holders

One price
1.490,-SEK

Designation	EB	ET _{max}	h	b	l	Kl	Kh	f	Promotion price
SAN 01-0317-1616L	3	17	16	16	100	35,5	25	16,3	inclusive 10 inserts ^{*2}
SAN 01-0317-1616R	3	17	16	16	100	35,5	25	16,3	inclusive 10 inserts ^{*2}
SAN 01-0317-2020L	3	17	20	20	110	35,5	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0317-2020R	3	17	20	20	110	35,5	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0317-2525L	3	17	25	25	125	35,5	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0317-2525R	3	17	25	25	125	35,5	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0419-1616L	4	19	16	16	100	37,6	25	16,3	inclusive 10 inserts ^{*2}
SAN 01-0419-1616R	4	19	16	16	100	37,6	25	16,3	inclusive 10 inserts ^{*2}
SAN 01-0419-2020L	4	19	20	20	110	37,6	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0419-2020R	4	19	20	20	110	37,6	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0419-2525L	4	19	25	25	125	37,6	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0419-2525R	4	19	25	25	125	37,6	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0522-2020L	5	22	20	20	110	40,6	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0522-2020R	5	22	20	20	110	40,6	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0522-2525L	5	22	25	25	125	40,6	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0522-2525R	5	22	25	25	125	40,6	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0627-2020L	6	27	20	20	110	45,7	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0627-2020R	6	27	20	20	110	45,7	29	20,3	inclusive 10 inserts ^{*2}
SAN 01-0627-2525L	6	27	25	25	125	45,7	34	25,3	inclusive 10 inserts ^{*2}
SAN 01-0627-2525R	6	27	25	25	125	45,7	34	25,3	inclusive 10 inserts ^{*2}

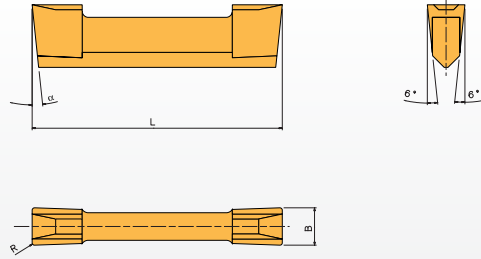
(*2) --> Please see next pages for insert selection. Dimensions in mm.

Designation code – Holder >>



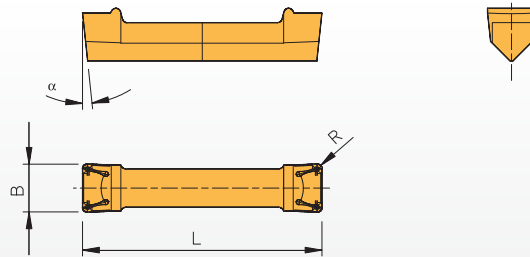
Inserts >>

Standard geometry >>



Designation	B ± 0,02 [mm]	L ± 0,02 [mm]	α	R	Rake angle	Application	Grades								
							AM27C	AM35C	AM350 ^{coated}	AM5035	AR17C	AR27C	AK10	AP40	CERMET
32002	3	20	6/16°	0,2	12°	External and internal	●	●	●	●	●	●			
32004	3	20	6/16°	0,4	12°		●	●							
42202	4	22	6/9,5°	0,2	12°			●	●	●	●	●			
42204	4	22	6/9,5°	0,4	12°		●		●						
42210	4	22	6/9,5°	1,0	12°		●								
52502	5	25	6/8,5°	0,2	12°		●	●	●	●	●	●			
52504	5	25	6/8,5°	0,4	12°		●		●						
63002	6	30	6°	0,2	12°		●	●	●	●	●	●			
63004	6	30	6°	0,4	12°		●		●						
							P	●	○	○	○	○			
						M	○	●	●	○	○				
						K				●	●				
						N					●				
						S	○	○	○	○	○				
						H				○					

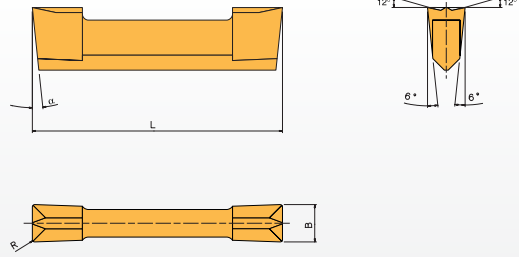
Copy-turning geometry -AM



Designation	B ± 0,05	L	α	R	Rake angle	Application	Grades								
							AM27C	AM35C	AM350 ^{coated}	AM5035	AR17C	AR27C	AK10	AP40	CERMET
32002-AM	3,06	20	6/15°	0,2	6°/20°	External and internal	●		●						
42204-AM	4,06	22	6/9,5°	0,4	6°/20°		●		●						
52504-AM	5,06	25	6/8,5°	0,4	6°/20°		●		●						
63008-AM	6,06	30	6°	0,8	6°/20°		●		●						
						P	●		○						
						M	○		●						
						K									
						N									
						S	○		○						
						H									

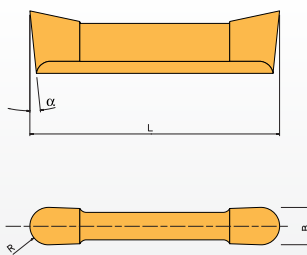
Inserts >>

Copy-turning geometry -12



Designation	B ± 0,02	L ± 0,02	α	R	Rake angle	Application	Grades											
							coated				uncoated			brazed				
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AK10	AP40	CERMET	AH7520	AN8020	
32002-12	3,0	20,0	6/16°	0,2	12°	External and internal	●	●	●									
32002-12 Cermet	2,9	19,7	6/16°	0,2	12°											●		
32004-12 Cermet	2,9	19,7	6/16°	0,4	12°											●		
42202-12	4,0	22,0	6/9,5°	0,2	12°		●	●		●								
42202-12 Cermet	3,9	21,7	6/9,5°	0,2	12°												●	
42204-12 Cermet	3,9	21,7	6/9,5°	0,4	12°												●	
52502-12	5,0	25,0	6/8,5°	0,2	12°		●	●		●								
52502-12 Cermet	4,9	24,6	6/8,5°	0,2	12°												●	
52504-12 Cermet	4,9	24,6	6/8,5°	0,4	12°												●	
63002-12	6,0	30,0	6°	0,2	12°		●	●		●								
						P	●	●	○						●			
						M	○	○	●						○			
						K									○			
						N												
						S	○	○	○									
						H												

Full-radius execution -V

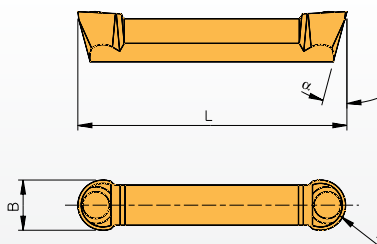


Attention:
The use of full-radius inserts require a slightly modified support blade.

Designation	B ± 0,02	L ± 0,02	α	R	Rake angle	Application	Grades											
							coated				uncoated			brazed				
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AK10	AP40	CERMET	AH7520	AN8020	
32015-V	3	20	6/16°	1,5	12°	External and internal		●					●					
42220-V	4	22	6/9,5°	2,0	12°			●						●				
52525-V	5	25	6/8,5°	2,5	12°			●						●				
63030-V	6	30	6°	3,0	12°			●						●				
						P		●										
						M		○										
						K							●					
						N							●					
						S		○					○					
						H												

Inserts >>

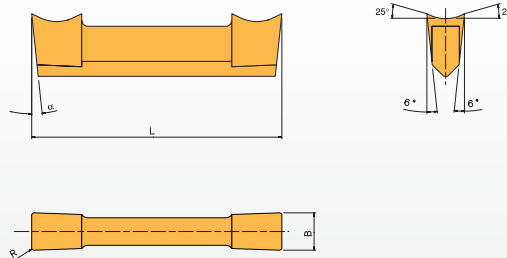
Full-radius execution -VK >>



Attention:
The use of full-radius inserts require
a slightly modified support blade.

Designation	B ± 0,02	L ± 0,02	α	R	Rake angle	Application	Grades											
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	AP40	CERMET	AH7520	AN8020
32015-VK	3	20	6/16°	1,5	3°	External and internal		●	●	●	●	●						
42220-VK	4	22	6/9,5°	2,0	3°			●	●	●	●	●						
52525-VK	5	25	6/8,5°	2,5	3°			●	●	●	●	●						
63030-VK	6	30	6°	3,0	3°			●	●	●	●	●						
						P	●	○										
						M		○	●		○							
						K					●	●						
						N					●	●						
						S		○	○		○	○						
						H												

Aluminium type -ALU >>

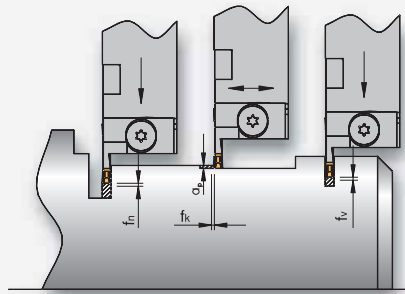


Designation	B ± 0,02	L ± 0,02	α	R	Rake angle	Application	Grades											
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	AP40	CERMET	AH7520	AN8020
32002-Alu	3	20	8/16°	0,2	25°	External and internal						●	●					
42202-Alu	4	22	8°	0,2	25°								●	●				
52502-Alu	5	25	8°	0,2	25°								●	●				
63002-Alu	6	30	8°	0,2	25°								●	●				
						P												
						M					○							
						K						●	●					
						N						●	●					
						S						○	○					
						H												

Cutting datas >>

Max. feed rate and depth of cut

- f_v [mm / U] = Feed rate into solid
 f_n [mm / U] = Feed rate for re-grooving
 f_k [mm / U] = Feed rate for copy-turning
 a_p [mm] = Depth of cut



Standard geometry



Inserts

	32002	42202	52502	63002
f_v	0,05 - 0,12	0,07 - 0,18	0,07 - 0,18	0,07 - 0,18
f_n	0,05 - 0,12	0,07 - 0,18	0,07 - 0,18	0,07 - 0,18
f_k	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,15
a_p max	0,50	0,50	0,50	0,50

Copy-turning geometry -12



Inserts

	32002-12	42202-12	52502-12	63002-12
f_v	0,05 - 0,15	0,07 - 0,18	0,07 - 0,18	0,07 - 0,18
f_n	0,05 - 0,15	0,07 - 0,18	0,07 - 0,18	0,07 - 0,18
f_k	0,05 - 0,10	0,07 - 0,18	0,07 - 0,18	0,07 - 0,18
a_p max	1,5	2,0	2,5	2,5

Grooving -AM



Inserts

	32002-AM	42204-AM	52504-AM	63008-AM
f_v	0,04 - 0,15	0,07 - 0,18	0,07 - 0,25	0,10 - 0,25
f_n	0,04 - 0,15	0,07 - 0,18	0,07 - 0,25	0,10 - 0,25
f_k	0,04 - 0,15	0,07 - 0,18	0,07 - 0,25	0,10 - 0,25
a_p max	1,5	2,0	2,5	2,5

Full-radius execution -V



Inserts

	32015 V	42220 V	52525 V	63030 V
f_v	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,12
f_n	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,12
f_k	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,12
a_p max	0,50	0,50	0,50	0,50

Full-radius execution -VK



Inserts

	32015 VK	42220 VK	52525 VK	63030 VK
f_v	0,05 - 0,12	0,05 - 0,12	0,05 - 0,12	0,07 - 0,12
f_n	0,05 - 0,12	0,05 - 0,12	0,05 - 0,12	0,07 - 0,25
f_k	0,05 - 0,15	0,05 - 0,12	0,08 - 0,12	0,07 - 0,30
a_p max	1,5	2,0	2,5	3,0

Aluminium type -ALU



Inserts

	32002-ALU	42202-ALU	52502-ALU	63002-ALU
f_v	0,05 - 0,18	0,05 - 0,18	0,05 - 0,18	0,05 - 0,18
f_n	0,05 - 0,18	0,05 - 0,18	0,05 - 0,18	0,05 - 0,18
f_k	0,05 - 0,20	0,05 - 0,20	0,05 - 0,20	0,05 - 0,20
a_p max	2,0	2,5	3,0	3,0

ISO	Material		Brinell hardness HB	Cutting speed Vc [m/min]										
				AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AN8020	AH7520
P	Unalloyed steel and cast steel	ca. 0,15% C annealed	100	140 - 260	120 - 160	140 - 200	140 - 200	150 - 250	160 - 280	-	-	130-400	-	-
		ca. 0,45% C annealed	190	130 - 220	100 - 150	120 - 160	120 - 160	130 - 220	140 - 240	-	-	120-350	-	-
		ca. 0,45% C hardened and tempered	250	110 - 190	60 - 140	110 - 150	110 - 150	110 - 180	120 - 200	-	-	100-325	-	-
		ca. 0,75% C annealed	270	100 - 180	70 - 130	100 - 130	100 - 130	90 - 180	130 - 200	-	-	90-300	-	-
		ca. 0,75% C hardened and tempered	300	100 - 160	70 - 110	90 - 120	90 - 120	90 - 160	100 - 130	-	-	80-275	-	-
P	Low alloyed steel and cast steel	annealed	180	130 - 220	70 - 100	130 - 180	130 - 180	100 - 170	150 - 230	-	-	100-250	-	-
		hardened and tempered	275	120 - 160	70 - 100	100 - 150	100 - 150	80 - 150	130 - 180	-	-	90-300	-	-
		hardened and tempered	300	120 - 160	60 - 100	110 - 130	110 - 130	80 - 150	140 - 180	-	-	80-230	-	-
		hardened and tempered	350	100 - 160	60 - 90	90 - 120	90 - 120	70 - 120	100 - 150	-	-	60-150	-	-
P	High alloyed steel, high alloyed tool-steel and cast steel	annealed	200	120 - 150	60 - 80	90 - 150	90 - 150	90 - 130	140 - 170	-	-	80-180	-	-
		hardened and tempered	325	90 - 120	60 - 80	70 - 120	70 - 120	70 - 110	90 - 130	-	-	60-140	-	-
P	Stainless steel and cast steel	ferritic / martensitic, annealed	200	140 - 250	90 - 120	110 - 180	110 - 180	110 - 170	140 - 240	-	-	80-220	-	-
		martensitic, hardened and tempered	300	120 - 150	60 - 90	60 - 90	60 - 90	90 - 140	60 - 100	-	-	70-180	-	-
M	Stainless steel and cast steel	austenitic and austenitic/ferritic, chilled	135-185	130-200	100-180	110-200	110-200	80-140	130-200	-	-	100-250	-	-
			185-275	80-130	80-150	80-120	80-120	70-100	80-130	-	-	80-180	-	-
K	Cast iron	pearlitic, ferritic	150-200	-	-	-	-	120 - 160	130 - 220	140-200	120-160	-	-	-
		pearlitic, martensitic	200-260	-	-	-	-	120 - 150	100 - 160	120-170	100-140	-	-	-
			250-320	-	-	-	-	100 - 130	100 - 130	100-140	80-120	-	-	-
K	Cast iron with nodular graphite	ferritic	160	-	-	-	-	160 - 200	160 - 230	110-180	90-150	220-300	-	-
		pearlitic	250	-	-	-	-	100 - 140	120 - 170	120-220	100-180	180-230	-	-
K	Malleable cast iron	ferritic	130	-	-	-	-	120 - 140	150 - 210	120-250	100-200	250-350	-	-
		pearlitic	230	-	-	-	-	90 - 130	120 - 200	100-200	80-160	160-250	-	-
N	Aluminium alloys, long chipping	not heat treatable	60	-	-	-	-	-	-	120-950	100-800	-	350-3000	-
		heat treatable, heat - treated	100	-	-	-	-	-	-	100-950	80-800	-	350-3000	-
	Casted aluminium alloys	≤ 12% Si, hardened	75	-	-	-	-	-	-	100-600	80-500	-	350-3000	-
		≤ 12% Si, heat treatable, hardened	90	-	-	-	-	-	-	-	-	-	350-3000	-
		≤ 12% Si, not heat treatable	130	-	-	-	-	-	-	-	-	-	350-3000	-
N	Copper and copper alloys (brass / bronze)	Lead alloys, Pb > 1%	110	-	-	-	-	-	-	120-300	100-250	-	600 - 1200	-
		Brass, bronze	90	-	-	-	-	-	-	250-600	200-500	-	600 - 1200	-
		Aluminium bronze	150	-	-	-	-	-	-	300-600	250-500	-	600 - 1200	-
		Copper and electrolyte copper	60	-	-	-	-	-	-	150-350	130-300	-	600 - 1200	-
N	Non ferrous materials	Duroplastics		-	-	-	-	-	-	120-600	100-500	-	80 - 1500	-
		Re - inforced plastics		-	-	-	-	-	-	100-180	80-150	-	80 - 1500	-
		Hard rubber		-	-	-	-	-	-	120-250	100-200	-	80 - 1500	-
S	High temperature resistant alloys	Fe-alloyed annealed	200	30 - 50	-	-	-	30 - 50	25 - 45	-	-	-	-	-
		heat - treated	280	25 - 40	20 - 40	20 - 40	20 - 40	25 - 35	20 - 40	-	-	-	-	-
		Ni- or annealed	250	10 - 30	20 - 30	20 - 30	20 - 30	15 - 25	15 - 25	-	-	-	-	-
		Co based casting	320	10 - 20	-	-	-	10 - 20	10 - 20	-	-	-	-	-
	heat - treated	350	10 - 15	-	-	-	10 - 25	10 - 20	-	-	-	-	-	
S	Titanium alloys, high strength Alpha- and Beta- alloys, hardened	Pure titan	150-200	-	-	-	-	100 - 150	-	100-150	80-130	-	60-80	-
			200-300	-	-	-	-	40 - 60	-	50-80	40-70	-	50-70	-
H	Hardened steel	hardened and tempered	300-400	-	-	-	-	35 - 45	10 - 20	-	-	-	-	80-230
		hardened and tempered	400-500	-	-	-	-	-	-	-	-	-	-	60-180
	Hard cast iron	casting	400	-	-	-	-	10 - 20	10 - 20	-	-	-	-	80-230
H	Hardened cast iron	hardened and tempered	55 HRC	-	-	-	-	35 - 45	10 - 20	-	-	-	-	60-180

Grade Description >>

Coated carbide grades

AM27C HC - P30, HC - M25, HC-K30

CVD-multilayer TiC + TiCN + TiN coating

Machining steel, cast steel as well as grey cast iron, at medium to high cutting speeds, medium to large chip-cross-sections and varying depths of cut. Used for finishing and medium roughing.

AM35C HC - P35, HC - M30

CVD-multilayer, substrate + TiC + TiCN + TiN coating

Machining steel, stainless steel and cast steel, at medium to large chip-cross-sections and medium to low cutting speeds under unfavourable machining conditions where good toughness is required.

AM350 HC - P40, HC - M35

CVD-multilayer coating, substrate + Al₂O₃ + TiN

Grade with a good combination of wear resistance and toughness for turning steel, stainless steel as well as cast steel at medium chip-cross-sections and medium to high cutting speeds. Can also be used under unfavourable machining conditions. Special grade for stainless steel (austenitic).

AM5035 HC-P40

PVD-Multilayer coating, + AlTiN

An improved PVD coating on a tough and wear resistant carbide grade. Due to the higher cobalt content this grade contains all the required toughness for part-off and grooving applications. AM5035 is excellent at machining most steel, stainless steel and hard to machine materials.

AR17C HC - P15, HC - K15

CVD-multilayer Al₂O₃-coating, substrate + TiC + TiN + Al₂O₃

For machining grey cast iron, cast iron with graphite and hard cast material. Also suitable for stainless steel, steel and cast steel at medium to high cutting speed. Apply in finishing and lighter roughing applications.

AR27C HC - P25, HC - M20, HC - K20

CVD-multilayer Al₂O₃-coating, substrate + TiC + TiN + Al₂O₃

Machining of steel, stainless steel, spheroidal cast iron, cast steel and grey cast iron at high cutting speeds under stable machining conditions.

AT10 HW - K10

PVD-multilayer coating, substrate + TiCN

Grade for machining aluminium and aluminium alloy, copper, brass, non-ferrous materials and refractory metals at medium cutting and under favourable cutting conditions. Also suitable for stainless steel.

Uncoated carbide grades

AK10 HW - K10

Submicron carbide grade for machining cast materials, light and nonferrous materials, refractory metals, hardened steels up to 55 HRC. In connection with chipbreaker-ALU specially suitable for machining Al- and Cu-alloys.

Cermet HT - P15, HT - M10, HT - K05

Machining of steel, steels with medium tensile strength as well as stainless steel and spheroidal cast iron. Limited use on grey cast iron.

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WERKZEUGE

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