NEW
PRODUCT!

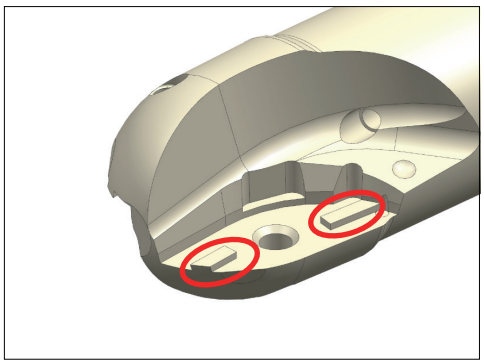
APM00-RPM

Profile Milling

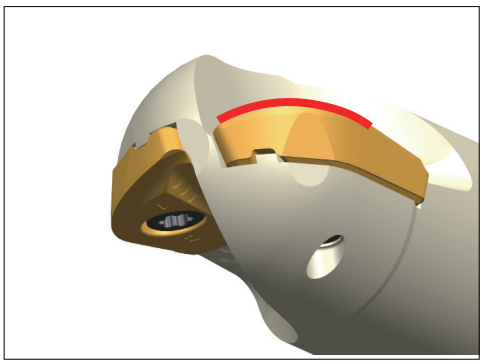
ACHTECK has launched its APM00-RPM profile milling cutter, mounted with RPM inserts. APM00-RPM profile milling series is mainly used in blade and disc rough and semi-finish machining in the aircraft and energy industries, as well as pocket milling applications in the die/mold industry.

Product Features

- Cutter diameter range: Φ16 - Φ20MM
- Cutter coupling types: Screw clamping and Cylinder shank
- RPM Inserts: 08 and 10 radius
- Two new grades: AP403S and AP351M, fully covered M(Stainless Steel) and S(Super Alloy) material applications



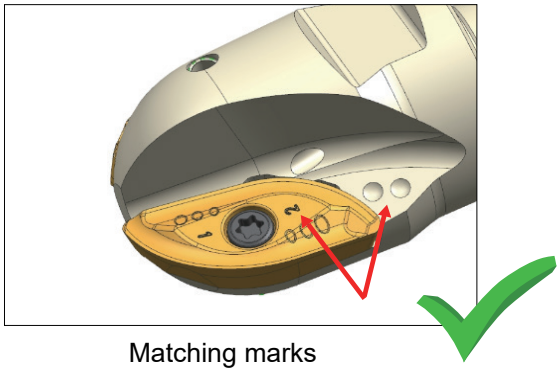
Anti rotation boss



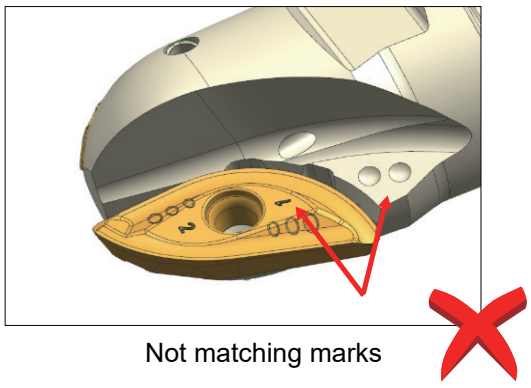
Spiral cutting edge design ensures smooth machining

Attention:

Inserts can not be mounted if the insert number marks don't match with cutter boss number signs



Matching marks



Not matching marks

Geometry Features

Geometry	Edge Preparation	Feature
MM4		• Widely used in medium machining • 1st choice for general machining;
MM3		• Used under weak machining conditions and finishing machining; • Low cutting force (low power machine)

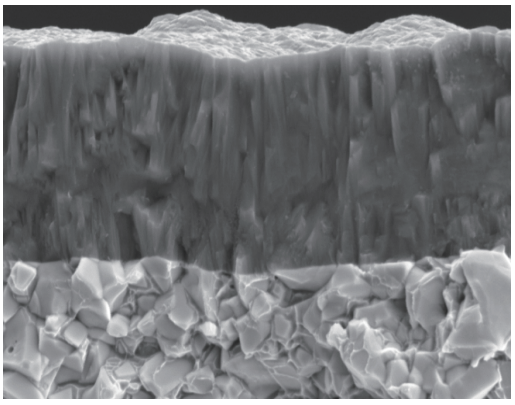
Grade application

Grade	Coating	Materials					
		P	M	K	S	N	H
AP401U	PVD	◐	●				
AP403S New	PVD		◐		●		
AP351M New	PVD		●		◐		

● 1st Choice ◐ 2nd Choice ○ Supplementary application

AP403S Grade Features

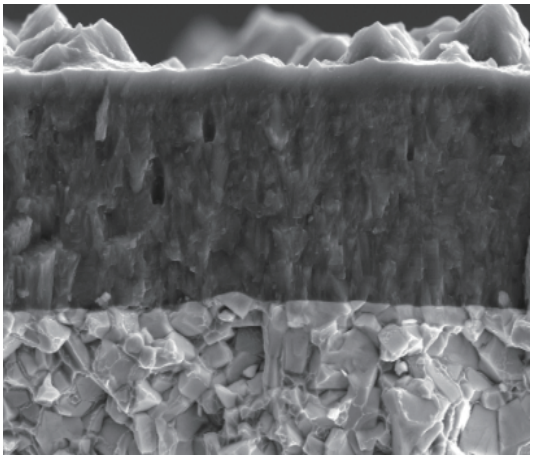
AP403S grade is the 1st choice for Nikel based Super Alloy machining. It can be also applicable to Titanium alloy and stainless steel



- With both good toughness and high temperature resistance Used new generation of PVD super hard coating, offering
- super smooth surface and low friction coefficient It has good impact resistance and long tool life under heave
- impact conditions, uneven depth of cut and complex working conditions

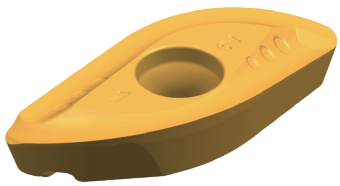
AP351M Grade Features

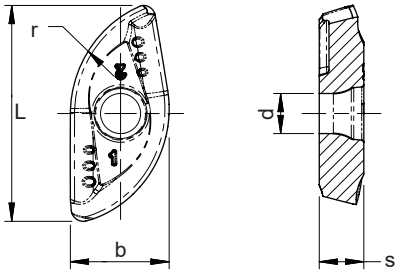
AP351M is the preferred grade for stainless steel and steel milling



- With new PVD coating and substrate
- With high thermal stability and wear resistance, excellent thermal crack resistance and excellent coating adhesion.
- It provides high hardness and impact resistance because of the combination of new high cobalt fine grain matrix with high chromium content

Inserts



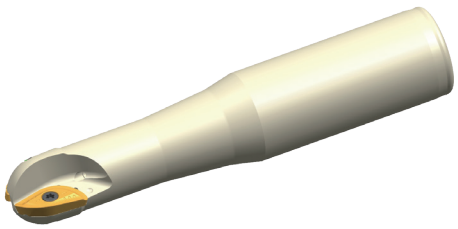


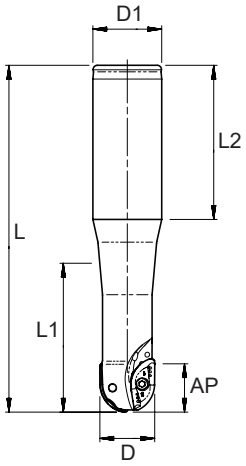
Ordering Code	Dimensions				P			M		K		S
	l	d	s	r	AP301U	AC351P	AP351U	AP401U	AC351M	AC301K	AC351K	AP403S
RPM 080ER-MM4	14.76	6.89	3.21	8.0	●			●	●			●
RPM 100ER-MM4	18.85	8.62	3.89	10.0	●			●	●			●

● Stocked standard

Cutters

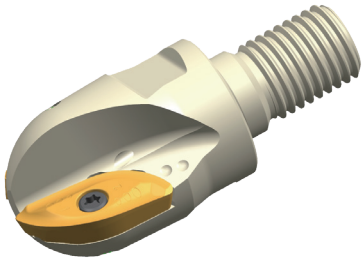
APM00-RPM Cylinder shank cutter

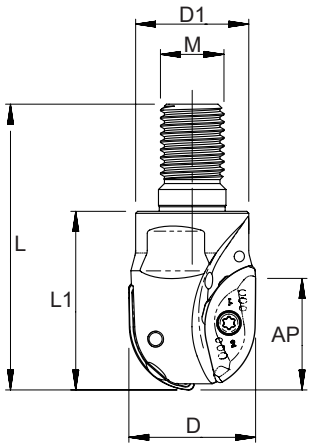




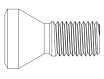
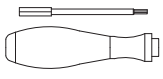
Ordering Code	Dimension						Coolant	Z	Insert
	D	D1	L	L1	L2	Ap			
APM00-016-Z02-C20R-RP080-L120-C	16	20	120	35	70	14		2	RPM 080ER-MM4
APM00-020-Z02-C25R-RP100-L126-C	20	25	126	43	64	18		2	RPM 100ER-MM4
APM00-020-Z02-C25R-RP100-L176-C	20	25	176	43	106	18		2	

APM00-RPM Screw clamping cutter



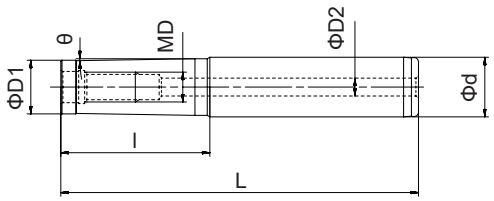


Ordering Code	Dimension						Coolant	Z	Insert
	D	D1	L	L1	Ap	M			
APM00-016-Z02-M10R-RP080-C	16	18	49	28	14	M10		2	RPM 080ER-MM4
APM00-020-Z02-M10R-RP100-C	20	18	51	30	18	M10		2	RPM 100ER-MM4

Ordering Code	Cutter spare parts			
Cutter diameter	Screw	Wrench	Installation wrench	Torque
Φ16				1.8Nm
	SP02506450H	DT-TP08	AFW-15	
Φ20	SP030072H	DT-TP09		

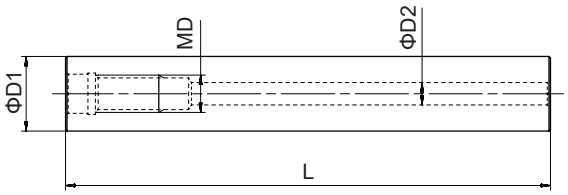
Adaptors (for screw clamping cutter)

1-Taper head type



Ordering Code	Dimension						Materials
	MD	Φd	ΦD1	ΦD2	L	l	
AMS-M08-020-080-16T	M8	16	14.5	5	80	20	steel
AMS-M08-040-100-16T	M8	16	14.5	5	100	40	steel
AMS-M10-030-100-20T	M10	20	18	6	100	30	steel
AMS-M10-050-120-20T	M10	20	18	6	120	50	steel

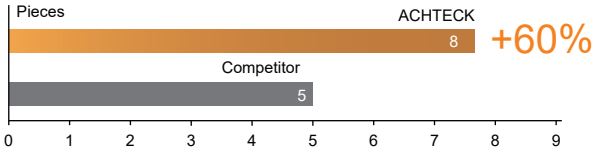
2-Straight shank type



Ordering Code	Dimension				Materials
	MD	ΦD1	ΦD2	L	
AMC-M08-105-16S	M8	16	5	105	Solide carbide
AMC-M08-160-16S	M8	16	5	160	Solide carbide
AMC-M10-130-20S	M10	20	6	100	Solide carbide
AMC-M10-250-20S	M10	20	6	250	Solide carbide

Case Stories

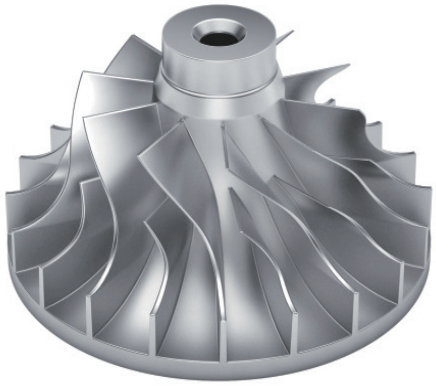
Workpiece name: Turbine blade
Workpiece material: GH80A
Insert: RPM080ER-MM4 AP403S
Cutter: APM00-016-Z02-M10R-RP080-C
Operation: Rough milling Arctransition area
Cutting parameters: Vc=199m/min , ap=1mm , fz=0.35
Coolant supply: Wet

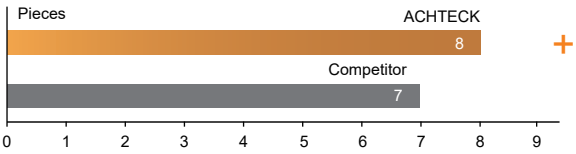


+60%

Comparison: ACHTECK's tool life is 60% higher than competitor's

Workpiece name: Impeller
Workpiece material: GH2132
Insert: RPM 100ER-MM4 AP403S
Cutter: APM00-020-Z02-M10R-RP100-C
Operation: Rough milling flowpath
Cutting parameters: Vc=180m , ap=0.5mm , fz=0.2
Coolant supply: Wet





+10%

Comparison: ACHTECK's tool life is 10% higher than competitor's

Cutting data Recommended

Workpiece Materials				Achteck Milling Grade Application Ranges									Cutting depth and feed		
ISO	Material classification	Tensile strength (N/mm²)	Hardness (HB)	AP401U			AP351M			AP403S			APM00-RPM		
				PVD			PVD			PVD					
				P15-35			P30-45			-					
				M15-35			M25-35			M25-35			Cutter diameter		
				-			-			-			Φ16		Φ20
				-			-			S20-30			apmax		apmax
				-			S30-45			-			0.2-11		0.2-15
				-			-			-			Geometry		
				ae/ Dc									MM4		
				1/10	1/5	1/1	1/10	1/5	1/1	1/10	1/5	1/1	Min	-	Max
				Cutting speed(m/min)									Feed(mm/z)		
P	Non-alloyed steel	<600	<180	450	340	290	230	205	170				0.1	-	0.2
		<950	<280	320	240	200	200	180	160				0.1	-	0.2
	Alloyed steel	700-950	200-280	290	210	185	200	155	110				0.1	-	0.18
		950-1200	280-355	280	210	200	180	130	90				0.1	-	0.18
		1200-1400	355-415	210	170	110	140	105	70				0.1	-	0.18
M	Duplex stainless steel	778	230	165	150	130	270	215	155				0.1	-	0.18
	Austenitic stainless steel	675	200	270	185	90	260	180	90				0.1	-	0.16
	Precipitation-hardening stainless steel	1013	300	300	225	165	170	150	110				0.1	-	0.16
S	Fe based alloy	943	280				45	40	30	50	40	30	0.06	-	0.12
	Co based alloy	1076	320				45	40	30	45	38	30	0.06	-	0.12
	Ni based alloy	1177	350				45	40	30	45	38	30	0.06	-	0.12
	Ti-alloy	1262	370				100	70	45	100	75	30	0.06	-	0.12
H	Hardened steel	-	48-55HRC												
	Chilled cast iron	-	55HRC												

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, work piece clamping and coolant. Average chip thinckness(hm = fz x Sin KappaR)