ACHTECK

2026.10

ACHTECK Aerospace Aluminum Alloy End Mills Pro Series ——M247

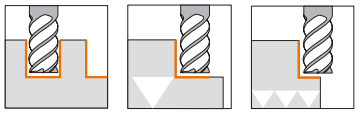
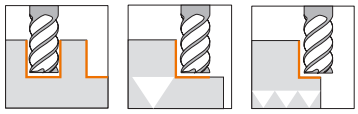
High-efficiency machining for ISO N material group



NO. 122

www.achtecktool.com

Product Overview Of M247 Series Endmills

Category	PRO	PRO
Machining Application		
Geomtry	2RS/2RL	3RS/3RL
Illustration		
Diameter Range（mm）	6-20	16-20
No. of Teeth	2	3
Length	S/L	S/L
Shank type	Cylindrical	Cylindrical
Product Features	Suitable for high-speed machining of aerospace aluminum alloy; excellent vibration resistance and dynamic balance.	
P		
M		
K		
N	●●	●●
S		
H		

Icon Description

Icon	Description
	Slot And Square Shoulder Milling
	Square Shoulder Rough Milling
	Square Shoulder Finsih Milling
	High-Feed Milling
	Dynamic Milling Cycloid Milling
	Profifile Milling
	Chamfering & Deburring

Icon	Description
AlTiN	AlTiN Coating
AlCrN	AlCrN Coating
UN	Uncoated
AlTiN /ZrN	AlTiN+ZrN Coating
AlTiSiN	AlTiSiN Coating
HA DIN 6535	Cylindrical Shank
HB DIN 6535	Weldon Shank

Icon	Description
	30° Helix Angle
	35° Helix Angle
	35° /38° Helix Angle
	36° /38° Helix Angle
	40° Helix Angle
	37° /39° /41° Helix Angle
	45° Helix Angle

Icon	Description
	Square
	Round Corner
	Ball Nose
	Corner Chamfer
	Chamfer
	Waved Edge

Solid Carbide End Mill Denomination System

M	2	47	-	2	R	S	-	160	010	N
1	2	3	-	4	5	6	-	7	8	9

1- Tool Category
M milling cutter

2- Gen.
1
2

3- Series
00-09 Universal milling (45HRC)
10-19 High-efficiency universal milling
20-29 High-performance milling
30-39 Steel-specific milling
40-49 Aluminum milling
50-59 S.S. milling
60-69 Hard-to-cut materials milling
70-79 Harden steel milling
80-99 Others

4-Number of teeth
2,3,4,5,6……

5- Tool Type
E Flat end
B Ball nose
R Corner radius
C Chamfer
P Wavy edge
W Form milling
T Tapered
H High-feed

6- Length Standard
S Standard
L Long
X Extra-long
A Ultra-long
SN Shortened flute
SP Extended flute
LP Long & extended flute

7- Tool Diameter
060=6.0mm
200=20.0mm

8- Corner Radius
002=0.2mm

9- Structure Type
N Straight neck
C Tapered neck
W Side lock shank
P Special shank dia.
Default: Standard necking

ACHTECK M247 Series Endmills

Tool Information

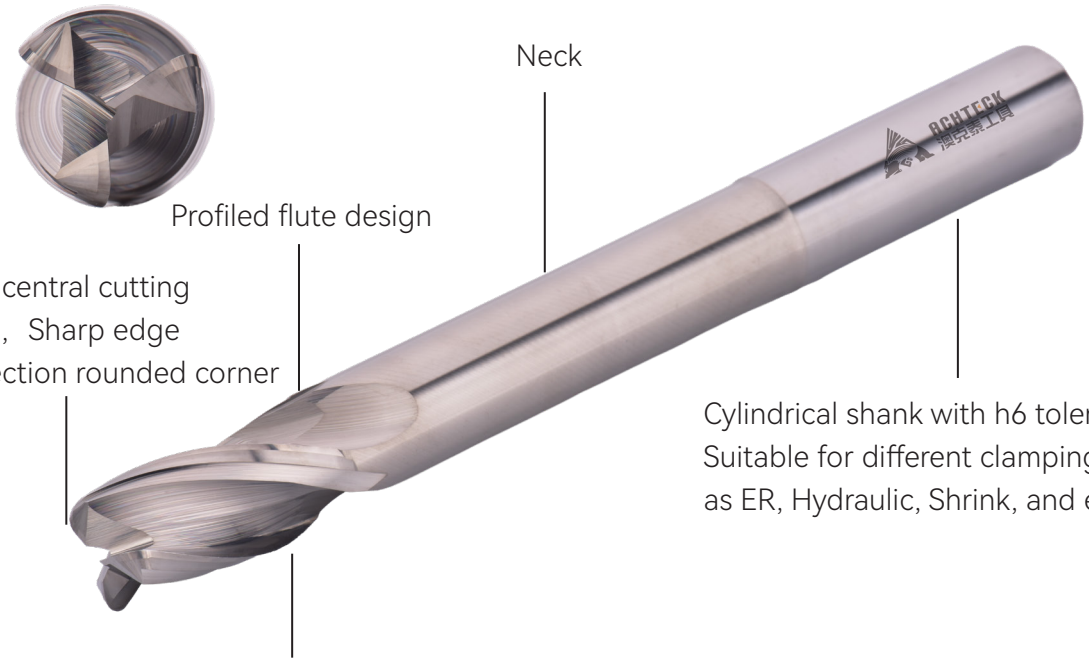
Solid carbide end mills Pro line

- Metric
- 2 Geometry, 42 Items
- Corner radius
- 2 flutes，3 flutes
- Cutting diameter range D6-D20 mm

Application

- ISO material group: N
- Side milling, Slot milling, Pocket milling, Helical interpolated milling, Ramp milling
- Application industry: Aerospace

M247 Aerospace Aluminum Alloy End Mills



M247 Aerospace Aluminum Alloy End Mills

Applications & Machining Challenges

- **General milling of aerospace aluminum alloy.** The highly ductile material is prone to adhesion, built-up edge (BUE) formation and edge chipping; frequent tool changes reduce productivity.
- **Finish machining of aerospace structural components.** For machining pockets, thin walls and frames, tools are prone to built-up edge (BUE) and scratching the workpiece.
- **Milling of pockets, deep slots and thin walls.** Long, curled chips and poor chip evacuation can scratch the workpiece and damage the cutting edge.
- **Mass production of aerospace parts.** High-efficiency, high-speed cutting is required, but poorly matched tools limit machine efficiency.

Product Solution

- **Ultra-fine WC grain cemented carbide substrate.** Wear-resistant and chipping-resistant, optimized for aerospace aluminum alloy machining.
- **Dedicated geometry for aerospace aluminum cutting tools.** Low cutting resistance, suppressed built-up edge (BUE), reduced chatter in thin-wall machining, and consistent surface quality.
- **Precision helical flute structure.** Precision-ground and polished, with auxiliary flute that ensure smooth chip evacuation and keep chips from scratching the workpiece.
- **High-speed machine compatible.** Rated for 20,000 RPM with tool balancing grade G2.5, suitable for high-speed and high-feed machining.

Customer Benefits

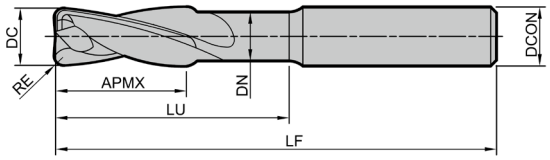
- **Improved stability.** Reduced edge chipping and fewer tool changes; suitable for continuous mass production.
- **Superior surface finish.** Suppresses BUE, chatter marks and scratches, cutting scrap and rework.
- **High production efficiency.** Smooth chip evacuation fully leverages the performance of high-speed machines and shortens cycle times.
- **Lower overall cost.** Consistent tool life, uncoated tools provide production cost advantages.

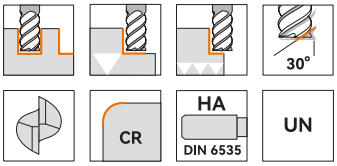
End Mills M247

Pro line
End mills with 2 flutes
(Corner radius)

P	M	K	N	S	H
			●●		

●● 1st choice ● 2nd choice





Product code	Dimension (mm)							ZEFP	Stock
	DC	DCON	RE	APMX	DN	LU	LF		
M247-2RS-060010N	6	6	1	10	5.7	24	60	2	○
M247-2RS-080010N	8	8	1	10	7.6	32	75	2	○
M247-2RS-100010N	10	10	1	12	9.5	35	75	2	●
M247-2RS-100020N	10	10	2	12	9.5	35	75	2	○
M247-2RS-100030N	10	10	3	12	9.5	35	75	2	●
M247-2RS-120010N	12	12	1	14	11.4	42	90	2	○
M247-2RS-120020N	12	12	2	14	11.4	42	90	2	○
M247-2RS-120030N	12	12	3	14	11.4	42	90	2	●
M247-2RS-160010N	16	16	1	18	15.2	52	100	2	●
M247-2RS-160020N	16	16	2	18	15.2	52	100	2	○
M247-2RS-160030N	16	16	3	18	15.2	52	100	2	●
M247-2RS-200010N	20	20	1	24	19	62	110	2	○
M247-2RS-200030N	20	20	3	24	19	62	110	2	○
M247-2RS-200050N	20	20	5	24	19	62	110	2	○

Product code	Dimension (mm)							ZEFP	Stock
	DC	DCON	RE	APMX	DN	LU	LF		
M247-2RL-060010N	6	6	1	10	5.7	42	80	2	●
M247-2RL-080010N	8	8	1	10	7.6	52	90	2	●
M247-2RL-100010N	10	10	1	12	9.5	50	90	2	●
M247-2RL-100020N	10	10	2	12	9.5	50	90	2	●
M247-2RL-100030N	10	10	3	12	9.5	50	90	2	●
M247-2RL-120010N	12	12	1	14	11.4	60	110	2	●
M247-2RL-120020N	12	12	2	14	11.4	60	110	2	●
M247-2RL-120030N	12	12	3	14	11.4	60	110	2	●
M247-2RL-160010N	16	16	1	18	15.2	80	130	2	●
M247-2RL-160020N	16	16	2	18	15.2	80	130	2	●
M247-2RL-160030N	16	16	3	18	15.2	80	130	2	●
M247-2RL-200010N	20	20	1	24	19	90	140	2	●
M247-2RL-200030N	20	20	3	24	19	90	140	2	●
M247-2RL-200050N	20	20	5	24	19	90	140	2	●

DC	Tolerance
6 ≤ DC ≤ 20	0 -0.03

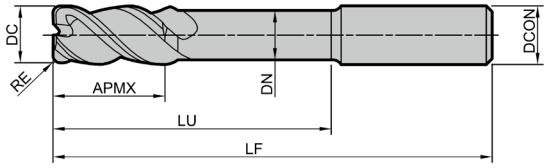
● : Standard stock ○ : Made-to-Order

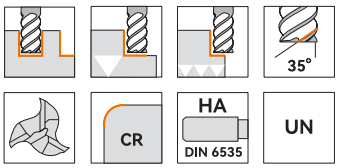
End Mills M247

Pro line
End mills with 3 flutes
(Corner radius)

P	M	K	N	S	H
			••		

•• 1st choice • 2nd choice





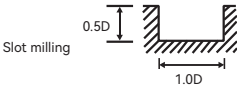
Product code	Dimension (mm)							ZEFP	Stock
	DC	DCON	RE	APMX	DN	LU	LF		
M247-3RS-160010N	16	16	1	18	15.2	52	100	3	●
M247-3RS-160020N	16	16	2	18	15.2	52	100	3	○
M247-3RS-160030N	16	16	3	18	15.2	52	100	3	●
M247-3RS-200010N	20	20	1	24	19	62	110	3	○
M247-3RS-200020N	20	20	2	24	19	62	110	3	○
M247-3RS-200030N	20	20	3	24	19	62	110	3	○
M247-3RS-200050N	20	20	5	24	19	62	110	3	○

Product code	Dimension (mm)							ZEFP	Stock
	DC	DCON	RE	APMX	DN	LU	LF		
M247-3RL-160010N	16	16	1	18	15.2	80	130	3	●
M247-3RL-160020N	16	16	2	18	15.2	80	130	3	●
M247-3RL-160030N	16	16	3	18	15.2	80	130	3	●
M247-3RL-200010N	20	20	1	24	19	90	140	3	●
M247-3RL-200020N	20	20	2	24	19	90	140	3	●
M247-3RL-200030N	20	20	3	24	19	90	140	3	●
M247-3RL-200050N	20	20	5	24	19	90	140	3	●

DC	Tolerance
6 ≤ DC ≤ 20	0 -0.03

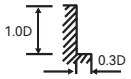
● : Standard stock ○ : Made-to-Order

Solid Carbide End Mill M247 Cutting Data Recommendation

Materials						M247-2RS,M247-2RL M247-3RS,M247-3RL Slot milling 						
ISO	Workpiece Materials			Brinell Hardness(HB)	Tensile strength (N/mm^2)	Cutting speed Vc(m/min)	fz [mm/Tooth] Mill diameter [mm]					
							6	8	10	12	16	20
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428							
		0.25 %< C ≤ 0.55%	Annealed	190	639							
		0.25% < C ≤ 0.55%	Heat-treated	210	708							
		C > 0.55%	Annealed	190	639							
		C > 0.55%	Heat-treated	300	1013							
		Free cutting steel	Annealed	220	745							
	Low-alloyed steel	Annealed		175	591							
		Heat-treated		300	1013							
		Heat-treated		380	1282							
		Heat-treated		430	1477							
	High-alloyed steel and highalloyed tool steel	Annealed		200	675							
		Hardened and tempered		300	1013							
		Hardened and tempered		400	1361							
	Stainless steels	Ferritic/Martensite,Annealed		200	675							
		Martensite,Heat-treated		330	1114							
M	Stainless steels	Austenitic,hardened		200	675							
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013							
		Austenitic,ferritic,duplex		230	778							
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-	300-600	0.060	0.080	0.100	0.120	0.160	0.200
		Aged alloy		100	340	300-550	0.060	0.080	0.100	0.120	0.160	0.200
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260	300-500	0.060	0.080	0.100	0.120	0.160	0.200
		≤ 12% Si, aged alloy		90	310	300-500	0.060	0.080	0.100	0.120	0.160	0.200
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy(bronze/ brass)	Unalloyed,electrolytic copper		100	340							
		Brass,bronze,red brass		90	310							
		Cu alloy,short chip		110	380							
		High tensile,Ampco alloy		300	1010							
S	Superalloy	Fe-based	Annealed	200	680							
			Aged	280	940							
		Ni or Co based	Annealed	250	840							
			Aged	350	1180							
			Cast	320	1080							
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260							
		β alloy		410	1400							
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC	-							
		Hardened and tempered		55HRC	-							
		Hardened and tempered		60HRC	-							
	Chilled cast iron	Hardened and tempered		55HRC	-							

The cutting data are average recommended values. For special applications, adjustment is needed.

Solid Carbide End Mill M247 Cutting Data Recommendation

Materials						M247-2RS,M247-2RL M247-3RS,M247-3RL	Square shoulder milling 					
ISO	Workpiece Materials			Brinell Hardness(HB)	Tensile strength (N/mm^2)	Cutting speed Vc(m/min)	fz [mm/Tooth] Mill diameter [mm]					
							6	8	10	12	16	20
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428							
		0.25%<C ≤ 0.55%	Annealed	190	639							
		0.25 %<C ≤ 0.55%	Heat-treated	210	708							
		C>0.55%	Annealed	190	639							
		C>0.55%	Heat-treated	300	1013							
		Free cutting steel	Annealed	220	745							
	Low-alloyed steel	Annealed		175	591							
		Heat-treated		300	1013							
		Heat-treated		380	1282							
		Heat-treated		430	1477							
	High-alloyed steel and highalloyed tool steel	Annealed		200	675							
		Hardened and tempered		300	1013							
		Hardened and tempered		400	1361							
	Stainless steels	Ferritic/Martensite,Annealed		200	675							
		Martensite,Heat-treated		330	1114							
M	Stainless steels	Austenitic,hardened		200	675							
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013							
		Austenitic,ferritic,duplex		230	778							
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-	400-1400	0.120	0.150	0.200	0.220	0.250	0.300
		Aged alloy		100	340	400-1300	0.120	0.150	0.200	0.220	0.250	0.300
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260	400-1200	0.120	0.150	0.200	0.220	0.250	0.300
		≤ 12% Si, aged alloy		90	310	400-1200	0.120	0.150	0.200	0.220	0.250	0.300
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy(bronze/ brass)	Unalloyed,electrolytic copper		100	340							
		Brass,bronze,red brass		90	310							
		Cu alloy,short chip		110	380							
		High tensile,Ampco alloy		300	1010							
S	Superalloy	Fe-based	Annealed	200	680							
			Aged	280	940							
		Ni or Co based	Annealed	250	840							
			Aged	350	1180							
			Cast	320	1080							
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260							
		β alloy		410	1400							
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC	-							
		Hardened and tempered		55HRC	-							
		Hardened and tempered		60HRC	-							
	Chilled cast iron	Hardened and tempered		55HRC	-							

The cutting data are average recommended values. For special applications, adjustment is needed.