


CUTTING CONDITIONS

Milling | Endmills | Cutting conditions


AE-VTFE-N Applies to square/radius type

Slot Milling


	Aluminum Alloy Expanding Material • Magnesium Alloy A5052 • A7075 • AZ91• AZ80A		Aluminum Alloy Casting AC4C • ADC		Copper Alloy C1100							
Vc (m/min)	200		200		100							
DC	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)						
6	8.490	1.530	8.490	1.530	4.250	640						
8	6.370	1.150	6.370	1.150	3.180	480						
10	6.370	1.910	6.370	1.910	3.180	760						
12	5.310	1.910	5.310	1.910	2.650	640						
14	4.550	1.640	4.550	1.640	2.270	540						
18	3.540	1.270	3.540	1.270	1.770	420						
22	2.900	1.040	2.900	1.040	1.450	350						
Depth of cut	<table><tr><td></td><td>ap</td></tr><tr><td>DC≤Ø10</td><td>0,1D</td></tr><tr><td>10<DC</td><td>0,2D</td></tr></table>							ap	DC≤Ø10	0,1D	10<DC	0,2D
								ap				
							DC≤Ø10	0,1D				
10<DC	0,2D											
<p>1. The above milling condition is a guideline for the overhang length is 5×D.</p> <p>2. Use a rigid and precise machine and holder.</p> <p>3. The indicated speeds and feeds are for milling with water-soluble coolant.</p> <p>4. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.</p> <p>5. Reduce speed and feed as well as depth of cut when high precision is required.</p> <p>6. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to p.34).</p> <p>7. When the chips wind around the end mill, reduce the speed and feed.</p> <p>8. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.</p>												

AE-VTFE-N Applies to square/radius type

Side Milling

	Aluminum Alloy Expanding Material • Magnesium Alloy A5052 • A7075 • AZ91• AZ80A		Aluminum Alloy Casting AC4C • ADC		Copper Alloy C1100					
Vc (m/min)	300		300		150					
DC	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)	S (min ⁻¹)	F (mm/min)				
6	15.920	2.870	15.920	2.870	7.960	1.190				
8	11.940	2.150	11.940	2.150	5.970	1.070				
10	9.550	2.870	9.550	2.870	4.780	1.000				
12	7.960	2.870	7.960	2.870	3.980	960				
14	6.820	2.460	6.820	2.460	3.410	820				
18	5.310	1.910	5.310	1.910	2.650	640				
22	4.340	1.560	4.340	1.560	2.170	520				
Depth of cut	<table><tr><td>ap</td><td>ae</td></tr><tr><td>2D</td><td>0,1D</td></tr></table>						ap	ae	2D	0,1D
ap	ae									
2D	0,1D									
<div>1. The above milling condition is a guideline for the overhang length is 5×D.</div> <div>2. Use a rigid and precise machine and holder.</div> <div>3. The indicated speeds and feeds are for milling with water-soluble coolant.</div> <div>4. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.</div> <div>5. Reduce speed and feed as well as depth of cut when high precision is required.</div> <div>6. Adjust the speed and feed accordingly when the overhang length is longer than specified (refer to p.34).</div> <div>7. When the chips wind around the end mill, reduce the speed and feed.</div> <div>8. Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.</div>										

Cutting Condition Guide for Changes in Overhang Length

	Work Material	Aluminum Alloy Expanding Material • Magnesium Alloy A5052 • A7075 • AZ91• AZ80A				Aluminum Alloy Casting AC4C • ADC				Copper Alloy C1100			
		L/D	S (min ⁻¹)	F (mm/min)	Depth of Cut		S (min ⁻¹)	F (mm/min)	Depth of Cut		S (min ⁻¹)	F (mm/min)	Depth of Cut
	ap				ae	ap			ae	ap			ae
Slot milling	6	50%	50%	0,015D	-	50%	50%	0,015D	-	50%	50%	0,015D	-
	7	30%	20%	0,01D	-	30%	20%	0,01D	-	30%	20%	0,01D	-
Side milling	6	65%	60%	2D	0,05D	65%	60%	2D	0,05D	90%	90%	2D	0,05D
	7	55%	50%	2D	0,03D	55%	50%	2D	0,03D	70%	70%	2D	0,03D
	8	45%	45%	2D	0,025D	45%	45%	2D	0,025D	65%	65%	2D	0,01D