

List 8365, 8735, 8675, 8775

Slotting

Work Material	Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100			
Cutting Speed	600 - 1700 SFM		600 - 1700 SFM		400 - 1000 SFM			
Depth of Cut	$d_a=1xD$				$d_a=0.5xD$			
Mill Dia.	Speed		Feed		Speed		Feed	
	Inch	mm	RPM	in/min	RPM	in/min	RPM	in/min
-	1	25,000	25.0	25,000	25.0	25,000	25.0	
-	1.5	25,000	37.5	25,000	37.5	25,000	37.5	
-	2	25,000	50.0	25,000	50.0	25,000	50.0	
-	2.5	25,000	62.5	25,000	62.5	25,000	62.5	
-	3	25,000	79.7	25,000	79.7	22,600	72.1	
1/8	-	25,000	88.6	25,000	88.6	21,400	75.8	
-	4	25,000	102.8	25,000	102.8	17,000	69.9	
3/16	-	25,000	118.1	25,000	118.1	14,200	67.1	
-	5	25,000	128.4	25,000	128.4	13,600	69.9	
-	6	21,000	129.5	21,000	129.5	11,300	69.7	
1/4	-	19,800	128.6	19,800	128.6	10,700	69.5	
5/16	-	15,900	131.5	15,900	131.5	8,500	70.3	
-	8	15,800	129.9	15,800	129.9	8,500	69.9	
3/8	-	13,200	124.7	13,200	124.7	7,100	67.1	
-	10	12,600	129.5	12,600	129.5	6,800	69.9	
-	12	10,500	129.5	10,500	129.5	5,700	70.3	
1/2	-	9,900	128.6	9,900	128.6	5,300	68.9	
5/8	-	8,000	132.0	8,000	132.0	4,300	71.0	
-	16	7,900	131.4	7,900	131.4	4,300	71.5	
3/4	-	6,700	129.6	6,700	129.6	3,600	69.7	
-	20	6,400	131.5	6,400	131.5	3,400	69.9	
-	25	5,100	128.0	5,100	128.0	2,800	70.3	
1	-	5,000	127.5	5,000	127.5	2,700	68.9	

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Adjust the speed and feed accordingly when the overhang length is longer than specified (Refer to page 23).
6. 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.



A Brand AE-TS-N

DLC Coated Carbide End Mills for Non-Ferrous Materials

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Side Milling

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		800 - 2200 SFM		800 - 2200 SFM		600 - 1200 SFM	
Depth of Cut		$\bar{a}_a=1.5xD$ $\bar{a}_r=0.2xD$					
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm						
-	1	25,000	25.0	25,000	25.0	25,000	25.0
-	1.5	25,000	37.5	25,000	37.5	25,000	37.5
-	2	25,000	50.0	25,000	50.0	25,000	50.0
-	2.5	25,000	62.5	25,000	62.5	25,000	62.5
-	3	25,000	79.7	25,000	79.7	25,000	79.7
1/8	-	25,000	88.6	25,000	88.6	25,000	88.6
-	4	25,000	102.8	25,000	102.8	21,800	89.6
3/16	-	25,000	118.1	25,000	118.1	18,300	86.5
-	5	25,000	128.4	25,000	128.4	17,500	89.9
-	6	25,000	154.1	25,000	154.1	14,500	89.4
1/4	-	25,000	162.4	25,000	162.4	13,700	89.0
5/16	-	20,800	172.0	20,800	172.0	11,000	90.9
-	8	20,600	169.3	20,600	169.3	10,900	89.6
3/8	-	17,300	163.5	17,300	163.5	9,200	86.9
-	10	16,500	169.5	16,500	169.5	8,700	89.4
-	12	13,700	168.9	13,700	168.9	7,300	90.0
1/2	-	13,000	168.9	13,000	168.9	6,900	89.7
5/8	-	10,100	166.7	10,100	166.7	5,500	90.8
-	16	10,000	166.3	10,000	166.3	5,500	91.5
3/4	-	8,400	162.5	8,400	162.5	4,600	89.0
-	20	8,000	164.4	8,000	164.4	4,400	90.4
-	25	6,400	160.6	6,400	160.6	3,500	87.8
1	-	6,300	160.7	6,300	160.7	3,500	89.3

1. Use a rigid and precise machine and holder.
2. The indicated speeds and feeds are for milling with water-soluble coolant.
3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Adjust the speed and feed accordingly when the overhang length is longer than specified (Refer to page 23).
6. 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.



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Plunging

Work Material		Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
Cutting Speed		260 SFM		260 SFM		200 SFM	
Depth of Cut		$a_a=1xD$				$a_a=0.5xD$	
Mill Dia.		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Inch	mm						
-	1	25000	14.8	25000	14.8	25000	8.9
-	1.5	16900	15.0	16900	15.0	13000	6.9
-	2	12700	15.0	12700	15.0	9700	6.9
-	2.5	10100	14.9	10100	14.9	7800	6.9
-	3	8500	15.1	8500	15.1	6500	6.9
1/8	-	8000	15.0	8000	15.0	6200	7.0
-	4	6400	15.1	6400	15.1	4900	6.9
3/16	-	5300	14.9	5300	14.9	4100	6.9
-	5	5100	15.1	5100	15.1	3900	6.9
-	6	4300	15.2	4300	15.2	3300	7.0
1/4	-	4000	15.0	4000	15.0	3100	7.0
5/16	-	3200	15.0	3200	15.0	2500	7.0
-	8	3200	15.1	3200	15.1	2500	7.1
3/8	-	2700	15.2	2700	15.2	2100	7.1
-	10	2600	15.4	2600	15.4	2000	7.1
-	12	2200	15.6	2200	15.6	1700	7.2
1/2	-	2000	15.0	2000	15.0	1600	7.2
5/8	-	1600	15.0	1600	15.0	1300	7.3
-	16	1600	15.1	1600	15.1	1300	7.4
3/4	-	1400	15.8	1400	15.8	1100	7.4
-	20	1300	15.4	1300	15.4	1000	7.1
-	25	1100	16.2	1100	16.2	800	7.1
1	-	1000	15.0	1000	15.0	800	7.2

1. Use a rigid and precise machine and holder.
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3. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
4. Reduce speed and feed as well as depth of cut when high precision is required.
5. Adjust the speed and feed accordingly when the overhang length is longer than specified (Refer to page 23).
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Cutting Condition Guide for Changes in Overhang Length

	Work Material	Aluminum Alloys, Magnesium Alloys A5052, A6061, A7075, AZ91, AZ80A		Aluminum Alloy Casting AC4C, ADC		Copper Alloy C1100	
	L/D	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
Slotting	5		70%		70%		70%
	6		40%		40%		40%
Side Milling	5		70%		70%		70%
	6		50%		50%		50%
Plunging	5		80%		80%		80%
	6		60%		60%		60%