



List 6501 - A Brand ADO-MICRO: 2D List 6502 - A Brand ADO-MICRO: 5D

General Drilling Operations

Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		300 Series Austenitic Stainless Steels		400 Series Ferritic Stainless Steels Martensitic Stainless Steels		High Heat Material			
	65-195 SFM		65-195 SFM		65-195 SFM		80-145 SFM		Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed	65-195 SFM		65-195 SFM		65-195 SFM		80-145 SFM		130-195 SFM		15-50 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
	0.7	18,200	0.0003-0.0008	18,200	0.0006-0.0011	13,600	0.0003-0.0008	15,900	0.0003-0.0008	22,700	0.0004-0.0007	4,500
1	12,700	0.0004-0.0012	12,700	0.0008-0.0016	9,500	0.0004-0.0012	11,100	0.0004-0.0012	15,900	0.0006-0.001	3,200	0.0002-0.0008
1.5	8,500	0.0006-0.0018	8,500	0.0012-0.0024	6,400	0.0006-0.0018	7,400	0.0006-0.0018	10,600	0.001-0.0015	2,100	0.0003-0.0012
2	6,400	0.0008-0.0024	6,400	0.0016-0.0031	4,800	0.0008-0.0024	5,600	0.0008-0.0024	8,000	0.0012-0.002	1,600	0.0004-0.0016

General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Aluminum Alloy 5025,7075		Cast Aluminum		Special Alloy Steels, Hardened Steels			
	130-195 SFM		100-165 SFM		65-195 SFM		65-195 SFM		26-30 HRC		30-34 HRC	
Drilling Speed	130-195 SFM		100-165 SFM		65-195 SFM		65-195 SFM		100-130 SFM		100-130 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
	0.7	22,700	0.0006-0.0011	18,200	0.0006-0.0011	18,200	0.0003-0.0008	22,700	0.0006-0.0017	15,900	0.0006-0.0011	11,500
1	15,900	0.0008-0.0016	12,700	0.0008-0.0016	12,700	0.0004-0.0012	15,900	0.0008-0.0024	11,100	0.0008-0.0016	8,000	0.0008-0.0016
1.5	10,600	0.0012-0.0024	8,500	0.0012-0.0024	8,500	0.0006-0.0018	10,600	0.0012-0.0035	7,400	0.0012-0.0024	5,300	0.0012-0.0024
2	8,000	0.0016-0.0031	6,400	0.0016-0.0031	6,400	0.0008-0.0024	8,000	0.0016-0.0047	5,600	0.0016-0.0031	4,000	0.0016-0.0031

Note:

1. This cutting condition chart is based on the usage of **water-soluble coolant and internal supply**.
2. Please use quality water-soluble coolant with a dilution factor of approximately 20 times, e.g. 5% concentration.
3. Please use a precision filter (rating of 3µm to 5µm) to prevent the oil holes from clogging.
4. Although the recommended coolant pressure is 3 MPa or more, please adjust accordingly if the level of flow volume is unsatisfactory due to the type and concentration of cutting fluid used.
5. For accurate mounting, acceptable deflection of the body cylindrical part at the shank end should be **less than 0.002µm**, as shown in the illustrated figure.
6. For work materials with poor chip evacuation, please perform step drilling as required.
7. 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.

