RECOMMENDED CUTTING CONDITIONS

MVE

Work Material		Mild Steel (≤180HB) AISI 1010 etc.			Carbon Steel, Alloy Steel (180－280HB) AISI 1045, 4140 etc.		
Drill Dia.		Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)	Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)
inch	mm						
.1260	3.2	210	6400	.0039 (.0024－.0051)	195	5900	.0039 (.0024－.0051)
.1575	4.0	230	5500	.0047 (.0031－.0063)	210	5100	.0047 (.0031－.0063)
.1969	5.0	230	4400	.0059 (.0039－.0079)	210	4100	.0059 (.0039－.0079)
.2480	6.3	260	4000	.0079 (.0051－.0102)	245	3700	.0079 (.0051－.0102)
.3150	8.0	280	3300	.0091 (.0071－.0110)	260	3100	.0091 (.0071－.0110)
.3937	10.0	295	2800	.0106 (.0087－.0126)	280	2700	.0106 (.0087－.0126)
.4724	12.0	310	2500	.0122 (.0110－.0134)	295	2300	.0122 (.0110－.0134)
.6299	16.0	330	1900	.0130 (.0110－.0150)	295	1700	.0130 (.0110－.0150)
.7874	20.0	330	1500	.0118 (.0118－.0157)	295	1400	.0118 (.0118－.0157)

Work Material		Carbon Steel, Alloy Steel (280－350HB) AISI 4340 etc.			Austenitic Stainless Steel (≤200HB) AISI 304, 316 etc.		
Drill Dia.		Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)	Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)
inch	mm						
.1260	3.2	180	5400	.0035 (.0024－.0047)	65	1900	.0028 (.0020－.0031)
.1575	4.0	195	4700	.0043 (.0028－.0055)	65	1500	.0031 (.0024－.0039)
.1969	5.0	195	3800	.0055 (.0035－.0071)	65	1200	.0039 (.0028－.0051)
.2480	6.3	230	3500	.0071 (.0043－.0094)	80	1200	.0051 (.0035－.0067)
.3150	8.0	245	2900	.0083 (.0063－.0098)	80	900	.0055 (.0039－.0071)
.3937	10.0	260	2500	.0091 (.0075－.0106)	80	700	.0063 (.0047－.0075)
.4724	12.0	280	2200	.0102 (.0091－.0114)	80	600	.0071 (.0059－.0079)
.6299	16.0	280	1600	.0114 (.0094－.0130)	80	400	.0075 (.0059－.0091)
.7874	20.0	280	1300	.0118 (.0102－.0134)	80	300	.0079 (.0059－.0094)

Work Material		Gray Cast Iron (≤350MPa) No45B etc.			Ductile Cast Iron (≤450MPa) 60-40-8 etc.		
Drill Dia.		Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)	Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.－Max.) (IPR)
inch	mm						
.1260	3.2	230	6900	.0039 (.0024－.0051)	210	6400	.0039 (.0024－.0051)
.1575	4.0	230	5500	.0047 (.0031－.0063)	210	5100	.0047 (.0031－.0063)
.1969	5.0	230	4400	.0059 (.0039－.0079)	210	4100	.0059 (.0039－.0079)
.2480	6.3	245	3700	.0079 (.0051－.0102)	230	3500	.0079 (.0051－.0102)
.3150	8.0	245	2900	.0098 (.0071－.0122)	230	2700	.0091 (.0071－.0110)
.3937	10.0	245	2300	.0114 (.0087－.0138)	230	2200	.0106 (.0087－.0126)
.4724	12.0	260	2100	.0130 (.0110－.0146)	245	1900	.0122 (.0110－.0134)
.6299	16.0	260	1500	.0138 (.0110－.0165)	245	1400	.0130 (.0110－.0150)
.7874	20.0	280	1300	.0146 (.0118－.0173)	260	1200	.0138 (.0118－.0157)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.

RECOMMENDED CUTTING CONDITIONS

MVE

Work Material		Aluminium Alloy (Si<5%) ASTM A6061, 7075 etc.			Heat Resistant Alloy Inconel718 etc.		
Drill Dia.		Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.—Max.) (IPR)	Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.—Max.) (IPR)
inch	mm						
.1260	3.2	260	7900	.0039 (.0024—.0051)	65	1900	.0028 (.0020—.0035)
.1575	4.0	260	6300	.0047 (.0031—.0063)	65	1500	.0035 (.0024—.0043)
.1969	5.0	260	5000	.0059 (.0039—.0079)	65	1200	.0043 (.0031—.0055)
.2480	6.3	295	4500	.0079 (.0051—.0102)	80	1200	.0055 (.0035—.0075)
.3150	8.0	295	3500	.0091 (.0071—.0110)	80	900	.0055 (.0043—.0067)
.3937	10.0	295	2800	.0106 (.0087—.0126)	80	700	.0063 (.0047—.0075)
.4724	12.0	330	2600	.0122 (.0110—.0134)	80	600	.0063 (.0051—.0071)
.6299	16.0	330	1900	.0130 (.0110—.0150)	80	400	.0071 (.0055—.0083)
.7874	20.0	360	1700	.0138 (.0118—.0157)	100	400	.0075 (.0059—.0087)

Work Material		Hardened Steel (40—55HRC) AISI H13, L6 etc.		
Drill Dia.		Cutting Speed (SFM)	Revolution (RPM)	Feed (Min.—Max.) (IPR)
inch	mm			
.1260	3.2	65	1900	.0028 (.0020—.0035)
.1575	4.0	65	1500	.0035 (.0024—.0043)
.1969	5.0	65	1200	.0043 (.0031—.0055)
.2480	6.3	80	1200	.0055 (.0035—.0075)
.3150	8.0	80	900	.0055 (.0043—.0067)
.3937	10.0	80	700	.0063 (.0047—.0075)
.4724	12.0	80	600	.0063 (.0051—.0071)
.6299	16.0	80	400	.0071 (.0055—.0083)
.7874	20.0	100	400	.0075 (.0059—.0087)

(Note) For the spindle revolution of diameters not shown in the table, please adjust to the conditions of larger and closest diameter, or calculate from the cutting speed of the closest diameter. For the feed rate per revolution, please set up within the recommended feed rate of the closest diameter appropriately.