

RECOMMENDED CUTTING CONDITIONS

MWE

Work Material		Mild Steel ($\leq 180\text{HB}$)		Carbon Steel, Alloy Steel (180—280HB)	
		AISI 1010 etc.		AISI 1045, 4140 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	3.0	215 (165—230)	.0039 (.0024—.0051)	195 (150—215)	.0039 (.0024—.0051)
.1575	4.0	230 (180—245)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	5.0	230 (180—245)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	6.3	260 (195—280)	.0079 (.0051—.0102)	245 (195—260)	.0079 (.0051—.0102)
.3150	8.0	280 (215—295)	.0091 (.0071—.0110)	260 (195—280)	.0091 (.0071—.0110)
.3937	10.0	295 (230—310)	.0106 (.0087—.0126)	280 (215—295)	.0106 (.0087—.0126)
.4724	12.0	310 (245—330)	.0122 (.0110—.0134)	295 (230—310)	.0122 (.0110—.0134)
.6299	16.0	330 (260—360)	.0130 (.0110—.0150)	295 (230—310)	.0130 (.0110—.0150)
.7874	20.0	330 (260—360)	.0138 (.0118—.0157)	295 (230—310)	.0138 (.0118—.0157)

Work Material		Carbon Steel, Alloy Steel (280—350HB)		Austenitic Stainless Steel ($\leq 200\text{HB}$)	
		AISI 4340 etc.		AISI 304, 316 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	3.0	180 (130—195)	.0035 (.0024—.0047)	65 (50—80)	.0028 (.0020—.0031)
.1575	4.0	195 (150—215)	.0043 (.0028—.0055)	65 (50—80)	.0031 (.0024—.0039)
.1969	5.0	195 (150—215)	.0055 (.0035—.0071)	65 (50—80)	.0039 (.0028—.0051)
.2480	6.3	230 (180—245)	.0071 (.0043—.0094)	80 (65—100)	.0051 (.0035—.0067)
.3150	8.0	245 (195—260)	.0083 (.0063—.0098)	80 (65—100)	.0055 (.0039—.0071)
.3937	10.0	260 (195—280)	.0091 (.0075—.0106)	80 (65—100)	.0063 (.0047—.0075)
.4724	12.0	280 (215—295)	.0102 (.0091—.0114)	80 (65—100)	.0071 (.0059—.0079)
.6299	16.0	280 (215—295)	.0114 (.0094—.0130)	80 (65—100)	.0075 (.0059—.0091)
.7874	20.0	280 (215—295)	.0118 (.0102—.0134)	80 (65—100)	.0079 (.0059—.0094)

(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

MWE

Work Material		Gray Cast Iron ($\leq 350\text{MPa}$)		Ductile Cast Iron ($\leq 450\text{MPa}$)	
		No45B etc.		60-40-8 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	3.0	230 (180—245)	.0039 (.0024—.0051)	215 (165—230)	.0039 (.0024—.0051)
.1575	4.0	230 (180—245)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	5.0	230 (180—245)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	6.3	245 (195—260)	.0079 (.0051—.0102)	230 (180—245)	.0079 (.0051—.0102)
.3150	8.0	245 (195—260)	.0098 (.0071—.0122)	230 (180—245)	.0091 (.0071—.0110)
.3937	10.0	245 (195—260)	.0114 (.0087—.0138)	230 (180—245)	.0106 (.0087—.0126)
.4724	12.0	260 (195—280)	.0130 (.0110—.0146)	245 (195—260)	.0122 (.0110—.0134)
.6299	16.0	260 (195—280)	.0138 (.0110—.0165)	245 (195—260)	.0130 (.0110—.0150)
.7874	20.0	280 (215—295)	.0146 (.0118—.0173)	260 (195—280)	.0138 (.0118—.0157)

Work Material		Aluminium Alloy (Si<5%)		Heat Resistant Alloy	
		ASTM A6061, A7075 etc.		Inconel718 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.1181	3.0	260 (195—280)	.0039 (.0024—.0051)	65 (50—80)	.0028 (.0020—.0035)
.1575	4.0	260 (195—280)	.0047 (.0031—.0063)	65 (50—80)	.0035 (.0024—.0043)
.1969	5.0	260 (195—280)	.0059 (.0039—.0079)	65 (50—80)	.0043 (.0031—.0055)
.2480	6.3	295 (230—310)	.0079 (.0051—.0102)	80 (65—100)	.0055 (.0035—.0075)
.3150	8.0	295 (230—310)	.0091 (.0071—.0110)	80 (65—100)	.0055 (.0043—.0067)
.3937	10.0	295 (230—310)	.0106 (.0087—.0126)	80 (65—100)	.0063 (.0047—.0075)
.4724	12.0	330 (260—360)	.0122 (.0110—.0134)	80 (65—100)	.0063 (.0051—.0071)
.6299	16.0	330 (260—360)	.0130 (.0110—.0150)	80 (65—100)	.0071 (.0055—.0083)
.7874	20.0	360 (280—395)	.0138 (.0118—.0157)	100 (65—115)	.0075 (.0059—.0087)

Work Material		Hardened Steel (40—55HRC)	
		AISI H13, L6 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm		
.1181	3.0	65 (50—80)	.0028 (.0020—.0035)
.1575	4.0	65 (50—80)	.0035 (.0024—.0043)
.1969	5.0	65 (50—80)	.0043 (.0031—.0055)
.2480	6.3	80 (65—100)	.0055 (.0035—.0075)
.3150	8.0	80 (65—100)	.0055 (.0043—.0067)
.3937	10.0	80 (65—100)	.0063 (.0047—.0075)
.4724	12.0	80 (65—100)	.0063 (.0051—.0071)
.6299	16.0	80 (65—100)	.0071 (.0055—.0083)
.7874	20.0	100 (65—115)	.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.

RECOMMENDED CUTTING CONDITIONS

MWS SB/MB/LB/XB/DB Type (l/d<10)

Work Material		Mild Steel (≤180HB)		Carbon Steel, Alloy Steel (180—280HB)	
		AISI 1010 etc.		AISI 1045, 4140 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	0.50	130 (100—150)	.0004 (.0002—.0006)	130 (100—150)	.0004 (.0002—.0006)
.0248	0.63	130 (100—150)	.0006 (.0003—.0008)	130 (100—150)	.0006 (.0003—.0008)
.0315	0.80	150 (115—165)	.0011 (.0006—.0016)	150 (115—165)	.0011 (.0006—.0016)
.0394	1.00	165 (130—180)	.0014 (.0008—.0020)	165 (130—180)	.0014 (.0008—.0020)
.0472	1.20	165 (130—180)	.0018 (.0012—.0024)	165 (130—180)	.0018 (.0012—.0024)
.0630	1.60	165 (130—180)	.0022 (.0014—.0031)	165 (130—180)	.0022 (.0014—.0031)
.0787	2.00	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)
.0984	2.50	195 (150—230)	.0033 (.0020—.0049)	195 (150—215)	.0033 (.0020—.0049)
.1260	3.20	295 (230—330)	.0039 (.0024—.0051)	260 (195—295)	.0039 (.0024—.0051)
.1575	4.00	330 (260—360)	.0047 (.0031—.0063)	295 (230—330)	.0047 (.0031—.0063)
.1969	5.00	330 (260—360)	.0059 (.0039—.0079)	295 (230—330)	.0059 (.0039—.0079)
.2480	6.30	360 (280—395)	.0079 (.0051—.0102)	330 (260—360)	.0079 (.0051—.0102)
.3150	8.00	395 (310—425)	.0091 (.0071—.0110)	360 (280—395)	.0091 (.0071—.0110)
.3937	10.00	425 (330—460)	.0106 (.0087—.0126)	395 (310—425)	.0106 (.0087—.0126)
.4724	12.00	460 (360—490)	.0118 (.0102—.0134)	425 (330—460)	.0118 (.0102—.0134)
.6299	16.00	525 (410—560)	.0130 (.0106—.0150)	460 (360—490)	.0130 (.0106—.0150)
.7874	20.00	525 (410—560)	.0138 (.0118—.0157)	460 (360—490)	.0138 (.0118—.0157)
.9843	25.00	525 (410—560)	.0138 (.0118—.0157)	460 (360—490)	.0138 (.0118—.0157)

Work Material		Carbon Steel, Alloy Steel (280—350HB)		Austenitic Stainless Steel (≤200HB)	
		AISI 4340 etc.		AISI 304, 316 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	0.50	100 (65—115)	.0004 (.0002—.0006)	65 (50—80)	.0003 (.0002—.0004)
.0248	0.63	100 (65—115)	.0006 (.0003—.0008)	65 (50—80)	.0004 (.0003—.0005)
.0315	0.80	115 (80—130)	.0011 (.0006—.0016)	80 (65—100)	.0008 (.0006—.0010)
.0394	1.00	130 (100—150)	.0014 (.0008—.0020)	100 (65—115)	.0012 (.0008—.0017)
.0472	1.20	130 (100—150)	.0018 (.0012—.0024)	100 (65—115)	.0016 (.0012—.0021)
.0630	1.60	130 (100—150)	.0022 (.0014—.0031)	100 (65—115)	.0020 (.0014—.0028)
.0787	2.00	130 (100—150)	.0028 (.0016—.0039)	100 (65—115)	.0024 (.0016—.0031)
.0984	2.50	165 (130—180)	.0033 (.0020—.0049)	130 (100—150)	.0030 (.0020—.0039)
.1260	3.20	230 (180—260)	.0039 (.0024—.0051)	130 (100—150)	.0031 (.0024—.0039)
.1575	4.00	260 (195—295)	.0043 (.0028—.0055)	130 (100—150)	.0035 (.0024—.0043)
.1969	5.00	260 (195—295)	.0055 (.0035—.0071)	130 (100—150)	.0043 (.0031—.0055)
.2480	6.30	295 (230—330)	.0071 (.0043—.0094)	165 (130—180)	.0055 (.0035—.0071)
.3150	8.00	330 (260—360)	.0083 (.0063—.0098)	165 (130—180)	.0059 (.0039—.0075)
.3937	10.00	360 (280—395)	.0091 (.0075—.0106)	165 (130—180)	.0063 (.0047—.0079)
.4724	12.00	395 (310—425)	.0102 (.0087—.0114)	195 (150—230)	.0071 (.0059—.0083)
.6299	16.00	425 (330—460)	.0110 (.0091—.0130)	195 (150—230)	.0075 (.0055—.0094)
.7874	20.00	425 (330—460)	.0118 (.0102—.0134)	195 (150—230)	.0083 (.0059—.0102)
.9843	25.00	425 (330—460)	.0126 (.0110—.0138)	195 (150—230)	.0083 (.0067—.0098)

(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

MWS SB/MB/LB/XB/DB Type (l/d<10)

Work Material		Gray Cast Iron ($\leq 350\text{MPa}$)		Ductile Cast Iron ($\leq 450\text{MPa}$)	
		No45B etc.		60-40-8 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	0.50	130 (100—150)	.0004 (.0002—.0006)	100 (65—115)	.0004 (.0002—.0006)
.0248	0.63	130 (100—150)	.0006 (.0003—.0008)	100 (65—115)	.0006 (.0003—.0008)
.0315	0.80	150 (115—165)	.0011 (.0006—.0016)	115 (80—130)	.0011 (.0006—.0016)
.0394	1.00	165 (130—180)	.0014 (.0008—.0020)	130 (100—150)	.0014 (.0008—.0020)
.0472	1.20	165 (130—180)	.0018 (.0012—.0024)	130 (100—150)	.0018 (.0012—.0024)
.0630	1.60	165 (130—180)	.0022 (.0014—.0031)	130 (100—150)	.0022 (.0014—.0031)
.0787	2.00	165 (130—180)	.0028 (.0016—.0039)	130 (100—150)	.0028 (.0016—.0039)
.0984	2.50	195 (150—215)	.0033 (.0020—.0049)	165 (130—180)	.0033 (.0020—.0049)
.1260	3.20	295 (230—310)	.0039 (.0024—.0051)	215 (165—230)	.0039 (.0024—.0051)
.1575	4.00	330 (260—360)	.0047 (.0031—.0063)	215 (165—230)	.0047 (.0031—.0063)
.1969	5.00	330 (260—360)	.0059 (.0039—.0079)	215 (165—230)	.0059 (.0039—.0079)
.2480	6.30	360 (280—395)	.0079 (.0051—.0102)	230 (180—245)	.0079 (.0051—.0102)
.3150	8.00	395 (310—425)	.0098 (.0071—.0122)	230 (180—245)	.0091 (.0071—.0110)
.3937	10.00	425 (330—460)	.0114 (.0087—.0138)	230 (180—245)	.0106 (.0087—.0126)
.4724	12.00	460 (360—490)	.0126 (.0102—.0146)	295 (230—310)	.0118 (.0102—.0134)
.6299	16.00	525 (410—575)	.0138 (.0110—.0165)	295 (230—310)	.0130 (.0110—.0150)
.7874	20.00	525 (410—575)	.0146 (.0118—.0173)	330 (260—360)	.0138 (.0118—.0157)
.9843	25.00	525 (410—575)	.0146 (.0118—.0173)	330 (260—360)	.0138 (.0118—.0157)

Work Material		Aluminium Alloy (Si<5%)		Heat Resistant Alloy	
		ASTM A6061, A7075 etc.		Inconel718 etc.	
Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
inch	mm				
.0197	0.50	130 (100—150)	.0006 (.0003—.0008)	35 (15—50)	.0002 (.0002—.0003)
.0248	0.63	130 (100—150)	.0008 (.0005—.0012)	35 (15—50)	.0003 (.0003—.0004)
.0315	0.80	150 (115—165)	.0014 (.0009—.0020)	35 (15—50)	.0006 (.0005—.0008)
.0394	1.00	195 (150—215)	.0020 (.0012—.0030)	35 (15—50)	.0008 (.0006—.0011)
.0472	1.20	230 (180—245)	.0026 (.0018—.0035)	35 (15—50)	.0010 (.0009—.0013)
.0630	1.60	260 (195—280)	.0033 (.0021—.0047)	35 (15—50)	.0012 (.0010—.0016)
.0787	2.00	295 (230—310)	.0041 (.0024—.0059)	50 (35—65)	.0016 (.0013—.0020)
.0984	2.50	330 (260—360)	.0053 (.0030—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1260	3.20	395 (310—425)	.0091 (.0039—.0138)	65 (50—80)	.0028 (.0020—.0035)
.1575	4.00	395 (310—425)	.0094 (.0047—.0138)	65 (50—80)	.0035 (.0024—.0043)
.1969	5.00	395 (310—425)	.0098 (.0059—.0138)	65 (50—80)	.0043 (.0031—.0055)
.2480	6.30	490 (395—540)	.0138 (.0079—.0197)	80 (65—100)	.0051 (.0035—.0063)
.3150	8.00	490 (395—540)	.0138 (.0079—.0197)	80 (65—100)	.0055 (.0043—.0067)
.3937	10.00	490 (395—540)	.0197 (.0079—.0315)	80 (65—100)	.0059 (.0047—.0067)
.4724	12.00	525 (410—575)	.0197 (.0079—.0315)	80 (65—100)	.0063 (.0051—.0071)
.6299	16.00	525 (410—575)	.0236 (.0079—.0394)	80 (65—100)	.0071 (.0055—.0083)
.7874	20.00	560 (445—605)	.0236 (.0079—.0394)	100 (65—115)	.0075 (.0059—.0087)
.9843	25.00	560 (445—605)	.0236 (.0079—.0394)	100 (65—115)	.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.

RECOMMENDED CUTTING CONDITIONS

MWS DB Type (l/d≥10)

Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)		Feed (Min.—Max.) (IPR)		Cutting Speed (Min.—Max.) (SFM)		Feed (Min.—Max.) (IPR)	
inch	mm								
.0394	1.0	165 (130—180)	.0008 (.0004—.0012)	130 (100—130)	.0008 (.0004—.0012)	130 (100—130)	.0008 (.0004—.0012)	130 (100—130)	.0008 (.0004—.0012)
.0472	1.2	165 (130—180)	.0010 (.0006—.0015)	130 (100—130)	.0010 (.0006—.0015)	130 (100—130)	.0010 (.0006—.0015)	130 (100—130)	.0010 (.0006—.0015)
.0630	1.6	165 (130—180)	.0022 (.0013—.0031)	130 (100—130)	.0022 (.0013—.0031)	130 (100—130)	.0022 (.0013—.0031)	130 (100—130)	.0022 (.0013—.0031)
.0787	2.0	195 (150—215)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0028 (.0016—.0039)
.0984	2.5	195 (150—215)	.0035 (.0025—.0049)	165 (130—180)	.0035 (.0025—.0049)	165 (130—180)	.0035 (.0025—.0049)	165 (130—180)	.0035 (.0025—.0049)
.1260	3.2	295 (230—310)	.0039 (.0024—.0051)	260 (195—280)	.0039 (.0024—.0051)	260 (195—280)	.0039 (.0024—.0051)	260 (195—280)	.0039 (.0024—.0051)
.1575	4.0	295 (230—310)	.0047 (.0031—.0063)	260 (195—280)	.0047 (.0031—.0063)	260 (195—280)	.0047 (.0031—.0063)	260 (195—280)	.0047 (.0031—.0063)
.1969	5.0	295 (230—310)	.0059 (.0039—.0079)	260 (195—280)	.0059 (.0039—.0079)	260 (195—280)	.0059 (.0039—.0079)	260 (195—280)	.0059 (.0039—.0079)
.2480	6.3	360 (280—395)	.0079 (.0051—.0102)	295 (230—310)	.0079 (.0051—.0102)	295 (230—310)	.0079 (.0051—.0102)	295 (230—310)	.0079 (.0051—.0102)
.3150	8.0	360 (280—395)	.0091 (.0071—.0110)	295 (230—310)	.0091 (.0071—.0110)	295 (230—310)	.0091 (.0071—.0110)	295 (230—310)	.0091 (.0071—.0110)
.3937	10.0	360 (280—395)	.0102 (.0079—.0126)	295 (230—310)	.0102 (.0079—.0126)	295 (230—310)	.0102 (.0079—.0126)	295 (230—310)	.0102 (.0079—.0126)
.4724	12.0	425 (330—460)	.0118 (.0098—.0134)	360 (280—395)	.0118 (.0098—.0134)	360 (280—395)	.0118 (.0098—.0134)	360 (280—395)	.0118 (.0098—.0134)
.6299	16.0	425 (330—460)	.0122 (.0094—.0150)	360 (280—395)	.0122 (.0094—.0150)	360 (280—395)	.0122 (.0094—.0150)	360 (280—395)	.0122 (.0094—.0150)

Drill Dia. DC		Cutting Speed (Min.—Max.) (SFM)		Feed (Min.—Max.) (IPR)		Cutting Speed (Min.—Max.) (SFM)		Feed (Min.—Max.) (IPR)	
inch	mm								
.0394	1.0	100 (65—100)	.0006 (.0004—.0011)	100 (65—115)	.0006 (.0004—.0011)	100 (65—115)	.0006 (.0004—.0011)	100 (65—115)	.0006 (.0004—.0011)
.0472	1.2	100 (65—100)	.0008 (.0005—.0014)	100 (65—115)	.0008 (.0005—.0014)	100 (65—115)	.0008 (.0005—.0014)	100 (65—115)	.0008 (.0005—.0014)
.0630	1.6	100 (65—100)	.0020 (.0011—.0030)	100 (65—115)	.0020 (.0011—.0030)	100 (65—115)	.0020 (.0011—.0030)	100 (65—115)	.0020 (.0011—.0030)
.0787	2.0	165 (130—180)	.0026 (.0013—.0037)	100 (65—115)	.0026 (.0013—.0037)	100 (65—115)	.0026 (.0013—.0037)	100 (65—115)	.0026 (.0013—.0037)
.0984	2.5	165 (130—180)	.0031 (.0018—.0047)	130 (100—150)	.0031 (.0018—.0047)	130 (100—150)	.0031 (.0018—.0047)	130 (100—150)	.0031 (.0018—.0047)
.1260	3.2	230 (180—245)	.0035 (.0020—.0047)	130 (100—150)	.0028 (.0020—.0035)	130 (100—150)	.0028 (.0020—.0035)	130 (100—150)	.0028 (.0020—.0035)
.1575	4.0	230 (180—245)	.0043 (.0028—.0059)	130 (100—150)	.0031 (.0024—.0039)	130 (100—150)	.0031 (.0024—.0039)	130 (100—150)	.0031 (.0024—.0039)
.1969	5.0	230 (180—245)	.0055 (.0035—.0075)	130 (100—150)	.0039 (.0028—.0047)	130 (100—150)	.0039 (.0028—.0047)	130 (100—150)	.0039 (.0028—.0047)
.2480	6.3	260 (195—280)	.0071 (.0043—.0098)	165 (130—180)	.0047 (.0031—.0063)	165 (130—180)	.0047 (.0031—.0063)	165 (130—180)	.0047 (.0031—.0063)
.3150	8.0	260 (195—280)	.0083 (.0059—.0102)	165 (130—180)	.0055 (.0039—.0067)	165 (130—180)	.0055 (.0039—.0067)	165 (130—180)	.0055 (.0039—.0067)
.3937	10.0	260 (195—280)	.0091 (.0059—.0118)	165 (130—180)	.0059 (.0047—.0071)	165 (130—180)	.0059 (.0047—.0071)	165 (130—180)	.0059 (.0047—.0071)
.4724	12.0	295 (230—310)	.0098 (.0075—.0122)	195 (150—230)	.0067 (.0055—.0075)	195 (150—230)	.0067 (.0055—.0075)	195 (150—230)	.0067 (.0055—.0075)
.6299	16.0	295 (230—310)	.0110 (.0075—.0142)	195 (150—230)	.0071 (.0051—.0087)	195 (150—230)	.0071 (.0051—.0087)	195 (150—230)	.0071 (.0051—.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.

RECOMMENDED CUTTING CONDITIONS

MWS DB Type (l/d≥10)

Work Material		Gray Cast Iron (≤350MPa) No45B etc.		Ductile Cast Iron (≤450MPa) 60-40-8 etc.	
		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
Drill Dia. DC					
inch	mm				
.0394	1.0	130 (100—130)	.0008 (.0004—.0012)	100 (65—100)	.0006 (.0004—.0011)
.0472	1.2	130 (100—130)	.0010 (.0006—.0015)	100 (65—100)	.0008 (.0005—.0014)
.0630	1.6	130 (100—130)	.0022 (.0013—.0031)	100 (65—100)	.0020 (.0011—.0030)
.0787	2.0	165 (130—180)	.0028 (.0016—.0039)	165 (130—180)	.0026 (.0013—.0037)
.0984	2.5	165 (130—180)	.0035 (.0022—.0049)	165 (130—180)	.0031 (.0018—.0047)
.1260	3.2	295 (230—310)	.0039 (.0024—.0051)	165 (130—180)	.0035 (.0020—.0047)
.1575	4.0	295 (230—310)	.0047 (.0031—.0063)	165 (130—180)	.0043 (.0028—.0059)
.1969	5.0	295 (230—310)	.0059 (.0039—.0079)	165 (130—180)	.0055 (.0035—.0075)
.2480	6.3	360 (280—395)	.0079 (.0051—.0102)	195 (150—215)	.0071 (.0043—.0098)
.3150	8.0	360 (280—395)	.0091 (.0071—.0110)	195 (150—215)	.0083 (.0059—.0102)
.3937	10.0	360 (280—395)	.0102 (.0079—.0126)	195 (150—215)	.0091 (.0059—.0118)
.4724	12.0	425 (330—460)	.0118 (.0098—.0134)	260 (195—280)	.0098 (.0075—.0122)
.6299	16.0	425 (330—460)	.0122 (.0094—.0150)	260 (195—280)	.0110 (.0075—.0142)

Work Material		Aluminium Alloy (Si<5%) AISI A6061, A7075 etc.		Heat Resistant Alloy Inconel718 etc.	
		Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)	Cutting Speed (Min.—Max.) (SFM)	Feed (Min.—Max.) (IPR)
Drill Dia. DC					
inch	mm				
.0394	1.0	165 (130—180)	.0020 (.0012—.0030)	35 (15—50)	.0008 (.0006—.0011)
.0472	1.2	195 (150—215)	.0026 (.0018—.0035)	35 (15—50)	.0010 (.0009—.0013)
.0630	1.6	230 (180—245)	.0033 (.0021—.0047)	35 (15—50)	.0012 (.0010—.0016)
.0787	2.0	260 (195—280)	.0041 (.0024—.0059)	50 (35—65)	.0016 (.0013—.0020)
.0984	2.5	295 (230—310)	.0053 (.0030—.0079)	50 (35—65)	.0020 (.0016—.0024)
.1260	3.2	330 (260—360)	.0091 (.0039—.0138)	65 (50—80)	.0028 (.0020—.0035)
.1575	4.0	330 (260—360)	.0094 (.0047—.0138)	65 (50—80)	.0035 (.0024—.0043)
.1969	5.0	330 (260—360)	.0098 (.0059—.0138)	65 (50—80)	.0043 (.0031—.0055)
.2480	6.3	425 (330—460)	.0138 (.0079—.0197)	65 (50—80)	.0051 (.0035—.0063)
.3150	8.0	425 (330—460)	.0138 (.0079—.0197)	65 (50—80)	.0055 (.0043—.0063)
.3937	10.0	425 (330—460)	.0197 (.0079—.0315)	65 (50—80)	.0059 (.0047—.0067)
.4724	12.0	460 (360—490)	.0197 (.0079—.0315)	65 (50—80)	.0063 (.0051—.0071)
.6299	16.0	460 (360—490)	.0197 (.0079—.0315)	65 (50—80)	.0067 (.0055—.0075)

(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.