

Recommended Drilling Data | Metric (mm)

T-A Pro™

Material	Hardness (BHN)	Insert Grade	Speed (M/min)	Feed Rate (mm/rev) by Diameter					
				11.10mm - 12.69mm	12.70mm - 17.64mm	17.65mm - 24.37mm	24.38mm - 35.04mm	35.05mm - 47.80mm	
P	Free Machining Steel 1111Mn30, 10S20, 11SMn36, etc.	100 - 150	P	145	0.180	0.250	0.330	0.410	0.510
		150 - 200	P	135	0.180	0.250	0.330	0.410	0.510
		200 - 250	P	125	0.150	0.250	0.330	0.410	0.510
	Low Carbon Steel C22, C10, CK22, 15Cr3, etc.	85 - 125	P	130	0.150	0.230	0.300	0.380	0.480
		125 - 175	P	125	0.150	0.230	0.300	0.380	0.480
		175 - 225	P	115	0.130	0.200	0.250	0.360	0.460
		225 - 275	P	110	0.130	0.200	0.250	0.360	0.460
	Medium Carbon Steel C45, C60, 30Mn5, etc.	125 - 175	P	125	0.150	0.230	0.300	0.380	0.480
		175 - 225	P	115	0.130	0.200	0.250	0.360	0.460
		225 - 275	P	110	0.130	0.200	0.250	0.360	0.460
		275 - 325	P	100	0.100	0.180	0.230	0.300	0.410
	Alloy Steel 42CrM04, 36NiCr10, 10NiCrMo13 4, etc.	125 - 175	P	130	0.150	0.230	0.300	0.360	0.430
		175 - 225	P	120	0.130	0.200	0.280	0.360	0.430
		225 - 275	P	110	0.130	0.200	0.280	0.360	0.430
		275 - 325	P	105	0.100	0.180	0.250	0.300	0.380
	High Strength Alloy 34NiCrMo8, etc.	225 - 300	P	105	0.100	0.180	0.250	0.330	0.380
300 - 350		P	100	0.080	0.150	0.230	0.300	0.360	
350 - 400		P	90	0.080	0.150	0.200	0.280	0.330	
Structural Steel 1St37, St52, S355, etc.	100 - 150	P	120	0.150	0.250	0.300	0.360	0.460	
	150 - 250	P	105	0.130	0.230	0.250	0.300	0.410	
	250 - 350	P	85	0.100	0.200	0.230	0.250	0.360	
Tool Steel 1.2714, 1.2379, 1.2344 etc.	150 - 200	P	65	0.100	0.150	0.200	0.250	0.300	
	200 - 250	P	55	0.100	0.150	0.200	0.250	0.300	
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	M	20	0.080	0.180	0.200	0.250	0.300
		220 - 310	M	15	0.080	0.150	0.180	0.200	0.250
	Titanium Alloy	140 - 220	M	20	0.080	0.180	0.200	0.250	0.300
		220 - 310	M	15	0.080	0.150	0.180	0.200	0.250
	Aerospace Alloy S82	185 - 275	M	45	0.130	0.200	0.230	0.250	0.360
		275 - 350	M	35	0.100	0.180	0.200	0.200	0.300

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 M/min • 0.80	= 80 M/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD)
100 M/min • 0.70	= 70 M/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	STUB, 3xD, 5xD		7xD, 10xD		12xD, 15xD	
	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM	Pressure BAR	Flow Rate LPM
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

⚠ WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short T-A Pro holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures.
 Factory technical assistance is available for your specific applications through our Application Engineering department. **Email: engineering.eu@alliedmachine.com**

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation chart for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, 12xD, and 15xD holder lengths, see adjustment example above.

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T-A Pro™

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				11.10mm - 12.69mm	12.70mm - 17.64mm	17.65mm - 24.37mm	24.38mm - 35.04mm	35.05mm - 47.80mm	
M Stainless Steel 400 Series 1.4404 etc.	185 - 275	M	85	0.130	0.250	0.280	0.300	0.330	
	275 - 350	M	70	0.100	0.230	0.250	0.280	0.300	
	Stainless Steel 300 Series 1.4571 etc.	135 - 185	M	85	0.130	0.180	0.200	0.230	0.300
		185 - 275	M	70	0.100	0.150	0.180	0.200	0.280
	PH Stainless 17-4, 13-8, 15-5	275-350	P	50	0.080	0.100	0.150	0.200	0.250
		350-425	P	35	0.080	0.100	0.150	0.200	0.250
Super Duplex Stainless Steel	135 - 185	M	35	0.130	0.130	0.150	0.150	0.180	
	185 - 275	M	25	0.100	0.130	0.130	0.150	0.150	
H Wear Plate Hardox, AR400, T-1, etc.	400	P	20	0.080	0.150	0.200	0.230	0.300	
	500	P	15	0.050	0.130	0.180	0.200	0.250	
	600	N/A	-	-	-	-	-	-	
	Hardened Steel	300 - 400	P	30	0.080	0.150	0.200	0.230	0.300
400 - 500		P	15	0.050	0.130	0.180	0.200	0.250	
K SG / Nodular Cast Iron	120 - 150	K	185	0.180	0.300	0.410	0.510	0.610	
	150 - 200	K	170	0.150	0.280	0.360	0.460	0.560	
	200 - 220	K	150	0.150	0.230	0.300	0.410	0.460	
	220 - 260	K	135	0.130	0.180	0.230	0.300	0.360	
	260 - 320	K	120	0.100	0.150	0.180	0.230	0.300	
N Cast Aluminum	30	N	335	0.200	0.330	0.410	0.510	0.560	
	180	N	185	0.200	0.330	0.410	0.460	0.560	
	Wrought Aluminum	30	N	335	0.230	0.330	0.430	0.510	0.610
		180	N	185	0.130	0.180	0.250	0.330	0.410
	Aluminum Bronze	100 - 200	N	150	0.150	0.280	0.360	0.460	0.560
		200 - 250	N	90	0.130	0.180	0.230	0.300	0.360
	Brass	100	N	135	0.180	0.300	0.410	0.510	0.610
Copper	60	N	50	0.050	0.080	0.150	0.200	0.250	

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A
DRILLING
B
BORING
C
REAMING
D
BURNISHING
E
THREADING
X
SPECIALS