

General Guide for Cutting Speeds and Feeds for Drills

The following information is a general guide. Specific jobs may need to be modified because of varying job conditions, such as coolant, equipment and job requirements.

Guide for Drill Feeds

Drill feeds are governed by the size of the drill and also the material to be drilled.

The lower feeds should be used when drilling relatively hard materials such as alloy steels. The higher feeds should be used when drilling relatively soft materials such as aluminum and brass.

These feeds are based on the peripheral speed of a drill.

Drill Dia.	Feed per Rev.	Drill Dia.	Feed per Rev.
Under 1/8"	.001" - .002"	Under 3 mm	.025 - .05 mm
1/8" - 1/4"	.002" - .004"	3 - 6 mm	.05 - .100 mm
1/4" - 1/2"	.004" - .007"	6 - 13 mm	.100 - .180 mm
1/2" - 1"	.007" - .015"	13 - 25 mm	.180 - .370 mm
Over 1"	.015" - .025"	Over 25 mm	.370 - .630 mm

Guide for Pheripheral Speeds

Material	Feet/Minute		Meters/Minute	
	Carbon Drill	HSS Drill	Carbon Drill	HSS Drill
Machinery Steel	30	80	9	24
Cast Iron	35	100	10.5	30
Brass	60	200	18	60
Alloy Steel	—	50	—	15

Drill Dia.		PERIPHERAL SPEEDS – FEET PER MINUTE (METERS PER MINUTE)					
		30 (9)	50 (15)	60 (18)	80 (24)	100 (30)	200 (60)
Inches	mm	REVOLUTIONS PER MINUTE					
1/8	3 mm	917	1528	1833	2445	3056	6112
1/4	6 mm	458	764	917	1222	1528	3056
1/2	13 mm	229	382	458	611	764	1528
1	25 mm	115	191	229	306	382	764
1 1/2	38 mm	76	127	153	204	255	509
2	50 mm	57	96	115	153	191	382
3	75 mm	38	64	76	102	127	255