

Tapping Application Guide

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Materials		Condition	Hardness		Cutting Speed*
			BHN	HRC	SFM
Aluminum Alloy	6061, 7075, 2011	Normalized	~150		30~80
Die Cast Aluminum	356AL, 390AL	As Cast	~150		40~65
Cast Iron	Nodular, Grey	As Cast	~208	~15	25~75
Low Carbon Steel	1010, 1018	Normalized	~190	~10	25~80
Medium Carbon Steel	1035, 1045	Normalized	~208	~15	20~50
High Carbon Steel	1065, 1095	Normalized	~253	~25	20~45
Alloy Steel	4140, 4340, 8620	Normalized	253~301	25~32	20~50
	4140, 4340, 8620	Hardened	327~393	35~42	15~20
Stainless Steel	303, 304, 316	Annealed	~253	~25	20~45
	410, 430	Hardened	327~393	35~42	12~20
	17-4, 15-5, A286	Annealed	~253	~25	15~20
	17-4, 15-5, A286	Hardened	327~393	35~42	8~20
Tool Steel	D2, H13, P20, S7	Annealed	190~253	10~25	15~35
	H13, P20	Hardened	327~450	35~48	8~15
	D2, A2	Hardened		55~63	3~10
Titanium Alloy	6AL4V	Annealed	253~301	25~32	15~20
	6AL4V, 6AL6V	Hardened	327~393	35~42	8~15
Nickel Base Alloy	Inconel 718, 625	Annealed	253~301	25~32	8~15
	Inconel 718	Hardened	327~393	35~42	8~15
	Hastelloy, Waspalloy	Normalized	253~390	25~40	8~15
	Kovar	Normalized	253~390	25~40	8~15
Magnesium			~100		40~80
Brass, Bronze			~150		40~80
Copper			~150		30~60
Beryllium Copper			~253	~25	20~30
Cobalt-Chrome	Stellite				8~25
Fiber Filler Plastic	Fiberglass, REN				20~30
MMC	Al-SiC70%				20~30

*Speeds can be increased when coatings, synchronized spindles or coolant through taps are utilized.

*Pipe taps should be run at half of these velocities.

