

# MARI TOOL

Speeds and Feeds for **1397, 1399, and 1410** series parabolic drills. 130 deg self centering point with 38 deg helix angle. All drills are made from M35 cobalt high speed steel.

Material	Hardness		Feed Per Rev.			
	Bhn	SFM	1/8" dia	1/4"	3/8"	1/2"
Aluminum 2011,2024,6061,7075	*	<b>350</b>	0.0040	0.0060	0.0085	0.0110
Free Machining 12L14, 1215,11L17	80-150	<b>120</b>	0.0040	0.0046	0.0070	0.0095
Low Carbon Steel 1008, 1018, 1020	125-175	<b>100</b>	0.0030	0.0040	0.0060	0.0080
Medium Carbon Steel 4140, 8620	200-280	<b>90</b>	0.0030	0.0040	0.0060	0.0080
Tool Steel, H.S.S A2,D2,M2,M42	300-400	<b>65</b>	0.0025	0.0035	0.0055	0.0075
Cast Iron	120-175	<b>85</b>	0.0030	0.0040	0.0060	0.0080
Stainless Steel 300 Series	160-200	<b>70</b>	0.0020	0.0032	0.0048	0.0066
Stainless Steel 400 Series	180-260	<b>55</b>	0.0020	0.0032	0.0048	0.0066
Stainless Steel 15-5, 17-4	160-200	<b>65</b>	0.0020	0.0032	0.0048	0.0066
Titanium 6AL-4V	320-380	<b>25</b>	0.0018	0.0029	0.0041	0.0060
Inconel 625, 718	280-320	<b>20</b>	0.0010	0.0020	0.0033	0.0045
Copper, Bronze	120-160	<b>80</b>	0.0040	0.0060	0.0085	0.0110
Brass (360 half hard)	*	<b>200</b>	0.0040	0.0060	0.0085	0.0110

Speeds and feeds are based on bright finish stub or jobber drill.  
 For taper length drills reduce speeds and feeds by 15%.  
 TIN coating increase your rpms by 15% from above recommendation  
 TIALN coating increase your rpms by 25% from above recommendation

PECKING---- first peck after 3X diameter, all other pecks 1-1.5 X diameter  
 (example. 1/4 dia drill in steel, 1<sup>st</sup> peck after drilling .750 deep, then peck every .300)  
 for harder materials or gummy materials peck more often  
 for free machining steels peck less often

### 6 guidelines for best cutting results

Use lots of coolant	keep tool concentricity low	Follow pecking guidelines
workpiece rigidity is important	Use ER or TG style collet chucks	Spot drill for Taper length drills

**Note:** Cutting speeds, feeds, and lubrication data are given as starting values only. Parameters should be varied to suite your particular conditions. MariTool is constantly improving products, tolerances, and reliability. As such, these speeds and feeds are subject to change without prior notice. Cutting tools may shatter and or produce dangerous fumes when being used. Appropriate protection is advised.