

## Cutting data inch

HAIMER Material groups	Example material	Material information	Cutting width					
			Ramping	Cutting Speed (SFM)				
ANSI	Material no.	Tensile strength	Content/ Hardness					
<b>P1</b> General construction steels	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPa	up to 25 HRC	45°	836 – 902	1049 – 1115	1311 – 1377
<b>P2</b> Heat treated steels	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPa	up to 45 HRC	30°	623 – 689	721 – 787	951 – 1016
<b>M1</b> Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPa		10°	311 – 361	377 – 443	492 – 557
<b>M2</b> Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPa		5°	246 – 295	311 – 344	361 – 426
<b>K1</b> Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPa		45°	525 – 590	590 – 656	689 – 754
<b>K2</b> Cast iron	ASTM A536 80-55-06, ASTM A536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPa		20°	426 – 492	492 – 557	590 – 656
<b>S1</b> Titanium & titanium alloys	Ti6Al4V	3.7165			10°	164 – 197	197 – 262	262 – 295
<b>S2</b> High Temp alloys	Inconel, Nimonic				5°	98 – 131	98 – 131	98 – 131
<b>N1</b> Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1541 – 1607	1967 – 2066	2557 – 2689
<b>N2</b> Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 – 1180	1377 – 1443	1770 – 1902
<b>H1</b> Hardened steels				45-55 HRC	10°	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.  
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae										
ae		3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4
to 50% ø		0.0006	0.0008	0.0012	0.0016	0.0020	0.0024	0.0033	0.0041	0.0049
100% ø		*0.0005	*0.0007	*0.0011	*0.0014	*0.0017	*0.0021	*0.0028	*0.0034	*0.0041
	<b>P</b>	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034
	<b>M</b>	0.0002	0.0003	0.0005	0.0006	0.0008	0.0009	0.0013	0.0016	0.0019
	<b>K</b>	0.0004	0.0005	0.0008	0.0010	0.0013	0.0015	0.0020	0.0025	0.0030
	<b>S</b>	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0015
	<b>N</b>	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034

\* For Slotting (100% ø) in material M1, M2 and S1 reduce fz by 30%.