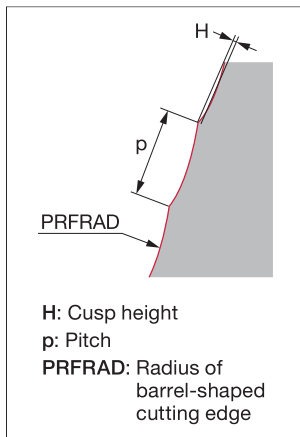


STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Cutting speed Vc (sfm)	Feed per tooth fz (ipt)	Width of cut ae (in)
P	Low carbon steel 1020, etc.	- 200HB	328 - 1969	0.002 - 0.012	< 0.016
	Carbon steel 1045, etc.	- 300HB	328 - 1969	0.002 - 0.012	< 0.012
	Prehardened steel NAK80, PX5, etc.	30 - 40HRC	328 - 1969	0.002 - 0.012	< 0.012
M	Austenitic stainless steel 304SS, etc.	- 200HB	328 - 1640	0.002 - 0.012	< 0.012
	Precipitation hardening stainless steel 17-4 PH, etc.	- 45HRC	328 - 984	0.002 - 0.01	< 0.008
K	Gray cast iron Class 25, etc.	150 - 250HB	328 - 1969	0.002 - 0.012	< 0.012
	Ductile cast iron 60-40-18, etc.	150 - 250HB	328 - 1969	0.002 - 0.012	< 0.012
S	Titanium alloys Ti-6Al-4V, etc.	- 45HRC	131 - 394	0.002 - 0.008	< 0.008
	Superalloys Inconel718, etc.	- 45HRC	66 - 262	0.002 - 0.008	< 0.008
H	Hardened steel H-13, etc.	40 - 55HRC	164 - 984	0.002 - 0.008	< 0.008

Cusp height and pitch



To obtain the pitch (p) from the given cusp height (H)

H (in)	0.00004	0.00008	0.00012	0.00016	0.00020	0.00039	0.00059	0.00079
PRFRAD (in)								
20 (ZNHU1003R20...)	0.016	0.022	0.027	0.031	0.035	0.050	0.061	0.070
30 (ZNHU1003R30...)	0.020	0.027	0.033	0.039	0.043	0.061	0.075	0.086

$$p = \sqrt{8 \times H \times \text{PRFRAD}}$$

(mm)

To obtain the cusp height (H) from the given pitch (p)

p (in)	0.020	0.030	0.039	0.049	0.059	0.069	0.079
PRFRAD (in)							
20 (ZNHU1003R20...)	0.00008	0.00016	0.00024	0.00039	0.00055	0.00075	0.00098
30 (ZNHU1003R30...)	0.00004	0.00008	0.00016	0.00028	0.00035	0.00051	0.00067

$$H = \frac{p^2}{8 \times \text{PRFRAD}}$$

(mm)