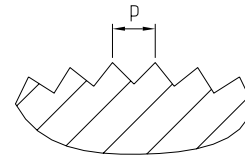


THE KNURLING WHEEL'S PITCH

The knurling wheel's pitch 'p' refers to the distance between the tips of two teeth.
 Standard pitch sizes according to DIN 403 include: p=0,5/0,6/0,8/1,0/1,2/1,6.
 The Hommel + Keller product programme covers also non-standard pitch sizes.
 They are listed below in mm and TPI. Additional pitch sizes are available on demand.



STANDARD PITCH SIZES:

mm 0,3	0,4	0,5	0,6	0,7	0,8	0,9		mm 0,3	0,4	0,5	0,6	0,7	0,8	0,9
TPI 84,7	63,5	50,8	42,3	36,3	31,8	28,2		TPI 84,7	63,5	50,8	42,3	36,3	31,8	28,2
mm 1,0	1,2	1,5	1,6	1,8	2,0			mm 1,0	1,2	1,5	1,6	1,8	2,0	
TPI 25,4	21,2	16,9	15,9	14,1	12,7			TPI 25,4	21,2	16,9	15,9	14,1	12,7	

KNURLINGS ACCORDING TO AMERICAN NATIONAL STANDARD CP (TPI) AND DP:

Apart from the DIN 82 / DIN 403 the American National Standard specifies the pitch and profile angle of the knurling application. The CP (TPI) and DP are distinguished as follows:

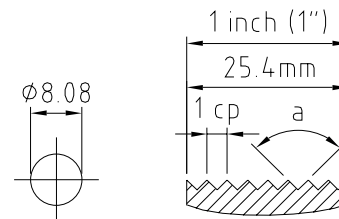
CP (TPI) = Circular Pitch (Teeth Per Inch)

This standard specifies the number of teeth on a length of 1 inch (1"~25,4 mm). The CP (TPI) is calculated by dividing 1 inch through the number of teeth. The profile angle is determined according to the number of teeth with either 70° or 90°.

Arithmetic example:

Value CP (TPI) = 20

Pitch (mm) = 1 inch (~25,4 mm) : 20 (Number of teeth) = 1.27 mm



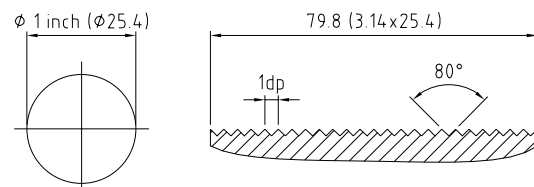
DP = Diametral Pitch

Contrary to the CP (TPI), this standard specifies the number of teeth along the circumference of a circle with a diameter of 1 inch (1"~25,4 mm). The pitch is calculated by dividing the circumference (= 1 inch) by the number of teeth. The profile angle is generally determined with 80°.

Arithmetic example:

Value DP = 64

Pitch (mm) = 1 inch (~25,4) x π (3,14...) : 64 (Number of teeth) = 1.25 mm



A list of mm and CP (TPI) conversions can be found on page 63. Furthermore, the Technical Appendix contains a separate chapter on how to optimize the relation between number of teeth and work piece circumference by adjusting the pitch size.