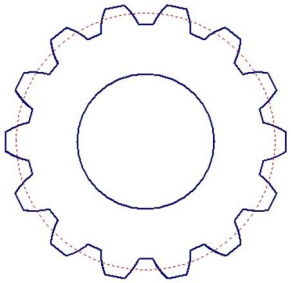
Doppler Gear TechBit: DIN 5480 Spline Decoder

Example: **DIN 5480 W 120 x 3 x 38 x 8f**



DIN 5480 W 120 x 3 x 38 x 8f

W – stands for "Welle" and denotes a Shaft/External spline
N – stands for "Nabe" and denotes a Hub/Internal spline

120 is the "Reference Diameter"

What is a "**Reference Diameter**"? Unlike ANSI B92.1 splines DIN 5480 was structured to "permit easy slip-fitting of components such as, for instance, ball or roller bearings… this condition is met by making **the reference diameter equal to the bore of the bearing** and then modifying the profiles of the teeth of the hub and the shaft accordingly." Reference diameter is **not** the Major or Minor diameter of the spline.

3 is the Module of the spline (size of the tooth)

38 is the Number of Teeth in the spline

8f is the Class of Fit

The **number** (**8**) represents the "Tolerance Class" of the spline. These range from 5 to 12. Lower numbers have a smaller or tighter tolerance range.

The **letter** (**f**) represents the "Deviation Series" of the spline.

External splines have **LOWER CASE** letters.
Series "a" thru "g" are slip fits (with "a" being the loosest). Series "h" is a line on line fit. Series "j" thru "v" are interference fits.

INTERNAL splines have **UPPER CASE** letters. Series "F" and "G" are slip fits (with "F" being the loosest). Series "H" is a line on line fit and a standard callout. Series "J" thru "M" are interference fits.

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As mentioned earlier, DIN 5480 is based on reference diameters that are independent of the module. DIN 5480 is limited to splines with a pressure angle of 30°. Involute splines in accordance with **ANSI B92.2M and ISO 4156 are not interchangeable** with splines described by the DIN 5480 series of standards.

Information based on *DIN 5480-1, March 2006*