

Martin Gear Nomenclature

Racks



- R Steel
- RA Steel, Heavy Backing
- TR Steel, 20°, Heavy Backing
- R20 Steel, 20°, Wide Face

Examples:

- R6X2 14½° STD Backing 6DPX2' Long
- RA6X4 14½° Heavy Backing 6DPX4' Long
- TR6X6 20° STD Width 6DPX6' Long
- R206X6 20° Wide Face 6DPX6' Long

Miter Gears

- M Miter Gear, Steel
- A or B Larger Bore (Suffix)
- HM Miter, Hardened Teeth
- K KW & SS



Notes:

ALWAYS 1: 1 RATIO.
Same number of teeth on each mating Gear.

Examples:

- M824 Steel 8DP 24T
- M824A Steel 8DP 24T Larger Bore
- M2424BR Brass 24DP 24T
- HM1020 Steel Hardened Teeth 10DP 20T
- HMK1020 Steel Hardened 10DP 20T w/KW & SS

Bevel Gears

- B Bevel Gear, Cast Iron
- B Pinion, Steel
- BS Bevel Gear, Steel
- BS Pinion, Steel

Notes:

B steel Pinions may run with BS Gear of same ratio.
ANY RATIO OTHER THAN 1:1.
Pinion and driven Gear have different number of teeth.



Examples:

- B1080-2 Cast Iron 10DP 40T 2:1 Ratio
- B1020-2 Steel 10DP 20T 2:1 Ratio
- BS1040-2 Steel 10DP 40T 2:1 Ratio
- BS1020-2 Steel 10DP 20T 2:1 Ratio

Worm

- W Steel
- WH Steel With Hub Projection
- WG Steel Hardened Ground Threads
- WHG Steel Hardened Ground Threads With Hub Projection
- D or Q (Suffix) Double or Quadruple Thread



Examples:

- W6 Steel 6DP Right Hand
- WH6 Steel w/Hub Projection 6DP Right Hand
- WG6 Steel Case Hardened Ground Threads 6DP Right Hand
- WHG6 Steel w/Hub Projection Hardened Ground Threads 6DP Right Hand
- W6D Steel 6DP Double Thread Right Hand

Spur Gears

- S Steel
- TS Steel, 20°
- C Cast Iron
- TC Cast Iron, 20°
- H Hardened Teeth
- NM Non-Metallic



Examples:

- S620 Steel 6DP 20T 14½°PA
- TS620 Steel 6DP 20T 20°PA
- C660 Cast Iron 6DP 60T 14½°PA
- S620H Steel 6DP 20T Hardened 14½°PA
- NM620 Non-Metallic 6DP 20T 14½°PA
- S612BS1 Steel 6P 12T 1" Bore KW SS
- TS816BS7/8 Steel 8DP 16T 20°PA .875 Bore KW SS
- BS1020-2 Steel 10DP 20T 2:1 Ratio

Worm Gear

- W Worm, Steel
- WH Worm, Steel w/Hub Projection
- WG Worm, Steel Hardened Ground Threads
- WHG Worm, Steel Hardened Ground Threads With Hub Projection
- D or Q (Suffix) Double or Quadruple Thread

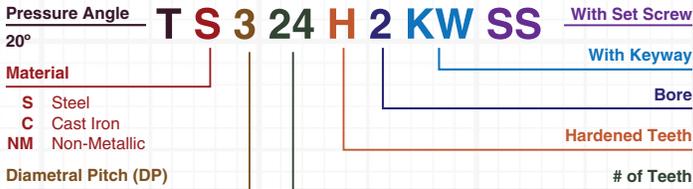


Worms and Worm Gears come standard as right hand. If left hand is needed, it must be specified.

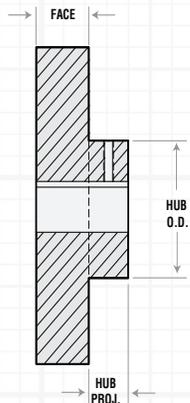
Examples:

- W660 Cast Iron 6DP 60T Right Hand
- WB660 Bronze 6DP 60T Right Hand
- W660D Cast Iron 6DP 60T Double Thread Right Hand

Typical Spur Gear Nomenclature

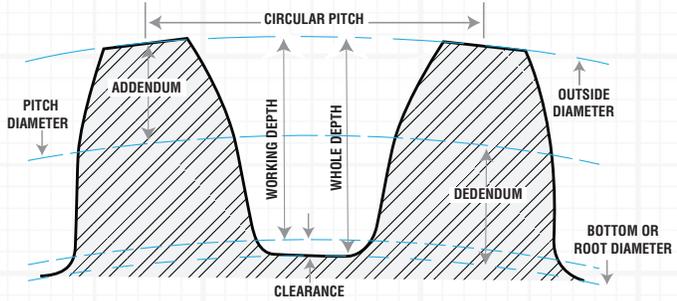


Information Needed to Quote Gears



1. Pitch (3DP, 4DP, 2CP, etc.)
2. Number of teeth
3. Pressure angle (14½°, 20°, etc.)
4. Face width
5. Material (1144, 1040, 4140, etc.)
6. Hardened teeth?
7. Style of Gear (A, B, C)
8. Hub thru diameter
9. Length through bore or hub projection
10. Bore
11. Keyway size
12. Number and size of set screw(s)
13. Special features

Common Formulas



$$OD = \frac{N + 2}{DP} \quad DP = \frac{N}{PD}$$

$$CP = \frac{3.1416}{DP}$$

$$CD = \frac{PD (Dr) + PD (Dn)}{2}$$

$$\text{Module Pitch} = \frac{25.4}{DP} \quad \text{Ratio} = \frac{N \text{ Large}}{N \text{ Small}}$$

$$\text{Worm Ratio} = \frac{N \text{ in Worm Gear}}{\# \text{ Leads}}$$

- CP Circular Pitch
- N Number of Teeth
- DP Diametral Pitch
- PD Pitch Diameter
- OD Outside Diameter
- CD Center Distance
- Dr Driver
- Dn Driven

SIZING EXAMPLE:
Gear with 46 teeth has an OD of 6"

$$DP = \frac{48 + 2}{6} \quad DP = 8$$