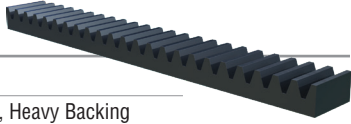


## Racks



<b>R</b>	Steel
<b>RA</b>	Steel, Heavy Backing
<b>TR</b>	Steel, 20°, Heavy Backing
<b>R20</b>	Steel, 20°, Wide Face

### Examples:

<b>R6X2</b>	14½° STD Backing 6DPX2' Long
<b>RA6X4</b>	14½° Heavy Backing 6DPX4' Long
<b>TR6X6</b>	20° STD Width 6DPX6' Long
<b>R206X6</b>	20° Wide Face 6DPX6' Long

## Spur Gears



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

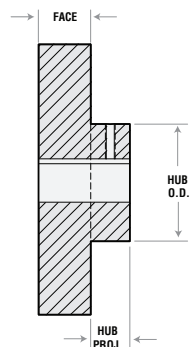
### Examples:

<b>S620</b>	Steel 6DP 20T 14½°PA
<b>TS621</b>	Steel 6DP 21T 20°PA
<b>C675</b>	Cast Iron 6DP 75T 14½°PA
<b>S620H</b>	Steel 6DP 20T Hardened 14½°PA
<b>NM620</b>	Non-Metallic 6DP 20T 14½°PA
<b>S612BS 1</b>	Steel 6DP 12T 1" Bore 14½°PA
<b>TS816BS 7/8</b>	Steel 8DP 16T .875 Bore 20°PA

## Typical Spur Gear Nomenclature



## Information Needed to Quote Gears



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

## Worm Gear



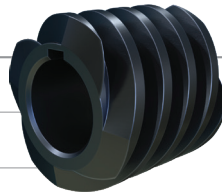
<b>W</b>	Worm, Cast Iron
<b>WB</b>	Worm, Bronze
<b>D / Q</b>	(Suffix) Double or Quadruple Thread

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

### Examples:

<b>W660</b>	Cast Iron 6DP 60T Right Hand
<b>WB1020</b>	Bronze 10DP 20T Right Hand
<b>W640D</b>	Cast Iron 6DP 40T Double Thread Right Hand

## Worm

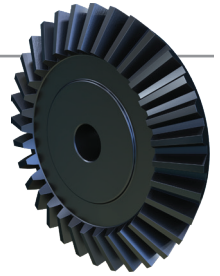


<b>W</b>	Steel
<b>WH</b>	Steel With Hub Projection
<b>WG</b>	Steel Hardened Ground Threads
<b>WHG</b>	Steel Hardened Ground Threads with Hub Projection
<b>D / Q</b>	(Suffix) Double or Quadruple Thread

### Examples:

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

## Bevel Gears

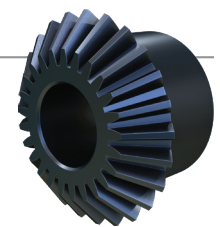


<b>B</b>	Bevel Gear, Cast Iron
<b>B</b>	Pinion, Steel
<b>BS</b>	Bevel Gear, Steel
<b>BS</b>	Pinion, Steel

### Examples:

<b>B1060-3</b>	Cast Iron 10DP 60T 3:1 Ratio
<b>B1020-3</b>	Steel 10DP 20T 3:1 Ratio
<b>BS1040-2</b>	Steel 10DP 40T 2:1 Ratio
<b>BS1020-2</b>	Steel 10DP 20T 2:1 Ratio

## Miter Gears



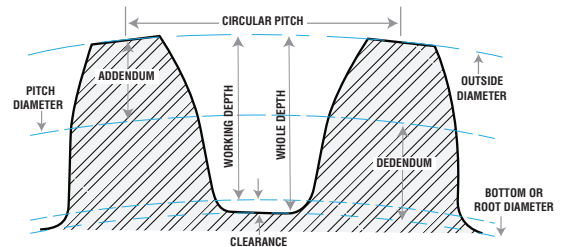
<b>M</b>	Miter Gear, Steel
<b>A / B</b>	Larger Bore (Suffix)
<b>HM</b>	Miter, Hardened Teeth
<b>K</b>	KW & SS

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

### Examples:

<b>M824</b>	Steel 8DP 24T
<b>M824A</b>	Steel 8DP 24T Larger Bore
<b>HM1020</b>	Steel Hardened Teeth 10DP 20T
<b>HMK1020</b>	Steel Hardened 10DP 20T with KW & SS

## Common Formulas



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

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

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

$$\text{Module Pitch} = \frac{25.4}{DP}$$

$$\text{Ratio} = \frac{N \text{ Large}}{N \text{ Small}}$$

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

- 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"

$$DP = \frac{46 + 2}{6} \quad DP = 8$$