

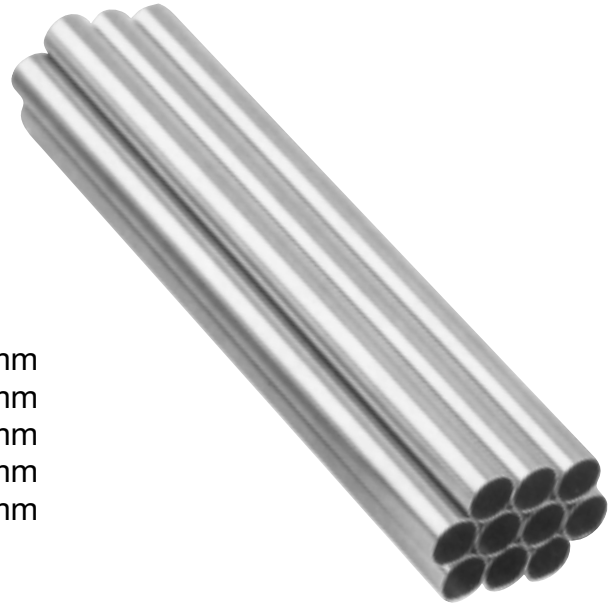
# S/S 316 Stainless Steel/Seamless Tubing (High Pressure) Type

316 stainless steel tubing it come in two type

Type A: Dull Finished

Type B: Bright Polished

All come in 6 meter length (when ordering P/S state type A or type B)



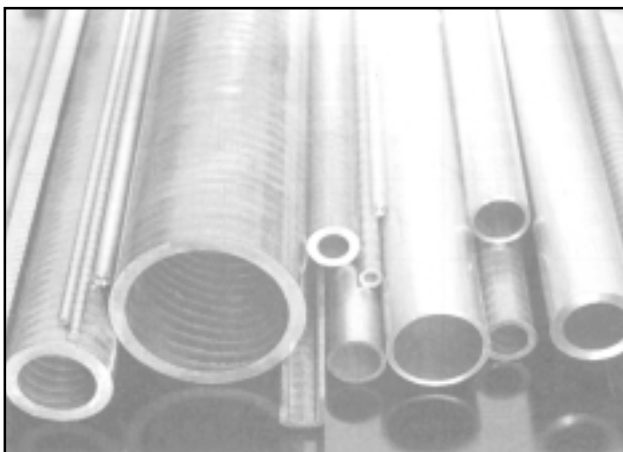
## MM SIZE:

4m	OD	x	thickness 1mm
6m	OD	x	thickness 1mm, 1.2mm, 1.5mm
8m	OD	x	thickness 1mm, 1.2mm, 1.5mm
10m	OD	x	thickness 1mm, 1.2mm, 1.5mm, 2mm
12m	OD	x	thickness 1mm, 1.2mm, 1.5mm, 2mm
14m	OD	x	thickness 1mm, 1.2mm, 1.5mm, 2mm
16m	OD	x	thickness 1mm, 1.2mm, 1.5mm, 2mm
18m	OD	x	thickness 1mm, 1.2mm, 1.5mm, 2mm
20m	OD	x	thickness 1.2mm, 1.5mm, 2mm
22m	OD	x	thickness 1.2mm, 1.5mm, 2mm
25m	OD	x	thickness 1.2mm, 1.5mm, 2mm
30m	OD	x	thickness 1.5mm, 2mm
32m	OD	x	thickness 1.5mm, 2mm

## INCHES SIZE:

1/8	OD	x	thickness 0.035"
3/16	OD	x	thickness 0.035"
1/4	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
5/16	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
3/8	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
1/2	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
5/8	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
3/4	OD	x	thickness 0.035", 0.048", 0.065", 0.083"
1	OD	x	thickness 0.035", 0.048", 0.065", 0.083"

## All Types of Tool & Die Steels



### Bronze Hollow Bar

Range: 1"ø - 24"ø

### Solid Round Bar

Range: 1/2"ø - 12"ø

Standard Length: 2 ft or 1 meter

### 304, 316, 316L Hollow Bar

Range:

### 304, 316, 316L Round Bar

Length:

### Cast Iron

# All Types of Tool & Die Steels



Round



Square



Flat



Hexagon



Hollow



Plate

## Carbon Steel

Typical Analysis: C 0.43-0.45% Si 0.20-0.40%  
Min 0.60-0.90%  
Hardness: 190 - 210HB  
Yield Point: 36 - 48 kg/mm<sup>2</sup>  
Tensile Strength: 60 - 90 kg/mm<sup>2</sup>  
Nearest Equivalent: AISI 1045, JIS S45C, BE EN9

**Round Range:**  $\phi$ 10 -  $\phi$ 800 mm

**Square Range:** Sq 22 - 380 mm

**Hexagon Range:** HEX 16 - 38 mm

**Flat Range:**

THK: 13, 16, 19, 22, 25, 28, 32, 35, 38, 42, 45, 50, 55, 60, 65, 70, 75, 80, 90, 105, 115, 125 mm.

W: 105, 130, 160, 210, 260, 310, 360, 410, 460, 510.

**Plate Range:**

THK: 13, 16, 19, 22, 25, 28, 32, 35, 38, 42, 45, 50, 55, 60, 65, 70, 75, 80, 90, 105, 115, 125, 130, 140, 150, 180, 210, 240 mm.

W: 6' x 20'.



## Polish Carbon Steel Shaftin

Typical Analysis: C 0.43-0.45% Si 0.20-0.40%  
Min 0.60-0.90%  
Hardness: 190 - 210HB  
Yield Point: 36 - 48 kg/mm<sup>2</sup>  
Tensile Strength: 60 - 90 kg/mm<sup>2</sup>  
Tolerance: Ground ISO h7  
Nearest Equivalent: AISI 1045, JIS S45C, BE EN9

**Round Range:**

OD 10, 12, 13, 15, 16, 19, 20, 22, 25, 28, 30, 32, 35, 38, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3", 4".

## Quench & Tempered High Tensile Steel

Typical Analysis: C 0.27-0.33% Si 0.15-0.35%  
Mn 0.30-0.70%  
Cr 0.75-1.20% Mo 0.15-0.25%  
P 0.035% max S 0.040% max.  
Hardness: 174 - 235HB  
Yield Point: 50 kg/mm<sup>2</sup> (Min 500 N/mm<sup>2</sup>)  
Tensile Strength: 66 kg/mm<sup>2</sup> (Min 655 N/mm<sup>2</sup>)  
Elongation: Min 18%  
Nearest Equivalent: AISI 4130, DIN 25CrMo4, JIS SCM430

**Round Range:**  $\phi$ 32-800 mm

**Hollow Range:** 11"  $\phi$ -32"  $\phi$

**Square Range:** Sq 240-420 mm

## Quench & Tempered High Tensile Steel

Typical Analysis: C 0.37-0.44% Si 0.15-0.35%  
Mn 0.30-0.70%  
Cr 0.75-1.20% Mo 0.15-0.25%

Hardness Rolled: Min 275HB  
Hardness Forged: Min 255HB  
Yield Point: 66 kg/mm<sup>2</sup> (Min 655 N/mm<sup>2</sup>)  
Tensile Strength: 76 kg/mm<sup>2</sup> (Min 758 N/mm<sup>2</sup>)  
Elongation: Min 15%  
Nearest Equivalent: AISI 4140, JIS SCM440, BS EN19A, DIN 25CrMo4,

**Round Range:**  $\phi$ 13-800 mm

**Hexagon Range:** 11"  $\phi$ -32"  $\phi$

## Nickel Chrome High Tensile Steel (AISI 4340)

Typical Analysis: C 0.37-0.44% Mn 0.55-0.90%  
Cr 0.65-0.95% Mo 0.20-0.30%  
Ni 1.55-2.0%

Hardness Rolled: Min 275HB  
Hardness Forged: Min 255HB  
Yield Point: 66 kg/mm<sup>2</sup> (Min 655 N/mm<sup>2</sup>)  
Tensile Strength: 76 kg/mm<sup>2</sup> (Min 758 N/mm<sup>2</sup>)  
Elongation: Min 15%  
Nearest Equivalent: AISI 4340, JIS SNCM439, BE EN24, DIN 34CrNiMo6

**Round Range:**  $\phi$ 13-600 mm

**Hexagon Range:** HEX 12.7-75 mm

## Martensitic Stainless Steel (AISI 410)

Typical Analysis: C 0.15% Si 1.0% P 0.040% S 0.030%  
Cr 11.50-13.50%

Hardness: Max 237HB  
Yield Point: Min 520 N/mm<sup>2</sup>  
Tensile Strength: Min 690 N/mm<sup>2</sup>  
Elongation: Min 17%  
Nearest Equivalent: AISI 410, JIS SUS410, BS 410S21

**Round Range:**  $\phi$ 28.6-700 mm

## 17-4PH Stainless Steel (Solution Treated)

Typical Analysis: C 0.07% max Nb(Cb) 0.15-0.45%  
Cr 15.0-17.5% Cu 3.00-5.00%  
Ni 3.00-5.00% Mn 1.00% max  
Si 1.00% max P 0.040% max  
S 0.030% max

Hardness: 27-33 HRC  
Yield Point: Min 725 N/mm<sup>2</sup>  
Tensile Strength: Min 862 N/mm<sup>2</sup>  
Elongation: Min 17%  
Nearest Equivalent: ASTM A564GR630

**Round Range:**  $\phi$ 25-50 mm

# All Types of Tool & Die Steels



Round



Square



Flat



Hexagon



Hollow



Plate

## Silver Steel

Typical Analysis: C 0.90-1.05% Si 0.15-0.35%  
Mn 1.00-1.20% Cr 0.50-0.70%  
V 0.05-0.15% W 0.50-0.70%

Condition: Annealed (Max 230 HB)  
Tolerance: Ground ISO h9  
Nearest Equivalent: AISI 01, JIS SKS 3, DF2, GOA

**Round Range:**  $\phi$ 2-30 mm x 2 meter

## Tool & Die Steel

Typical Analysis: C 0.90-1.05% Si 0.15-0.35%  
Mn 1.00-1.20% Cr 0.50-0.70%  
V 0.05-0.15% W 0.50-0.70%

Condition: Annealed (Max 230 HB)  
Nearest Equivalent: AISI 01, SKS3, DF2, GOA

**Round Range:**  $\phi$ 16 -  $\phi$ 400 mm

**Square Range:** Sq 16 - 155 mm

**Flat Range:**

THK: 6, 8, 10, 13, 16, 19, 22, 25, 28, 30, 32, 35, 38, 42, 45, 50, 55,  
60, 65, 70, 75, 85, 103, 155 mm.  
W: 80, 105, 130, 160, 210, 260, 310, 360, 410.



## High Chrome Alloy Tool Steel

Typical Analysis: C 1.55% Mn 0.25% Cr 12% Mo 0.80%  
V 0.80%

Condition: Annealed (Max 250 HB)  
Nearest Equivalent: AISI D2, JIS SKD11, XW 41, DC 11

**Round Range:**  $\phi$ 13 -  $\phi$ 450 mm

**Square Range:** Sq 16 - 150 mm

**Flat Type:**

THK: 10m 13, 16, 19, 22, 25, 28, 30, 32, 35, 38, 42, 45, 50, 60, 65,  
75, 90 mm.  
W: 38, 50, 65, 70, 75, 80, 90, 100, 105, 130, 160, 210, 260, 310,  
360, 410, 460.



## Hotwork Tool Steel

Typical Analysis: C 0.40% Si 1.20% Mn 0.40%  
Cr 5.30% Mo 1.40% V 1.00%

Condition: Annealed (Max 230 HB)  
Nearest Equivalent: AISI H13, JIS SKD60, BS BH13

**Round Range:**  $\phi$ 25 -  $\phi$ 360 mm

## Stainless Plastic Mould Steel

Typical Analysis: C 0.17-0.45% Si <1.0% Mn <1.0%  
Cr 12-14%

Condition: Soft Annealed (approx. 215 HB)  
Nearest Equivalent: AISI 420, ASSAB STARVAX, PAK 90, HPM 38

**Plate Range:**

THK: 20, 25, 28, 30, 34, 40, 42, 45, 51, 65, 70, 75, 80, 105 mm.  
Size: 1300 x 4000 mm

## Low Carbon High Tensile Steel

Typical Analysis: C 0.20% Si 0.55% Mn 1.60%

Hardness: Min 160HB  
Yield Point: Min 355 N/mm<sup>2</sup>  
Tensile Strength: Min 490 N/mm<sup>2</sup>  
Elongation: Min 22%

Nearest Equivalent: BS 4360 Gr50D, DIN 17100 ST52-3N, ASTM  
A572-50, A633C, JIS G3106, SM490

Impact Properties: Min 27 Joules @ -20 degree C

**Round Range:**  $\phi$ 25-300 mm

**Plate Range:**

THK: 1.5, 2.5, 3, 4, 4.5, 5, 6, 8, 10, 12, 13, 14, 15, 16, 18, 19, 20, 22,  
25, 28, 30, 32, 35, 38, 40, 45, 50, 55, 60, 65, 70, 75, 80, 90, 102,  
105, 115, 120, 130, 140, 150.  
Size: 8' x 30' or 8' x 12'

## High Temperature Heat Resistance Stainless Steel

Typical Analysis: C 0.10% max Si 1.7% Cr 21%  
Ni 11% N 0.17%

Hardness: Max 210HB  
Yield Point: Min 310 N/mm<sup>2</sup>  
Tensile Strength: Min 650 N/mm<sup>2</sup>  
Elongation: 40%

Nearest Equivalent: DIN 1.4893, ASTM S30815

**Plate Range:**

THK: 3, 4, 5, 6, 8, 10, 12.  
Size: 1524 x 3048 mm or 1500 x 3000 mm