

## Stainless Steel

## 1.4542 (17-4 & 630) Bar

Datasheet Updated  
05 August 2021

### RANGE

Product Form	Condition	Imperial Sizes	Metric Sizes
Round Bar	Condition A	3/8" - 12"	45mm
Round Bar	Condition H1150D	3/8" - 12"	45mm

### SPECIFICATIONS

Commercial	17-4 & 630
EN	1.4542

Martensitic precipitation hardening stainless steel with 17% chromium and 4% nickel.

### CHEMICAL COMPOSITION

EN 10088-3  
1.4542 Steel

Element	% Present
Carbon (C)	0.00 - 0.07
Chromium (Cr)	15.00 - 17.00
Manganese (Mn)	0.00 - 1.50
Silicon (Si)	0.00 - 0.70
Phosphorous (P)	0.00 - 0.04
Sulphur (S)	0.00 - 0.03
Nickel (Ni)	3.00 - 5.00
Copper (Cu)	3.00 - 5.00
Molybdenum (Mo)	0.00 - 0.60
Niobium (Columbium) (Nb)	0.00 - 0.45
Iron (Fe)	Balance

### ALLOY DESIGNATIONS

Stainless 1.4542 is similar to, **but may not be a direct equivalent:**

- 17-4
- UNS S17400
- Grade 630

### SUPPLIED FORMS

- Bar

### APPLICATIONS

Due to the high strength of precipitation hardening stainless steels, most applications are in aerospace and other high-technology industries.

Applications include:

- Gears
- Valves and other engine components
- High strength shafts
- Turbine blades
- Moulding dies
- Nuclear waste casks
- Intricate machined parts
- Medical instruments
- Paper mill equipment

### CHARACTERISTICS

- Excellent corrosion resistance
- High strength & hardness
- Readily machined and fabricated
- Good mechanical properties at high temperatures
- High yield strength

**MECHANICAL PROPERTIES****EN 10088-3****Bar - Solution Annealed Up to 100mm Dia/Thickness**

Property	Value
Tensile Strength	1200 Max MPa
Hardness Brinell	360 Max HB

**EN 10088-3****Bar - at P800 Up to 100mm Dia/Thickness**

Property	Value
Proof Stress	520 Min MPa
Tensile Strength	800 - 950 MPa
Elongation A	18Min %

**EN 10088-3****Bar - at P930 Up to 100mm Dia/Thickness**

Property	Value
Proof Stress	720 Min MPa
Tensile Strength	930 - 1100 MPa
Elongation A	16 Min %

**EN 10088-3****Bar - at P960 Up to 100mm Dia/Thickness**

Property	Value
Proof Stress	790 Min MPa
Tensile Strength	960 - 1160 MPa
Elongation A	12 Min %

**EN 10088-3****Bar - at P1070 Up to 100mm Dia/Thickness**

Property	Value
Proof Stress	1000 Min MPa
Tensile Strength	1070 - 1270 MPa
Elongation A	10 Min %

**DISCLAIMER**

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon. Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed S online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources. Material supplied by the Company may vary significantly from this data but will conform to all relevant and applicable standards. As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied. Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.