BIBUS METALS

Technical datasheet

Alloy 13-8Mo / W-Nr. 1.4534

13-8 Mo steel is a high-strength, precipitation-hardening stainless steel alloy. It is primarily composed of iron, chromium (~13%), nickel (~8%), and a small addition of molybdenum (Mo), which gives the steel its name.

Available products

Product form	Size range from	Size range to
Bar	10.00 mm diameter	140.00 mm diameter

Chemical composition (%)

Fe	Cr	Ni	Mo	Al	Si	Mn	N	C	P
Balance	12.25-13.25	7.5-8.5	2.0-2.5	0.9-1.35	1.0 max	0.10 max	0.010 max	0.05 max	0.010 max

Major specifications

AMS 5629	UNS S31800
ASTM A705, A564	DIN 1.4534

Physical properties

Density	7.74 g/cm³
Melting range	1404-1440°C

Mechanical properties – minimum properties, heat treated to H1025 condition

Yield strength	1207 MPa
Tensile strength	1276 MPa
Elongation	11 %

Key attributes

13-8 Mo steel is known for its high yield strength, which is achieved through the precipitation hardening process. This alloy also maintains excellent toughness, even at low temperatures, making it well-suited for applications that require impact resistance. In addition to its strength and toughness, 13-8 Mo steel offers exceptional resistance to both general and localized corrosion, including protection against stress corrosion cracking. 13-8 Mo steel is a versatile alloy used in high-performance environments where a combination of strength, corrosion resistance, and toughness is critical.

We supply material in the annealed “A” condition for ease of machining and fabrication, suitable for heat treatment to achieve required properties.

Applications

- High strength shafts
- Airframe structural components
- Valves
- Fasteners
- Pumps
- Chemical processing and refining equipment
- High strength corrosion resistant components

All information is subject to change without notice. The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.