

4140 (AMS 6349)

Technical Datasheet



Service. Quality. Value.

Low Alloy Steel Tube

Typical Applications

- Axles
- Conveyor parts
- Spindles & shafts
- Ring gears
- Oil patch applications
- Rams
- Sprockets
- Pinions

Product Description

Alloy 4140 (AMS6349) is a low alloy steel containing Chromium and Molybdenum. Usually supplied hardened and tempered to condition with a tensile strength of 850 – 1000 MPa. The alloy offers a very good balance between strength, toughness and wear resistance. The alloy's chromium content provides good hardness penetration and the molybdenum imparts uniformity of hardness and high strength. 4140 responds well to heat-treatment and is comparatively easily machined in the heat-treated condition. The material offers a combination of many desirable properties including good strength and wear resistance, excellent toughness, with good ductility and the ability to resist stress at elevated temperatures.

Toughness & Ductility

Excellent toughness and ductility

Wear Resistance

Good

Machinability & Weldability

65% based on AISI 1212 is 100% machinability. Fair weldability.

Availability

Tube

Related Specifications

- SAE 4140
- UNS G41400

Chemical Composition (weight %)

	C	Mn	Si	P	S	Cr	Mo
Min	0.38	0.75	0.20			0.80	0.15
Max	0.43	1.00	0.35	0.025	0.025	1.10	0.25

Mechanical Properties

Ultimate Tensile Strength	861.8	MPa (max)
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Hardness relates to normalised and cold finished bars 12.70mm and under. Bars over 12.70mm hot finished and normalised or normalised and cold finished hardness 229HB. Product ordered normalised and cold finished shall have hardness not higher than 241 HB.

Hardenability: Shall be J6/16inch (9.5mm) = 50HRC min. and J9/16inch (14mm)= 44HRC min. determined on the standard end-quench test specimen in accordance with ASTM A 255 except that the steel shall be normalised at 1700 °F+/-10 (927°C+/-6) and the test specimen austenised at 1550 °F+/-10 (843°C+/-6).

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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