

# AMS 6484 (4340)

## Technical Datasheet



### Chromium-Nickel-Molybdenum Alloy Steel Bar

Service. Quality. Value.

#### Typical Applications

Aircraft landing gear, engine components, crankshafts, axles. Intended for parts with sections 3 1/2" or less in thickness at time of heat treatment, which require a through-hardening steel capable of developing minimum hardness of Rockwell "C" 30. Premium aircraft quality is intended for use in the manufacturing of highly stressed parts at higher strength levels, such as 260/280 ksi and where a much cleaner steel is desired.

#### Product Description

This chromium-nickel-molybdenum alloy is a widely used deep-hardening constructional steel. It is used at a variety of strength levels and at each level possesses remarkable ductility and toughness. With its high alloy content uniform hardness is developed by heat treatment in relatively heavy sections. High fatigue strength makes E-4340 ideal for highly stressed parts. It maintains its strength and hardness at elevated temperatures. This grade is available as electric furnace vacuum degassed steel to meet the high aircraft quality standards of AMS 2301. Thus, it is suitable for the fabrication of parts, which may be subjected to magnetic particle inspection. This grade is also available as a Premium Aircraft Quality product. The regular aircraft quality material is re-melted in a vacuum using consumable electrode practice. This results in a much cleaner steel meeting the magnetic particle test requirements of AMS- 2300 and insures a steel of the highest quality with excellent transverse ductility and toughness at high strength levels. The density of this material is typically 7.85kg/dm<sup>3</sup>.

#### Machinability

Average cutting speed 95 ft/m in. 50% for annealed and cold drawn conditions. Based on 100% for AISI 1212 steel.

#### Corrosion Resistance

Low to medium resistance to corrosion.

#### Weldability

Fair.

#### Production Tolerances

Manufacturing limits are as stated in the Table AMS 2251. For further assistance please contact our Sales Dept / Laboratory.

#### Related Specifications

- SAE 4130
- UNS G41300

#### Cut to Size Sawn blanks

Cut to Length + 1.0mm - NIL

#### Chemical Composition (weight %)

	C	Mn	Si	P	S	Cr	Ni	Mo	Cu
Min	0.38	0.65	0.15			0.70	1.65	0.20	
Max	0.43	0.85	0.35	0.025	0.025	0.90	2.00	0.30	0.35

#### Mechanical Properties

Maximum Brinell Hardness 322HB

Hardness is for bars, forgings and tubing, normalised and tempered. Unless a surface finish is specified, the surface may be furnished hot finished or cold drawn.

#### 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.

#### UK Service Centres:

Smiths Belfast 02895 908 897  
Smiths Biggleswade 01767 604 704  
Smiths Birmingham 0121 728 4940  
Smiths Bristol 0117 971 2800  
Smiths Chelmsford 01245 466 664  
Smiths Gateshead 0191 469 5428  
Smiths Horsham 01403 261 981

Smiths Leeds 0113 307 5167  
Smiths Manchester 0161 794 8650  
Smiths Norwich 01603 789 878  
Smiths Nottingham 0115 925 4801  
Smiths Redruth 01209 315 512  
Smiths Verwood 01202 824 347  
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#### Quality & Testing:



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