

## CHROMIUM-MOLYBDENUM ALLOY STEEL BAR

### TYPICAL APPLICATIONS

Intended for use in the manufacture of parts and components with sections 1/2" thick or less at time of heat treatments which required a through-hardening steel capable of developing hardness as high as Rockwell "C" 35, and also for parts with greater thickness requiring proportionately lower hardness. It may be used for parts requiring fusion welding. Hardenability and weldability are considered equivalent to 8630 (MIL-S-6250).

### PRODUCT DESCRIPTION

This chromium-molybdenum alloy is one of the most widely used aircraft steels because of its combination of weldability, ease of fabrication, and mild hardenability. In relatively thin sections it will respond to heat treatment to high strength levels and yet in the normalised condition it has adequate strength for many applications. When resistance to wear and abrasion is required, it may be nitrided.

This grade is a quality product melted under the best steelmaking practices for aircraft quality steels. It is vacuum degassed to meet the magnetic particle inspection standards of AMS 2301.

The density of this material is typically 7.85kg/dm<sup>3</sup>.

### RELATED SPECIFICATIONS

SAE 4130  
 UNS G41300  
 AMS 6348 (Normalised condition)

### CHEMICAL COMPOSITION (WEIGHT %)

	C	Mn	Si	P	S	Cr	Ni	Mo	Cu
Min	0.28	0.40	0.15			0.80		0.15	
Max	0.33	0.60	0.35	0.025	0.025	1.10	0.25	0.25	0.35

### MECHANICAL PROPERTIES (MINIMA HEAT-TREATED CONDITION)

Tensile Strength (MPa)	0.2% Proof Strength (MPa)	Elongation On 4D G.L (%)
862	689	17

Bars under 12.70mm hardened and tempered and cold finished.

Bars over 12.70mm hot finished and hardened and tempered or if specified hardened and tempered and cold finished.

Ground and turned or polished shall be free from decarburisation on the ground, turned or polished surfaces.

### TECHNICAL SALES ASSISTANCE

Our resident team of qualified metallurgists and engineers will be pleased to assist further on any technical topic.

### STOCK RANGE

Round Bar : 1/8" to 13 1/2" Diameter  
 (3.18 to 342.9mm)  
 (Various conditions)

Various in square, flat & hexagon.

### CUT TO SIZE SAWN BLANKS

Cut to Length + 1.0mm - NIL

### MACHINABILITY

70% for annealed and cold drawn condition. Based on 100% for AISI 1212 steel.

### CORROSION RESISTANCE

Low resistance to corrosion.

### WELDABILITY

Good.

### PRODUCTION TOLERANCES

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

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