

Case Hardening Steel

Product Description

S156 in the British Standard Aerospace Series is a 4% Ni-Cr-Mo case-hardening steel with a tensile strength of 1,320-1,520 MPa. The material is manufactured by consumable electrode vacuum arc re-melting (VAR). Bars, and where practicable, forgings, are subjected to ultrasonic examination. Bars and forgings are supplied in the normalised and softened condition. Parts produced from bar and forgings are required to be supplied in the finally heat treated condition which consists of carburising, hardening and tempering.

Typical Applications

- Aircraft engineering components
- High performance components for autosport

Material Specifications

- BS S156:1976
- BS S82 (related spec. - single melted not VAR)
- 16NCD17 (related French spec. in AIR 9160)
- Wr.N 1.6722/3 (related German spec.)

Availability

- Black bar (S156B)
- Bright bar (S156D)
- Forgings (S156C)
- We stock S156D round bar up to 7 in. (177.8mm) diameter

Chemical Composition (weight %)

Weight (%)	C	Si	Mn	P	S	Cr	Mo	Ni			
Min	0.14	0.10	0.25			1.0	0.20	3.8			
Max	0.18	0.35	0.55	0.015	0.012	1.4	0.30	4.3			

Mechanical Properties

	Minimum	Maximum
UTS, MPa	1,320	1,520
0.2% PS, MPa	1,030	
Elongation, %	11	
Reduction of area, %	40	
Izod impact, ft lbf	30	
Hardness, HBN (normalised + softened)		277

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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