

## CASE HARDENING STEEL

### TYPICAL APPLICATIONS

Aircraft engineering components  
High performance components for motorsport

### 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 remelting (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.

### 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 %	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 SALES ASSISTANCE

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

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