

## AEROSPACE CASE-HARDENING STEEL

### TYPICAL APPLICATIONS

Aircraft engineering components  
High performance components for autosport

### PRODUCT DESCRIPTION

S82 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 an electric melting process.

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 S82:1976
- BS S156 (related spec. - VAR remelted)
- Wr.N 1.6722/3 (related German spec.)
- 16NCD17 (related French spec. in AIR 9160)

### AVAILABILITY

Black bar (S82B)  
Bright bar (S82D)  
Forgings (S82C)  
We stock S82D in a range of bar diameters.

### CHEMICAL COMPOSITION (WEIGHT %)

Weight %	C	Si	Mn	P	S	Cr	Mo	Ni
Min.	0.14	0.15	0.25			1.0	0.20	3.8
Max.	0.18	0.40	0.55	0.025	0.020	1.4	0.30	4.3

### MECHANICAL PROPERTIES (MINIMA)

0.2% PS, MPa	UTS, MPa		Elongation, %	R of A, %	Izod impact, ft lbf Charpy U-notch, J
	Min.	Max.			
1030	1320	1520	8	35	25

The maximum hardness in the softened condition is 277 HB.

### TECHNICAL SALES ASSISTANCE

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

### Smiths High Performance

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