

## THROUGH HARDENABLE STEEL

### TYPICAL APPLICATIONS

Aircraft engineering components  
High performance components for autosport

### PRODUCT DESCRIPTION

S155 in the British Standard Aerospace Series is a Nickel-Silicon – Chromium – Molybdenum – Vanadium through hardening steel with a tensile strength of 1,900-2,100 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 hardening followed by oil quenching and tempering followed by air cooling.

### MATERIAL SPECIFICATIONS

- BS S155:1976
- AMS 6257 (related spec.)
- 300M (related spec.)
- SAE 4340M (related spec.)

### AVAILABILITY

Black bars for machining (S155B)  
Forgings (S155C)

### CHEMICAL COMPOSITION

Weight %	C	Si	Mn	P	S	S+P	Cr	Mo	Ni	V
Min.	0.39	1.50	0.60				0.70	0.30	1.65	0.05
Max.	0.44	1.80	0.90	0.015	0.015	0.025	0.95	0.45	2.00	0.10

### MECHANICAL PROPERTIES (finally heat treated - limiting ruling section 75mm)

	Longitudinal Minimum	Longitudinal Maximum	Transverse Minimum	Transverse Maximum
UTS, MPa	1,900	2,100	1,900	2,100
0.2% PS, MPa	1,550	-	1,550	-
Elongation, %	8	-	5	-
Reduction of area, %	30	-	20	-

The hardness of material in the normalised and softened condition shall not be greater than 302 HB.

### 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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