

3% CHROMIUM-MOLYBDENUM NITRIDING STEEL

TYPICAL APPLICATIONS

Gearbox shafts
Crankshafts

PRODUCT DESCRIPTION

S132 in the British Standard Aerospace Series is a 3% Cr-Mo-V nitriding steel offering a tensile strength of 1,320-1,470 MPa. (excellent hardenability for high core strength) and develops a hard wear resistant case after surface treatment. The alloy is usually produced by single melting in air followed by electroslag refining (ESR) but is also available as a vacuum arc remelted version.

Bars and, where applicable, forgings are subjected to ultrasonic examination.

Bars are usually supplied bright in the softened condition. Final heat treatment consists of hardening at 950^oC (oil quench) followed by tempering at not less than 600^oC (air cool).

MATERIAL SPECIFICATIONS

- BS S132:1976
- 40CDV12 (related French spec.)
- Wr.N 1.8523 (related German spec.)
- Various MSRR specifications

AVAILABILITY

Black bar (S132B)
Bright bar (S132D)
Forgings (S132C)
We stock S132D in a range of bar diameters.

CHEMICAL COMPOSITION (WEIGHT %)

	C	Si	Mn	P	S	Cr	Mo	Ni	Sn	V	Fe	
Min	0.35	0.10	0.40			3.0	0.80			0.15	Rem.	
Max	0.43	0.35	0.70	0.020	0.020	3.5	1.10	0.30	0.030	0.25	Rem.	

MECHANICAL PROPERTIES (MINIMA AFTER FINAL HEAT TREATMENT)

0.2% PS, MPa	UTS, MPa		Elongation, %	R of A, %	Izod impact, ft lbf	Hardness, HB	
	Min.	Max.				Min.	Max.
1130	1320	1470	8	35	20	388	429

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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