

BS S156 Steel

Smiths High Performance



Revision: SHP/english/datasheets/bs-s156/12.02.2025

Page: 1 of 1

Case Hardening Steel

BS S156 alloy steel also referred to as nitriding steel, is the VAR version of S82.

Typically, we supply the alloy in the normalised and softened delivery condition.

After surface treatment, the material offers a hard and durable wear-resistant surface making the product ideal for high-performance gearboxes in the motorsport sector. **BS S156** offers high tensile strength ranging from 1,320 to 1,520 MPa. The alloy should be supplied in the heat-treated condition for fabricated parts, which involves carburising, hardening, and tempering.

The material is manufactured by consumable electrode vacuum arc remelting (VAR) and is a 4% Ni-Cr-Mo case-hardening steel.



*Chemical Composition (weight %)

	C	Si	Mn	P	S	Cr	Mo	Ni	Fe
Min.	0.14	0.10	0.25			1.00	0.20	3.80	Bal
Max.	0.18	0.35	0.55	0.015	0.012	1.40	0.30	4.30	Bal

* Properties as per BS S156

*Mechanical Properties (typical)

Property	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, HB (normalised + softened)		277

* Properties as per BS S156

Benefits:

- High tensile strength
- Case hardened
- Wear resistant
- Durable

Motorsport Applications:

- Gears
- Final drive
- Propulsion shafts
- Sockets


www.smithshp.com
info@smithshp.com


Unit 3, Juno Place
Stratton Business Park
Biggleswade SG18 8XP

Tel: +44 (0)1767 604 708



All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.