

S99

Smiths Advanced Metals

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High Tensile Steel Bars

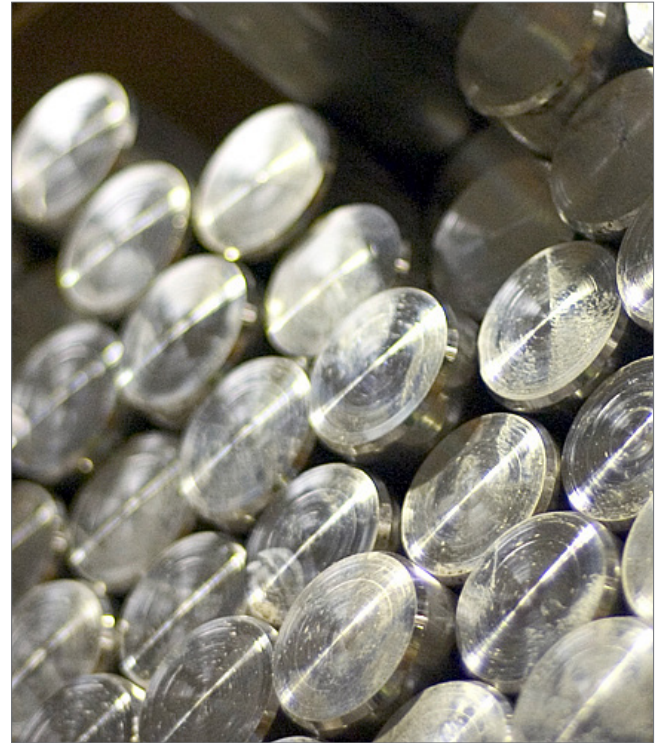
Nickel-Chromium-Molybdenum steel

S99 is produced to British Standards and is primarily used in aerospace applications in structural applications, especially where surface pressure is a feature.

The alloy is typically supplied in the annealed or bright annealed condition and benefits from high tensile strength combined with good notch toughness. S99 is high carbon steel with the addition of nickel, chromium and molybdenum. The molybdenum prevents the material from being responsive to temper brittleness. Other benefits include good creep resistance and mechanical property retention at low and elevated temperatures.

S99 is classed as an aircraft alloy but finds widespread use in engineering applications, particularly in large cross-sections if the alloy is quenched and tempered. Examples include aircraft parts, heavy-duty gears, high-strength bolts, and fasteners.

Smiths Advanced Metals stocks S99 steel bars in the hardened and tempered condition.



Grades / Specifications

- BS S99
- BS S100
- 40NiMoCr10-5
- 1.6745

Benefits

- High strength
- Good ductility
- High tensile strength
- Good creep resistance

*Chemical Composition (weight %)

	C	Si	Mn	P	S	Cr	Mo	Ni	Al
min.	0.36	0.10	0.45			0.50	0.45	2.30	0.015
max.	0.44	0.35	0.70	0.025	0.015	0.80	0.65	2.80	0.050

* As per BS S99

*Mechanical Properties

Designation	Tensile Strength	Proof Strength	Elongation	Hardness
S99D	-	-	-	277 HBW Max
S99G	1,230 - 1,420 MPa	1080 MPa min	10% min	363 - 415 HBW

* Properties as per BS S99

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