T45

Smiths Advanced Metals

High Strength Steel Tube

Excellent strength to weight ratio.

T45 carbon-manganese steel provides excellent strength to weight ratios, enabling engineers to design products with thinner-walled tubing without compromising overall strength.

T45 is widely used in the aerospace sector, where high tensile and yield strength characteristics are required, particularly in pilot ejector seats, as the alloy withstands the higher G forces incurred during flight without snapping or splitting. The material is easily welded and formed and finds extensive use in airframes and aerostructures.

The product has been on the market for more than 60 years and is highly suitable for applications where reduction in weight is a primary consideration but not at the expense of overall strength. The motorsport sector serves as another market example where the alloy finds use in roll cages, chassis and suspension parts.

Smiths Advanced Metals stocks T45 seamless steel tubes in various sizes, which we also cut in-house to your size requirements.

Grades / Specifications

- **BS T45**
- **BS T100**

Benefits

- **Good weldability**
- **High tensile and yield properties**
- **Good formability**
- **Excellent strength to weight ratios**

* Chemical Composition (weight %)

	Fe	C	Cr	Mn	Mo	Ni	P	S	Si
min.	Bal	0.17		1.30					0.10
Max.	Bal	0.25	0.25	1.70	0.10	0.40	0.04	0.04	0.35

* As per BS T45

* Mechanical Properties		Physical Properties	
Ultimate Tensile Strength	700 - 900 MPa	Hardening	870 - 910° (quench in oil or water)
0.2% Proof Stress	620 MPa min	Tempering	675° (cool in suitable manner)
Hardness (Brinell)	201 - 262 HB		

* Properties as per per BS T45

Stratton Business Park,
London Road, Biggleswade,
Bedfordshire SG18 8QB
Tel: +44 (0) 1767 604710