

# 080M50 (EN43B)

MEDIUM CARBON ENGINEERING STEEL

We are a division of the Smiths Metal Centres Limited Group

Revision: tsm/heat-treated/080m50/14-03-23

Page: 1 of 1



**080M50** is a type of medium carbon steel containing carbon, manganese, silicon, phosphorus, and sulphur.

It also contains small amounts of other elements, such as chromium, nickel, and molybdenum. This steel grade is commonly used to produce gears, shafts, axles, and other mechanical parts that require high strength, toughness, and wear resistance. It is often heat-treated to improve its mechanical properties, such as hardness, tensile strength, and ductility.

### Chemical Composition (weight, %)

	C	Si	Mn	P	S
Min.	0.45	0.10	0.60		
Max.	0.55	0.40	1.00	0.05	0.05

\* Properties as per BS 970

### High Strength:

Generally, the material has a tensile strength ranging from 700 to 1000 MPa (megapascals) and a yield strength ranging from 550 to 800 MPa. **080M50** steel has good strength, which makes it suitable for applications that require high load-bearing capacity.

### Wear Resistance:

The steel's composition and heat treatment make it highly resistant to wear. Containing manganese and silicon helps improve its hardenability and wear resistance. The material is an excellent choice for producing gears, shafts, and other components that require good wear resistance.

### Toughness:

Our product has good toughness, which means it can withstand high-impact loads and resist fracture under shock loading.

### Benefits:

- High tensile strength
- Relatively easy to machine
- High wear resistance
- High surface hardness

### Hardenability:

The steel can be hardened by heat treatment using various methods, such as carburising, nitriding, or induction hardening, making it suitable for applications that require high surface hardness.

### Availability:

We stock **080M50** in round and square bars of various diameters. We supply the product in standard lengths or cut to your specific size requirements.

