



# 709M40 (EN19)

HIGH TENSILE STEEL ALLOY

We are a division of the Smiths Metal Centres Limited Group

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709M40 is a type of high-tensile steel commonly used to construct engineering components, such as axles, gears, and shafts.

709M40 steel is an alloy that contains chromium, molybdenum and other elements to enhance its mechanical properties.

### Chemical Composition (weight, %)

	C	Si	Mn	P	S	Cr	Mo
Min.	0.36	0.10	0.70			0.90	0.25
Max.	0.44	0.40	1.00	0.035	0.040	1.20	0.35

\* Properties as per BS 970

### Wear & Corrosion Resistance:

709M40 steel is known for its excellent wear and corrosion resistance, making it a popular choice for various industrial applications. The wear resistance of the alloy is due to its high hardness and toughness, which enables it to withstand abrasive wear and impacts without losing its shape or structural integrity.

In terms of corrosion resistance, 709M40 steel exhibits good resistance to rust and other forms of corrosion, particularly when compared to different types of steel. However, it is not considered highly corrosion-resistant. It may require additional surface treatment, or coatings may be necessary to enhance the material's resistance to corrosion in specific applications.

### Strength:

This steel grade has a high tensile strength of 850-1000 MPa and a yield strength of 650-800 MPa. The high tensile strength of 709M40 steel makes it suitable for applications with high stresses and heavy loads.

### Benefits:

- Excellent wear and corrosion resistance
- High tensile strength
- High toughness
- For high stress applications

### Availability:

We stock 709M40 in round and square bars.

### Heat-treatment:

709M40 steel can be heat treated to achieve different mechanical properties, depending on the intended application. For example, quenching and tempering can be applied to achieve greater hardness and strength of the steel. In contrast, annealing can improve its machinability and reduce its internal stresses.

Due to its high strength and toughness, this steel grade is suitable for various industrial applications that require high strength and durability, such as gears, shafts & fasteners.



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