



# 708M40 (EN19)

HIGH TENSILE STEEL ALLOY

We are a division of the Smiths Metal Centres Limited Group

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**708M40** is a high-tensile steel commonly used in applications that demand high strength and toughness, such as aerospace, automotive, and defence industries.

It is low-alloy steel that contains chromium, molybdenum, and nickel - also referred to as EN19 steel. EN19 is the European standard for this grade of steel, while **708M40** is the British standard.

### Chemical Composition (weight, %)

	C	Si	Mn	P	S	Cr	Mo
Min.	0.36	0.10	0.70			0.90	0.15
Max.	0.44	0.40	1.00	0.035	0.040	1.20	0.25

\* Properties as per BS 970

### Introduction:

**708M40** offers good ductility, resistance to wear and good shock resistance properties. The presence of chromium, molybdenum, and nickel in the composition of this steel enhances its wear resistance, making it appropriate for use in harsh environments. Chromium and nickel provide good corrosion resistance; this can be further improved by applying a protective layer of another material, such as zinc or chromium. With these characteristics, it is a popular high-tensile engineering steel with a tensile of 850°-1000N/mm<sup>2</sup>.

### Temperature Performance:

It possesses good impact resistance at low temperatures. It is also suitable for a variety of high-temperature applications. The steel can be nitrided for additional wear and abrasion resistance to provide a shallow-depth wear-resistant case. Flame or induction hardening of the alloy can give a case hardness of 50HRC or greater.

### Benefits:

- High strength and toughness
- Enhanced wear resistance
- Good corrosion resistance
- Good impact resistance at low temperatures

### Availability:

Overall, **708M40** steel is a versatile material used in many applications requiring high strength, toughness, and durability. We stock **708M40** in round and square bars.

### Commercial Uses:

This steel grade is often used to manufacture high-performance sports equipment due to its mechanical properties. **708M40** is used in applications that require strength, durability and toughness. Such as bicycle frames - to form seamless tubing. Golf club shafts - where strength and flexibility are necessary to transfer energy from the golfer to the ball. Ice hockey blades - the alloy is often used as hardened and tempered steel blades, which can be sharpened to a fine edge for precise skating.



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