

Material Grade: **080M46**
 Material Condition(s): **Untreated / Normalised**
 Surface Finish: **As rolled / As forged / Bright turned**

Associated Standard: **BS970**

Description:

A medium carbon steel offering moderate tensile strengths. The material is capable of through hardening by quenching and tempering on limited sections but is more commonly supplied in the untreated or normalized condition. Machinability similar to that of mild steel can be expected, however weldability is reduced.

Typical applications: **Axles, spindles, studs and many automotive and general engineering components**

1. STEELMAKING

	<u>C</u>	<u>Si</u>	<u>Mn</u>	<u>S</u>	<u>P</u>	<u>Cr*</u>	<u>Ni*</u>	<u>Mo*</u>
Min	0.42	0.10	0.60					
Max	0.50	0.40	1.00	0.05	0.05	0.30	0.40	0.15

(* denotes residual element)

2. TYPICAL MECHANICAL PROPERTIES

Test type	Tensile and hardness test (at room temperature)					
	Yield (Re)	0.2 % proof	UTS (Rm)	Elong (A)	R of A (Z)	Hardness
Unit	N/mm ²	N/mm ²	N/mm ²	%	%	HB
Normalized	Min	310	620	14		179
	Max					229
Q + T to condition 'Q'	Min	370	625	16		179
	Max		775			229