

EN8 / 080M40

C40E 1.1186 AISI 1040 DIN C40

MATERIAL DATA SHEET

Parkside Steel

(Stockholders) Ltd

ISO 9001 | BSI FS 86692

Est. 1977 | Co. 01325509

01623 687 660

OVERVIEW

EN8 is the most widely used medium carbon engineering steel in the UK. In the normalised condition it provides significantly higher tensile strength than mild steel and is hardenable by flame or induction to 50-55 HRC surface hardness. Suitable for a wide range of general engineering applications.

TYPICAL APPLICATIONS

- Shafts and axles
- Keys and keyways
- Studs and bolts
- Couplings and flanges
- Connecting rods
- General machined components

SUPPLY & PROCESSING

Supply: Bright round bar 6-150mm. Black round bar 25-600mm. Hexagon, square and flat bar.
Condition: Normalised. Annealed and H&T; available on request.
Weldability: Fair. Preheat 150-250C. Low hydrogen electrodes. Slow cool.
Machinability: Good. 70-100 m/min carbide.
Certification: 2.2 Test Report standard. 3.1 on request.

GRADE EQUIVALENTS

Standard	Designation
BS EN 10083-2:2006	C40E / 1.1186
BS 970:1991 (withdrawn)	080M40
AISI/SAE	1040 / 1045
DIN	C40 / 1.0511
JIS	S40C

CHEMICAL COMPOSITION (% by weight)

Designation	C	Si	Mn	P max	S max
080M40	0.36–0.44	0.10–0.40	0.60–1.00	0.05	0.05
C40E	0.37–0.44	0.17–0.37	0.50–0.80	0.035	0.035

MECHANICAL PROPERTIES

Condition	Size (mm)	Tensile Rm (N/mm ²)	Yield Re (N/mm ²)	A% min	HB approx
Normalised	≤16 / >16–40 / >40–100	550–700 / 530–680 / 490–640	~340 / ~310 / ~275	14 / 14 / 15	163–207
H&T; (induction)	All	≥700	≥480	≥14	—

Indicative values. Properties vary by section size and heat treatment condition. Confirm with Parkside Steel.

TO ORDER / GET A QUOTE Call: 01623 687 660 Email: sales@parksidesteel.uk.com Online: parksidesteel.co.uk/quote No minimum order. Same-day collection available.

PARKSIDE STEEL (STOCKHOLDERS) LTD Byron House, 4 Willow Drive Sherwood Park, Annesley Nottinghamshire NG15 0DP ISO 9001 | BSI FS 86692 | Est. 1977

