

Engineering Steel

Applications

- Automotive parts
- Connecting rods
- Studs, bolts
- Axles, spindles
- General engineering components

Product Description

EN8 is an unalloyed medium carbon steel which is used in applications where better properties than mild steel are required but where the costs do not justify the purchase of a steel alloy. EN8 can be heat treated to provide a good surface hardness and moderate wear resistance by flame or induction hardening processes. From the automotive trade to wider general engineering applications, EN8 is a popular steel in industry.

Weldability

Heat treatment required if over 18mm to prevent cracking.

Key features:

- Unalloyed medium carbon steel
- Reasonable tensile strength
- Can be flame or induction hardened
- Readily machinable
- Moderate wear resistance if heat treated

Machinability

Good

Related material specifications

BS970: 1955	EN8
BS970/PD970:	080M40
1970 onwards	
European	C40, C45, Ck40, Ck45, Cm40, Cm45
Werkstoff No.	1.0511, 1.1186, 1.1189
US SAE (AISI)	1039, 1040, 1042, 1043, 1045

Availability

Round bar, square bar, hexagon and plate

Chemical Composition (weight %)

	C	Si	Mn	P	S
min.	0.36	0.10	0.60		
max.	0.44	0.40	1.00	0.05	0.05

Mechanical Properties (in "R" condition)

Max Stress	700-850 n/mm ²
Yield Stress	465 n/mm ² Min (up to 19mm LRS)
0.2% Proof Stress	450 n/mm ² Min (up to 19mm LRS)
Elongation	16% Min (12% if cold drawn)
Impact KCV	28 Joules Min (up to 19mm LRS)
Hardness	201-255 Brinell

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

Smiths Belfast	02895 908 897
Smiths Biggleswade	01767 604 704
Smiths Birmingham	0121 728 4940
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Quality & Testing:



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