

TECHNICAL GUIDE

080M40 / 080A42 / EN8D

Steel Description



080M40 / 080A42 / EN8D is a medium “40” carbon steel that is supplied in the bright drawn or turned bar condition. It has reasonable tensile strength where better properties than mild steel are required and can be heat treated to provide a good surface hardness with moderate wear resistance by flame or induction hardening processes, but welding is not recommended. 080M40 / 080a42 / EN8D is readily machinable and is used for axles, pins, shafts, spindles and studs. Where higher machining speeds and a better surface finish is required, we can also supply a sulphurised semi freecutting 212A42 / EN8DM on which we have a technical guide.

BS970: 1955	BS970: 1991	COLOUR CODE	DESCRIPTION
EN8D	080A42		Bright / black "40" carbon steel

CHEMICAL ANALYSIS	
Car	0.40 / 0.45
Sil	0.10 / 0.40
Mang	0.70 / 0.90
Phos	0.05 max
Sul	0.05 max
Chr	-
Moly	-
Nick	-
Lead	-

INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH BS 970:1991	080A42
BRITISH BS 970:1955	EN8D
GERMAN DIN	CK40
FRENCH AFNOR	XC42
SWEDISH SS	I 650
AMERICAN SAE	1040
EUROPEAN STEEL NO.	1.1186
EUROPEAN STEEL NAME	C40E
EUROPEAN STANDARD	EN10277-2

QUICK VIEW SYSTEM	
MACHINEABILITY	80
WELDABILITY	Precaution may be required
HARDENABILITY	Small sizes suitable for induction hardening
SELECTION GUIDE AND USAGE EXAMPLES	Medium tensile strength. Axles, shafts, spindles and studs

SIZE RANGE SUMMARY			
	Rounds	IMP	1/4" - 6" dia
		MM	6mm - 330mm dia
	Squares	IMP	3/16" - 3" Square

SEE STOCK RANGE FOR SPECIFIC SIZES.