

1020 CARBON STEEL BAR

1020 is a low carbon mild steel. This bar is supplied in As Rolled black condition, with sizes over 250mm also supplied in forged and Rough Machined condition. 1020 combines excellent weldability, with good machinability and very good ductility.

Typical Applications are: General Engineering Parts and Components, Welded Structures etc. In carburised condition: Camshafts, Light Duty Gears, Gudgeon Pins, Ratchets, Spindles, Worm Gears etc.

Stocked Sizes	-	As Rolled Round	36 mm – 300 mm Ø
		Forged Rough Machined	250 mm – 530 mm Ø

Related Specifications

Australia	AS 1442/1443 – 1992 1020
Japan	JIS G4051 S20C
USA	AISI 1020 ASTM A29 – 91 1020 SAE 1020 UNS G10200

Chemical Composition*

	Min. %	Max %
Carbon	0.18	0.23
Silicon	0.10	0.35
Manganese	0.30	0.60
Phosphorous		0.04
Sulphur		0.04

*Vulcan allow for a maximum Chromium content of 0.5%

Typical Mechanical Properties – As Rolled (For Guidance Only)

Tensile Strength (Mpa)	360-560
Yield Strength (Mpa)	280-350
Elongation in 50mm (%)	36
Hardness (Brinell BHN)	110-170

Annealing

Heat to 870-910 Deg C. Hold until temperature is uniform throughout the section and allow to cool in furnace.

Normalizing

Heat to 890- 940 Deg C. Hold until temperature is uniform through the section, soak for 10-15 minutes and allow to cool in still air.

Stress Relieving

Heat to 650-700 Deg C. Hold until temperature is uniform throughout the section, soak for 1 hour per 25mm of section, and cool in still air