

Aerospace Carbon Steel Tube

Typical Applications

- Shafts
- Chains
- Lightly stressed gears
- Pins
- Hard wearing surfaces
- Case Hardened components where core strength is essential

Key features:

- Good combination of strength and ductility
- Limited hardenability
- Good machinability
- Easily welded
- For simple structural applications

Product Description

A plain carbon steel with moderate strength and limited hardenability. Finds applications in general engineering and some motorsports where required performance requirements are relatively low and strength to weight ratios less important. The material has a good combination of strength and ductility and can be hardened or carburised. 1020 is commonly used in the case hardened condition.

Machinability & Weldability

Good machinability (65%). Can be easily welded using traditional methods.

Availability

Tube

Chemical Composition (weight %)

	Mn	C	S	P	Fe				
Min	0.30	0.18			Bal				
Max	0.60	0.23	0.05	0.04	Bal				

Mechanical Properties (cold rolled condition)

Tensile strength	420	MPa
Yield strength	350	MPa
Modulus of elasticity	205	GPa
Shear modulus (typical for steel)	80	GPa
Poisson's ratio	0.29	
Elongation at break (in 50 mm)	15	%
Hardness, Brinell	121	
Hardness, Knoop (converted from Brinell hardness)	140	
Hardness, Rockwell B (converted from Brinell hardness)	68	
Hardness, Vickers (converted from Brinell hardness)	126	
Machinability (based on AISI 1212 steel. as 100 machinability)	65	

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.

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