VULCAN
Engineering Steels

20MnV6 HOLLOW BAR

20MnV6 Hollow Bar is a Vanadium micro alloyed carbon-manganese steel. Supplied in the as rolled or cold drawn condition (size dependent), it has a typical ultimate tensile range of 550-790 Mpa and high typical yield strength of 430-570 Mpa. 20mnV6 is a readily weldable, high yield/tensile strength micro alloy steel, and is extensively used in almost all industry sectors for a wide range of applications.

Stocked Sizes	-	Rounds	EN Sizes - 30 mm O/D – 250 mm O/D ISO Sizes – 250 mm O/D to 610 mm O/D
Finishes	-	Hot Rolled and Cold Rolled	

Related Specifications		
Europe	EN 10294-1 2005 – E470	
Germany	W. Nr. 1.5217 20MnV6	
USA	UNS K01907	
Chemical Composition		
	Min. %	**Max %**
Carbon	0.16	0.22
Silicon	0.10	0.50
Manganese	1.30	1.70
Vanadium	0.08	0.15
Phosphorous	0	0.03
Sulphur	0.015	0.05

Mechanical Properties as Rolled		
Tensile Strength Mpa (Min)	<16mm Wall	650
	16mm<25mm Wall	620
	>25mm Wall	550
0.20% Proof Stress (Yield) Mpa	<16mm Wall	470
	16mm<25mm Wall	460
	25mm<70mm Wall	430
	<70mm Wall	Ask For Test Cert
Elongation % Min		17%
Hardness Brinell HB Min		170 BHN
Annealing		
Heat to 815-850 Deg C. Hold until temperature is uniform throughout the section and allow to cool in furnace.		

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316/L STAINLESS STEEL HOLLOW BAR

316/L is a low carbon austenitic marine grade stainless steel. It is characterized as a good strength stainless steel with excellent corrosion resistance in the annealed condition. Optimum corrosion resistance is achieved in annealed condition.
316/L Stainless Steel is not suitable for hardening by thermal treatment, but can be increased by cold working. Note that this has a corresponding reduction in ductility.
Typical uses include: Textile Equipment, Marine Equipment and fittings, Pulp and Paper processing equipment, medical equipment etc.

Stocked Sizes - 32 mm – 400 mm O/D

Related Specifications		
Germany	W Nr 1.4404 X2CrNiMo17 13 2 W Nr 1.4435 X2CrNiMo18 14 3	
USA	ASTM A511-96 316L SAE 30316L AISI 316L UNS S31603	
Chemical Composition		
	Min. %	**Max %**
Carbon	0	0.08 (316L – 0.03)
Silicon	0	1.00
Manganese	0	2.00
Nickel	10.00	15.00
Chromium	16.00	18.00
Molybdenum	2.00	3.00
Phosphorous		0.045
Sulphur		0.030

Typical Mechanical Properties – At Room Temperature in rolled annealed condition (For Guidance Only)	
Tensile Strength (Mpa)	580
Yield Strength (Mpa)	290
Elongation in 50mm (%)	50
Hardness (Brinell BHN)	175
Annealing	
Heat to 1020-1100 Deg C. Hold until temperature is uniform throughout the section. Soak as required (Min 30 minutes per 25mm of section). Quench in water to optimize corrosion resistance.	