

## Material: AS 3

### Standard Specification for Carbon Steels and Carbon Manganese Steels - Hot Rolled Bars and Semi Finished Products

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** AS 3 Carbon Steels and Carbon Manganese Steels - Hot Rolled Bars and Semi Finished Products

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Hot Rolled Bar

Chemical Composition			Heat Treatment	
Carbon	C %	0.250 max.	Annealing or Normalizing or Hardening + Tempering	
Silicon	Si %	0.100 - 0.400		
Manganese	Mn %	1.400 max.		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.040 max.		
Chromium	Cr %	0.300 max.		
Nickel	Ni %	0.350 max.		
Molybdenum	Mo %	0.100 max.		
Copper	Cu %	0.350 max.		
Iron	Fe %	Balance		
-	-	-	<b>Mechanical Properties</b> Tensile Strength in Mpa 410 min. Yield Strength in Mpa 230 min. Elongation in % 22 min. Reduction of Area in % - Hardness in BHN - Impact in Joule -	
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-	-	-		
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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
1.0457	EN	European Union	Pipes
1.0484	DIN	Germany	Pipes
13030	CSN	Czech Republic	Steel
20MB5	AFNOR NF	France	Cold Rolled, Strip
230 - 450 W	JIS	Japan	Casting
J13005	UNS	USA	Casting
A487 2A	ASTM	USA	Casting

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