

## Material: ASME SA-213 S31277

### Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** ASME SA-213 S31277 Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes

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

**Grade Belongs to the Industry:** Tube

Chemical Composition			Heat Treatment	
Carbon	C %	0.020 max.	As-Cast or Annealing or Age Hardning	
Silicon	Si %	0.500 max.		
Manganese	Mn %	3.000 max.		
Chromium	Cr %	20.500 - 23.000		
Molybdenum	Mo %	6.500 - 8.000		
Copper	Cu %	0.500 - 1.500		
Nitrogen	N %	0.300 - 0.400		
Phosphorus	P %	0.030 max.		
Sulphur	S %	0.010 max.		
Nickel	Ni %	26.000 - 28.000		
-	-	-	<b>Mechanical Properties</b> Tensile Strength in Mpa 770 min. Yield Strength in Mpa 360 min. Elongation in % 40 min. Reduction of Area in % - Hardness in HRC 100 max. Impact in Joule -	
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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
Incoloy 27-7MO	Gravity	India	Sheet, Plate, Bar and Wire
A 213 S31277	ASTM	USA	Tube
A 240 S31277	ASTM	USA	Plate, Sheet and Strip
A 249 S31277	ASTM	USA	Tube
A 312 S31277	ASTM	USA	Pipe
A 580 S31277	ASTM	USA	Wire
A 959 S31277	ASTM	USA	Pipe

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