

# Material: ASTM A 213 S31277

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

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** ASTM A 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		
Carbon	C %	0.020 max.
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
Nickel	Ni %	26.000 - 28.000
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment
As-Cast or Annealing or Age Hardening

Mechanical Properties	
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	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
Incoloy 27-7MO	Gravity	India	Sheet, Plate, Bar and Wire
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
SA-213 S31277	ASME	USA	Tube

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Customer Care: +91-99090 45075 Email: [info@icastllp.com](mailto:info@icastllp.com)



+91-99090 45075



[info@icastllp.com](mailto:info@icastllp.com)



ICAST ALLOYS LLP, Plot 2527, Road H1, Kranti Gate, GIDC Metoda, Lodhika, Rajkot-360021, Gujarat, India