

Material - ASTM A213 Alloy 20

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

Group - Non-Ferrous Nickel Alloys

Sub Group - ASTM A213 Alloy 20 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 %	0.070 max.		
Silicon	Si %	1.000 max.		
Manganese	Mn %	2.000 max.		
Chromium	Cr %	19.000 - 21.000	As-Cast or Annealing or Age Hardning	
Sulphur	S %	0.035 max.		
Molybdenum	Mo %	2.000 - 3.000		
Copper	Cu %	3.000 - 4.000		
Nb + Ta	Nb% + Ta%	1.000 max.		-
Phosphorus	P %	0.045 max.	Mechanical Properties	
Nickel	Ni %	32.000 - 38.000	Tensile Strength in Mpa	550 min.
Iron	Fe %	Balance	Yield Strength in Mpa	240 min.
-	-	-	Elongation in %	30 min.
-	-	-	Reduction of Area in %	-
-	-	-	Hardness in BHN	217 max.
-	-		Impact in Joule	-

Cross Reference Table				
Material	Standard	Country Grade Belong to the Industry		
Incoloy Alloy 020	Gravity	India	Pipe, Tube, Sheet, Strip, Plate, Hexagon and Wire	
A 312 Alloy 20	ASTM	USA	Pipe	
A 312 N08020	ASTM	USA	Pipe	
AS-312 Alloy 20	ASME	USA	Pipe	
SA 213 Alloy 20	ASME	USA	Tube	
SA-312 Alloy 20	ASME	USA	Pipe	
NCF020	JIS	Japan	Plate, Sheet and Strip	

Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email marketing@gravitycastindia.com

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