

Industeel CLC 17.13.3 LN Nitrogen Containing 18Cr-10Ni-2Mo Austenitic Stainless Steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T S30000 Series Stainless Steel

Material Notes:

Description: CLC 17-13-3LN is a nitrogen alloyed austenitic stainless steel with Mo additions. Its low carbon content avoids intergranular corrosion, even on welded pieces without an ulterior water quenching. Alloys CLC 17-13-3LN exhibits austenitic microstructure free of deleterious carbide precipitations in grain boundaries. The grade contains residual ferrite (= 2%) after solution annealing (1050 - 1150Å°C / 1922 - 2102Å°F) and water quenching. Higher Molybdenum content improves uniform and localized corrosion resistance. Nitrogen additions improve the structure stability and increase the yield strength compared to CLC 17-12-2L. Main properties of CLC 17-13-3LN are : high ductility, easy weldability, mirror polishability. Typical applications are food and beverage processing industry, chemical industry and chemical tankers. Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-CLC-17133-LN-Nitrogen-Containing-18Cr-10Ni-2Mo-Austenitic-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	7.95 g/cc	0.287 lb/inÅ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	637 MPa	92400 psi	Typical
	580 - 780 MPa	84100 - 113000 psi	Minimum Guaranteed
Tensile Strength, Yield	>= 280 MPa	>= 40600 psi	
	@Strain 0.200 %	@Strain 0.200 %	
	>= 320 MPa	>= 46400 psi	
	@Strain 1.00 %	@Strain 1.00 %	
Elongation at Break	355 MPa	51500 psi	Typical
	@Strain 0.200 %	@Strain 0.200 %	
	>= 45 %	>= 45 %	
	58 %	58 %	Typical
Creep Strength	270 MPa	39200 psi	
	@Temperature 600 Å°C, Time 3.60e+6 sec	@Temperature 1110 Å°F, Time 1000 hour	
Modulus of Elasticity	200 GPa	29000 ksi	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	

Poissons Ratio Mechanical Properties	0.299 Metric	0.299 English	Calculated Comments
Shear Modulus	77.0 GPa	11200 ksi	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Charpy Impact	>= 187 J	>= 138 ft-lb	
	325 J	240 ft-lb	Typical
	>= 125 J	>= 92.2 ft-lb	
	@Temperature -196 Å°C	@Temperature -321 Å°F	
	250 J	184 ft-lb	Typical
	@Temperature -196 Å°C	@Temperature -321 Å°F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 Åµm/m-Å°C	8.89 Åµin/in-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
	16.5 Åµm/m-Å°C	9.17 Åµin/in-Å°F	
	@Temperature 20.0 - 200 Å°C	@Temperature 68.0 - 392 Å°F	
	17.0 Åµm/m-Å°C	9.44 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
	18.0 Åµm/m-Å°C	10.0 Åµin/in-Å°F	
	@Temperature 20.0 - 500 Å°C	@Temperature 68.0 - 932 Å°F	
Specific Heat Capacity	0.500 J/g-Å°C	0.120 BTU/lb-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
Thermal Conductivity	15.0 W/m-K	104 BTU-in/hr-ftÅ²-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.030 %	0.030 %	
Chromium, Cr	17.9 %	17.9 %	

Iron, Fe Component Elements Properties	68.51 % Metric	68.51 % English	As remainder Comments
Molybdenum, Mo	2.6 %	2.6 %	
Nickel, Ni	10.8 %	10.8 %	
Nitrogen, N	0.16 %	0.16 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000750 ohm-cm	0.0000750 ohm-cm	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

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