Industeel CLC 18.12.4 LN 3%Mo Austenitic Stainless Steel with Nitrogen Addition

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

Material Notes:

Description: CLC 18-12-4LN (317LN) is a Nitrogen alloyed austenitic stainless steel with a 3% Mo minimum addition (>4%). Alloys CLC 18-12-4LN (317LN) exhibit austenitic microstructure free of deleterious carbide precipitations in grain boundaries. The grade contains some residual ferrite (= 2%) after solution annealing (1100 - 1150Â°C / 2012 - 2102Â°F) and water quenching. Its low carbon content avoids the intergranular corrosion, even on welded pieces without an ulterior water quenching. The high Molybdenum content gives this steel a higher resistance to corrosion in chlorides environments than standard grades (CLC17-12-2L / 316L). Nitrogen additions improves structure stability, increases the yield strength and improves pitting and crevice corrosion resistance when compared to CLC 18-15-4L (317L). Its main properties are : high ductility and improved corrosion resistance. The main applications are chemical and petrochemical applications, pollution control equipments and chemical tankers.Information provided by manufacturer.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Industeel-CLC-18124-LN-3Mo-Austenitic-Stainless-Steel-with-Nitrogen-Addition.php

Physical Properties	Metric	English	Comments
Density	8.00 g/cc	0.289 lb/inÂ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 590 MPa	>= 85600 psi	
Tensile Strength, Yield	>= 290 MPa @Strain 0.200 %	>= 42100 psi @Strain 0.200 %	
	>= 315 MPa @Strain 1.00 %	>= 45700 psi @Strain 1.00 %	
Elongation at Break	>= 40 %	>= 40 %	
Modulus of Elasticity	200 GPa @Temperature 20.0 - 100 Â°C	29000 ksi @Temperature 68.0 - 212 Â°F	
Poissons Ratio	0.299	0.299	Calculated
Shear Modulus	77.0 GPa @Temperature 20.0 - 100 Â°C	11200 ksi @Temperature 68.0 - 212 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 Âµm/m-Â°C	8.89 Âµin/in-Â°F	

Thermal Properties	Metric	English	Comments
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
	16.5 Âµm/m-Â°C @Temperature 20.0 - 200 Â°C	9.17 Âµin/in-Â°F @Temperature 68.0 - 392 Â°F	
	17.0 Âµm/m-Â°C @Temperature 20.0 - 300 Â°C	9.44 Âµin/in-Â°F @Temperature 68.0 - 572 Â°F	
	18.0 Âµm/m-Â°C @Temperature 20.0 - 500 Â°C	10.0 Âµin/in-Â°F @Temperature 68.0 - 932 Â°F	
Specific Heat Capacity	0.500 J/g-Â°C @Temperature 20.0 - 100 Â°C	0.120 BTU/lb-Â°F @Temperature 68.0 - 212 Â°F	
Thermal Conductivity	14.0 W/m-K @Temperature 20.0 - 100 Â°C	97.2 BTU-in/hr-ftÂ²-Â°F @Temperature 68.0 - 212 Â°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.030 %	<= 0.030 %	
Chromium, Cr	18.2 %	18.2 %	
Iron, Fe	65.43 - 65.46 %	65.43 - 65.46 %	As remainder
Molybdenum, Mo	3.2 %	3.2 %	
Nickel, Ni	13 %	13 %	
Nitrogen, N	0.14 %	0.14 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000800 ohm-cm @Temperature 20.0 - 100 Â°C	0.0000800 ohm-cm @Temperature 68.0 - 212 Â°F	

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