

Industeel UREA 25.22.2 Plants

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T 300 Series Stainless Steel

Material Notes:

Description: CLI UREA 25.22.2 chemical composition has been optimized for specific uses in Urea plants. It is a 310L modified austenitic stainless steel with low carbon, low silicon and high nitrogen additions in order to stabilize and strengthen the austenitic phase. The alloy is designed to obtain a fully austenitic stainless steel free of intermetallic phases as intergranular carbide precipitations which affects the corrosion resistance properties of the alloy in urea containing solutions. The ferrite level is kept under 0.5% in the solution annealing and water quenched conditions. The alloy is particularly designed for improved corrosion resistance properties in urea carbonate environments including strippers. The grade is also well designed for resistance in wet corrosive conditions due to its high contents of chromium, molybdenum and nitrogen (PREN = 33) Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-UREA-25222-Plants.php

Physical Properties	Metric	English	Comments
Density	7.90 g/cc	0.285 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	550 MPa	79800 psi	Typical after Solution Annealing
Tensile Strength, Yield	260 MPa	37700 psi	Typical after Solution Annealing
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	290 MPa	42100 psi	Typical after Solution Annealing
	@Strain 1.00 %	@Strain 1.00 %	
Elongation at Break	40 %	40 %	Typical
Modulus of Elasticity	200 GPa	29000 ksi	
Poissons Ratio	0.333	0.333	Calculated
Shear Modulus	75.0 GPa	10900 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Charpy Impact	>= 120 J	>= 88.5 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 µm/m-°C	8.89 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	16.5 µm/m-°C	9.17 µin/in-°F	

Thermal Properties	Metric @Temperature 20.0 - 300 °C	English @Temperature 68.0 - 572 °F	Comments
	17.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	9.72 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
Specific Heat Capacity	0.500 J/g-°C	0.120 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	14.0 W/m-K	97.2 BTU-in/hr-ft ² -°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.020 %	<= 0.020 %	
Chromium, Cr	25 %	25 %	
Iron, Fe	48.36 - 50.78 %	48.36 - 50.78 %	As remainder
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Molybdenum, Mo	2.1 %	2.1 %	
Nickel, Ni	22 %	22 %	
Nitrogen, N	0.12 %	0.12 %	
Silicon, Si	<= 0.40 %	<= 0.40 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000950 ohm-cm	0.0000950 ohm-cm	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

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