

Industeel URANUS® S1 4 % Si, Austenitic Stainless Steel Resistant to Nitric Acid Solutions

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

Material Notes:

Description: Research carried out in about the last fifteen years in CREUSOT LOIRE INDUSTRIE laboratories shows that a strong addition of silicon to austenitic stainless steels of the 18/10 type has a favorable influence on resistance to transpassive intergranular corrosion. This type of corrosion develops particularly in very concentrated nitric environments (> 90 %) up to boiling point, also in strongly oxidizing nitric environments (oxidizing ions present such as : hexavalentchromic pentavalent vanadium - ferritic salts etc...). URANUS® S1 steel grade puts in a concrete form the results of research in this domain. Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-URANUS-S1-4-Si-Austenitic-Stainless-Steel-Resistant-to-Nitric-Acid-Solutions.php

Physical Properties	Metric	English	Comments
Density	7.70 g/cc	0.278 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 530 MPa	>= 76900 psi	Minimum Guaranteed
Tensile Strength, Yield	>= 260 MPa	>= 37700 psi	
	@Strain 1.00 %	@Strain 1.00 %	
Elongation at Break	>= 280 MPa	>= 40600 psi	
	@Strain 0.200 %	@Strain 0.200 %	
Modulus of Elasticity	200 GPa	29000 ksi	
Poissons Ratio	0.22	0.22	Calculated
Shear Modulus	82.0 GPa	11900 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.5 µm/m-°C	9.17 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	18.0 µm/m-°C	10.0 µin/in-°F	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
	19.0 µm/m-°C	10.6 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
Specific Heat Capacity	0.200 J/g-°C @Temperature 20.0 °C	0.0478 BTU/lb-°F @Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.015 %	<= 0.015 %	
Chromium, Cr	17 %	17 %	
Iron, Fe	64.485 - 64.5 %	64.485 - 64.5 %	As remainder
Nickel, Ni	14.5 %	14.5 %	
Silicon, Si	4.0 %	4.0 %	

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

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