

Industeel URANUS® 45N+ 22% Cr Austenitic-Ferritic Duplex Stainless Steel

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

Material Notes:

Description: URANUS® 45N+ (UR 45N+) is a nitrogen alloyed austenitic-ferritic Duplex stainless steel (22.05), with a minimum PREN value guaranteed of 36 due to over-alloying in Molybdenum and Chromium. This alloy presents higher mechanical and corrosion resistance properties than duplex 22 Cr stainless steels. Its yield strength is about twice that of standard austenitic grades and well in excess of that of nitrogen alloyed austenitics. Operation temperature of UR 45 N+ is generally limited from -50°C to 280°C (- 58°F to 536°F). Lower temperature used particularly for welded structures may also be considered, but needs technical background. Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-URANUS-45N-22-Cr-Austenitic-Ferritic-Duplex-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 720 MPa	>= 104000 psi	
Tensile Strength, Yield	>= 510 MPa	>= 74000 psi	
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	>= 540 MPa	>= 78300 psi	
	@Strain 1.00 %	@Strain 1.00 %	
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	>= 90.0 J	>= 66.4 ft-lb	
	120 J	88.5 ft-lb	Typical
	>= 75.0 J	>= 55.3 ft-lb	
	@Temperature -50.0 °C	@Temperature -58.0 °F	
	90.0 J	66.4 ft-lb	Typical
	@Temperature -50.0 °C	@Temperature -58.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	6.67 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 100 $^{\circ}\text{C}$	@Temperature 68.0 - 212 $^{\circ}\text{F}$	
	12.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	6.94 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 200 $^{\circ}\text{C}$	@Temperature 68.0 - 392 $^{\circ}\text{F}$	
	13.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	7.22 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 - 300 $^{\circ}\text{C}$	@Temperature 68.0 - 572 $^{\circ}\text{F}$	
Specific Heat Capacity	0.450 $\text{J}/\text{g}\cdot^{\circ}\text{C}$	0.108 $\text{BTU}/\text{lb}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Thermal Conductivity	17.0 $\text{W}/\text{m}\cdot\text{K}$	118 $\text{BTU}\cdot\text{in}/\text{hr}\cdot\text{ft}^2\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.020 %	0.020 %	
Chromium, Cr	22.6 %	22.6 %	
Iron, Fe	67.799 %	67.799 %	As remainder
Molybdenum, Mo	3.4 %	3.4 %	
Nickel, Ni	6.0 %	6.0 %	
Nitrogen, N	0.18 %	0.18 %	
Sulfur, S	0.0010 %	0.0010 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000800 $\text{ohm}\cdot\text{cm}$	0.0000800 $\text{ohm}\cdot\text{cm}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China