Industeel SIRIUS S15 Rare Earth Containing Heat Resistant Steel

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

Material Notes:

CLI SIRIUS S15 grade is a fully austenitic stainless steel containing 21 Cr, 1.7 Si, 0.17 N and Rare Earth elements (Cerium, Lanthanum,...etc) which make the alloy particularly well designed for high temperature applications. The nitrogen additions stabilize the austenitic microstructure, particularly at high temperatures. The alloy is less susceptible to embrittlement effects occurring after long term exposure. Creep properties are enhanced, due to high Chromium and Nitrogen. Rare Earth elements (Ce, La,...) are added in order to anchor the oxide protective film and improve the resistance of the steel to oxide spalling. As a result, the alloy is much more resistant to high temperature thermal cycling effects in oxidizing atmospheres compared to 310. CLI SIRIUS S15 grade may be used up to 1100Â°C (2012Â°F in oxidizing environments. Thermal cycling effects, sulphur containing atmospheres and low oxygen contents reduce the high temperature resistance of the steel.>Information provided by manufacturer.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Industeel-SIRIUS-S15-Rare-Earth-Containing-Heat-Resistant-Steel.php

Physical Properties	Metric	English	Comments
Density	7.90 g/cc	0.285 lb/inÂ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	680 MPa	98600 psi	Typical after Solution Annealing
Tensile Strength, Yield	350 MPa @Strain 0.200 %	50800 psi @Strain 0.200 %	Typical after Solution Annealing
	370 MPa @Strain 1.00 %	53700 psi @Strain 1.00 %	Typical after Solution Annealing
Elongation at Break	40 %	40 %	Typical
Creep Strength	200 MPa @Temperature 600 Â°C, Time 3.60e+6 sec	29000 psi @Temperature 1110 Â°F, Time 1000 hour	1% Creep Strain
Modulus of Elasticity	200 GPa	29000 ksi	
Poissons Ratio	0.333	0.333	Calculated
Shear Modulus	75.0 GPa @Temperature 20.0 Â°C	10900 ksi @Temperature 68.0 Â°F	

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

Thermal Properties	Metric	English	Comments
CTE, linear	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
	17.0 Âµm/m-Â°C @Temperature 20.0 - 200 Â°C	9.44 Âµin/in-Â°F @Temperature 68.0 - 392 Â°F	
	18.0 Âµm/m-Â°C @Temperature 20.0 - 400 Â°C	10.0 Âµin/in-Â°F @Temperature 68.0 - 752 Â°F	
	18.5 Âµm/m-Â°C @Temperature 20.0 - 600 Â°C	10.3 Âµin/in-Â°F @Temperature 68.0 - 1110 Â°F	
Specific Heat Capacity	0.500 J/g-Â°C @Temperature 20.0 Â°C	0.120 BTU/lb-Â°F @Temperature 68.0 Â°F	
Thermal Conductivity	15.0 W/m-K @Temperature 20.0 Â°C	104 BTU-in/hr-ftÂ²-Â°F @Temperature 68.0 Â°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.080 %	0.080 %	
Chromium, Cr	21 %	21 %	
Iron, Fe	66.01 %	66.01 %	As remainder
Nickel, Ni	11 %	11 %	
Nitrogen, N	0.17 %	0.17 %	
Rare Earths	0.040 %	0.040 %	
Silicon, Si	1.7 %	1.7 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000900 ohm-cm @Temperature 20.0 Â°C	0.0000900 ohm-cm @Temperature 68.0 Â°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