Carlson C 625 Nickel-Chromium-Molybdenum Alloy

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

General DescriptionCarlson Alloy C 625 is a nickel-chromium-molybdenum alloy that combines high strength and oxidation resistance with excellent corrosion resistance. C 625 exhibits exceptional fatigue strength and superior strength and toughness over a wide temperature range – from cryogenic to approximately 1800°F (980°C)The combination of high chromium and molybdenum provides excellent elevated temperature properties and outstanding aqueous corrosion resistance in a wide range of environments. Molybdenum also makes C 625 virtually immune to pitting and crevice attack in sea water and similar chloride environments.The high nickel content of C625 provides immunity to chloride stress corrosion cracking.C 625 is resistant to a number of corrosive environments, including sea water, phosphoric acid, organic acids, mixtures of oxidizing and reducing acids, caustic solutions and other aggressive chemicals encountered in pollution control environments.ApplicationsC 625 is utilized in both high temperature and corrosive applications in chemical processing, pulp and paper, air pollution control, ore processing, waste treatment and disposal, steel pickling, marine equipment, nuclear reactor components, aerospace and gas turbines.Chemical Process Equipment – Phosphoric acid, nitric-sulfuric and nitric-hydrofluoric acids, hydrofluoric and fluosilicic acid mixtures, sulfuric acid, calcium chloride and magnesium chloride, pesticides, and styrene.Pulp and Paper – head boxesAir Pollution Control – power plant scrubbers, electrostatic precipitators, waste-heat recovery systems, smelting scrubbers, and scrubbers for industrial boilers and inert-gas generators.Ore Processing – uranium processing, copper refining, aluminum sulfate production.Waste Treatment and Disposal – municipal refuse incinerators, sewage sludge incinerators, chemical and toxic waste incinerators.Steel Pickling – hydrochloric acidMarine Equipment – scrubbers for inert-gas generators, submerged equipment.Aerospace and Gas Turbines – jet engine components, turbine blades.Information provided by Carlson

Order this product through the following link:
http://www.lookpolymers.com/polymer_Carlson-C-625-Nickel-Chromium-Molybdenum-Alloy.php

Physical Properties	Metric	English	Comments
Density	8.44 g/cc	0.305 lb/in³	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	>= 758 MPa	>= 110000 psi	
Tensile Strength, Yield	>= 379 MPa @Strain 0.200 %	>= 55000 psi @Strain 0.200 %	
Elongation at Break	>= 30 %	>= 30 %	

Thermal Properties	Metric	English	Comments
CTE, linear	13.1 µm/m-°C @Temperature 21.1 - 204 °C	7.30 µin/in-°F @Temperature 70.0 - 400 °F	
	13.7 µm/m-°C @Temperature 21.1 -	7.60 µin/in-°F @Temperature 70.0 -	

Thermal Properties	Metric	English	Comments
	427 °C	800 °F	
	15.8 µm/m-°C @Temperature 21.1 - 871 °C	8.80 µin/in-°F @Temperature 70.0 - 1600 °F	
Specific Heat Capacity	0.410 J/g-°C	0.0980 BTU/lb-°F	
Melting Point	1290 - 1350 °C	2350 - 2460 °F	
Solidus	1290 °C	2350 °F	
Liquidus	1350 °C	2460 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 0.40 %	<= 0.40 %	
Carbon, C	<= 0.10 %	<= 0.10 %	
Chromium, Cr	20 - 23 %	20 - 23 %	
Cobalt, Co	<= 1.0 %	<= 1.0 %	
Iron, Fe	<= 5.0 %	<= 5.0 %	
Manganese, Mn	<= 0.50 %	<= 0.50 %	
Molybdenum, Mo	8.0 - 10 %	8.0 - 10 %	
Nb + Ta	3.15 - 4.15 %	3.15 - 4.15 %	
Nickel, Ni	>= 58 %	>= 58 %	
Phosphorous, P	<= 0.015 %	<= 0.015 %	
Silicon, Si	<= 0.50 %	<= 0.50 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	
Titanium, Ti	<= 0.40 %	<= 0.40 %	

Electrical Properties	Metric	English	Comments
Magnetic Permeability	1.0006	1.0006	200 Oersted
Curie Temperature	<= -195.56 °C	<= -320.01 °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