

Carpenter Pyromet® CTX-3 Superalloy, Heat Treated

Category : Metal , Superalloy , Iron Base

Material Notes:

Data provided by Carpenter Technology Corporation. Pyromet® alloy CTX-3 is a high strength, precipitation hardenable superalloy which exhibits a low CTE over a broad temperature range. This alloy also possess high hot hardness and good thermal fatigue resistance. It is weldable, brazable, and can be chromium plated. This material offers significant improvement in notched stress-rupture strength over Pyromet alloy CTX-1. Retained hot-cold work is not required for good stress rupture properties and is not affected by stress orientation. Pyromet® is a registered trademark of Carpenter Technology Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Carpenter-Pyromet-CTX-3-Superalloy-Heat-Treated.php

Physical Properties	Metric	English	Comments
Density	8.28 g/cc	0.299 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1180 MPa	171000 psi	
	1040 MPa @Temperature 538 °C	151000 psi @Temperature 1000 °F	
Tensile Strength, Yield	830 MPa @Strain 0.200 %	120000 psi @Strain 0.200 %	
	673 MPa @Strain 0.200 %, Temperature 538 °C	97600 psi @Strain 0.200 %, Temperature 1000 °F	
Elongation at Break	14 %	14 %	In 50 mm
	16 % @Temperature 538 °C	16 % @Temperature 1000 °F	In 50 mm
Reduction of Area	23 %	23 %	
	39 % @Temperature 538 °C	39 % @Temperature 1000 °F	
Modulus of Elasticity	159.9 GPa	23190 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.50 µm/m-°C	4.17 µin/in-°F	
	@Temperature 25.0 -	@Temperature 77.0 -	

Thermal Properties	416 °C Metric	781 °F English	Comments
	7.70 µm/m-°C	4.28 µin/in-°F	
	@Temperature 25.0 - 260 °C	@Temperature 77.0 - 500 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 0.25 %	<= 0.25 %	
Boron, B	<= 0.012 %	<= 0.012 %	
Carbon, C	<= 0.050 %	<= 0.050 %	
Chromium, Cr	<= 0.50 %	<= 0.50 %	
Cobalt, Co	13 - 15 %	13 - 15 %	
Copper, Cu	<= 0.50 %	<= 0.50 %	
Iron, Fe	39 %	39 %	as remainder
Manganese, Mn	<= 0.50 %	<= 0.50 %	
Nb + Ta	4.5 - 5.5 %	4.5 - 5.5 %	
Nickel, Ni	37 - 39 %	37 - 39 %	
Niobium, Nb (Columbium, Cb)	<= 5.5 %	<= 5.5 %	
Phosphorous, P	<= 0.015 %	<= 0.015 %	
Silicon, Si	<= 0.50 %	<= 0.50 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	
Tantalum, Ta	<= 5.5 %	<= 5.5 %	
Titanium, Ti	1.25 - 1.75 %	1.25 - 1.75 %	

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