

## Carpenter Glass Sealing "42-6" Alloy

Category : Metal , Electronic/Magnetic Alloy , Ferrous Metal , Superalloy

### Material Notes:

A nickel-chromium-iron which has been developed to match the thermal expansion characteristics of 0120 glass. An additional advantage of this alloy for glass-to-metals seals is the tight dark green oxide coating formed by wet hydrogen annealing at 1900/2200°F (1038/1204°C) for one hour. The oxide tends to flux with the glass and make it a vacuum tight seal if the surfaces are clean. To obtain the necessary surface cleanliness, pickle in muriatic acid. This alloy has been supplied in strip form for glass windows and television/CRT anode buttons. It is supplied in wire form for compression seals. Data provided by Carpenter Technology Corporation.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Carpenter-Glass-Sealing-42-6-Alloy.php](http://www.lookpolymers.com/polymer_Carpenter-Glass-Sealing-42-6-Alloy.php)

Physical Properties	Metric	English	Comments
Density	8.11 g/cc	0.293 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	159 GPa	23000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	2.02 $\mu\text{m}/\text{m}\cdot\text{°C}$	1.12 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 25.0 - 100 °C	@Temperature 77.0 - 212 °F	
	2.19 $\mu\text{m}/\text{m}\cdot\text{°C}$	1.22 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 25.0 - 200 °C	@Temperature 77.0 - 392 °F	
Specific Heat Capacity	0.502 J/g-°C	0.120 BTU/lb-°F	
Thermal Conductivity	12.5 W/m-K	86.8 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	1427 °C	2601 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.070 %	<= 0.070 %	
Chromium, Cr	5.75 %	5.75 %	
Iron, Fe	51 %	51 %	as remainder
Manganese, Mn	0.50 %	0.50 %	
Nickel, Ni	42.5 %	42.5 %	

Component Elements Properties	Metric	English	Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000948 ohm-cm	0.0000948 ohm-cm	
Curie Temperature	293 °C	559 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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