

PEAK Werkstoff DISPAL S693 Aluminum Alloy, AlCu5Ti, Condition T4

Category : Metal , Nonferrous Metal , Aluminum Alloy

Material Notes:

High stiffness and elongation at rupture. Property data for Condition T4 (Quench in water at RT). Information provided by PEAK Werkstoff GmbH

Order this product through the following link:

http://www.lookpolymers.com/polymer_PEAK-Werkstoff-DISPAL-S693-Aluminum-Alloy-AlCu5Ti-Condition-T4.php

Physical Properties	Metric	English	Comments
Density	2.679 - 2.961 g/cc	0.09679 - 0.1070 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	>= 125	>= 125	
Tensile Strength	>= 488 MPa	>= 70800 psi	
Tensile Strength, Yield	>= 334 MPa	>= 48400 psi	
Elongation at Break	>= 16 %	>= 16 %	
Modulus of Elasticity	>= 72.0 GPa	>= 10400 ksi	
	>= 58.0 GPa @Temperature 300 °C	>= 8410 ksi @Temperature 572 °F	Condition T6
Poissons Ratio	>= 65.0 GPa @Temperature 200 °C	>= 9430 ksi @Temperature 392 °F	Condition T6
	0.341 @Temperature 20.0 °C	0.341 @Temperature 68.0 °F	Condition T6
Poissons Ratio	0.347 @Temperature 100 °C	0.347 @Temperature 212 °F	Condition T6
	0.354 @Temperature 150 °C	0.354 @Temperature 302 °F	Condition T6
Poissons Ratio	0.361 @Temperature 200 °C	0.361 @Temperature 392 °F	Condition T6
	0.364 @Temperature 250 °C	0.364 @Temperature 482 °F	Condition T6
Poissons Ratio	0.369	0.369	

Mechanical Properties	Metric @ Temperature 300 °C	English @ Temperature 572 °F	Condition T6 Comments
Shear Modulus	23.0 GPa	3340 ksi	Condition T6
	@Temperature 300 °C	@Temperature 572 °F	
	24.0 GPa	3480 ksi	Condition T6
	@Temperature 200 °C	@Temperature 392 °F	
	24.0 GPa	3480 ksi	Condition T6
	@Temperature 250 °C	@Temperature 482 °F	
	25.0 GPa	3630 ksi	Condition T6
	@Temperature 150 °C	@Temperature 302 °F	
	26.0 GPa	3770 ksi	Condition T6
	@Temperature 100 °C	@Temperature 212 °F	
	28.0 GPa	4060 ksi	Condition T6
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	22.9 - 23.9 $\mu\text{m}/\text{m}\cdot\text{°C}$	12.7 - 13.3 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	23.7 - 24.7 $\mu\text{m}/\text{m}\cdot\text{°C}$	13.2 - 13.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	24.5 - 25.5 $\mu\text{m}/\text{m}\cdot\text{°C}$	13.6 - 14.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
Thermal Conductivity	121.9 W/m-K	846.0 BTU-in/hr-ft ² -°F	
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	130.9 W/m-K	908.4 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	144.6 W/m-K	1004 BTU-in/hr-ft ² -°F	
	@Temperature 200 °C	@Temperature 392 °F	
	155.7 W/m-K	1081 BTU-in/hr-ft ² -°F	
	@Temperature 300 °C	@Temperature 572 °F	
	156.1 W/m-K	1083 BTU-in/hr-ft ² -°F	

Thermal Properties	Metric @ Temperature 400 °C	English @ Temperature 752 °F	Comments
Melting Point	512 - 659 °C	954 - 1220 °F	
Solidus	512.3 - 518.3 °C	954.1 - 964.9 °F	
Liquidus	653.6 - 659.3 °C	1208 - 1219 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	94 %	94 %	As Balance
Copper, Cu	5.0 %	5.0 %	
Titanium, Ti	1.0 %	1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000570 - 0.00000610 ohm-cm	0.00000570 - 0.00000610 ohm-cm	

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