

PEAK Werkstoff DISPAL S542 Aluminum Alloy, AlMg6Mn4SiTiZrCo, Condition F

Category : Metal , Nonferrous Metal , Aluminum Alloy

Material Notes:

Information provided by PEAK Werkstoff GmbH

Order this product through the following link:

http://www.lookpolymers.com/polymer_PEAK-Werkstoff-DISPAL-S542-Aluminum-Alloy-AlMg6Mn4SiTiZrCo-Condition-F.php

Physical Properties	Metric	English	Comments
Density	2.593 - 2.866 g/cc	0.09370 - 0.1036 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	>= 130	>= 130	HV30
Tensile Strength at Break	>= 85.0 MPa	>= 12300 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 155 MPa	>= 22500 psi	
	@Temperature 250 °C	@Temperature 482 °F	
	>= 230 MPa	>= 33400 psi	
Tensile Strength, Yield	@Temperature 200 °C	@Temperature 392 °F	
	>= 308 MPa	>= 44700 psi	
	@Temperature 150 °C	@Temperature 302 °F	
	>= 422 MPa	>= 61200 psi	
	@Temperature 100 °C	@Temperature 212 °F	
Tensile Strength, Yield	>= 435 MPa	>= 63100 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	>= 50.0 MPa	>= 7250 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 110 MPa	>= 16000 psi	
Tensile Strength, Yield	@Temperature 250 °C	@Temperature 482 °F	
	>= 193 MPa	>= 28000 psi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 252 MPa	>= 36500 psi	
	@Temperature 150 °C	@Temperature 302 °F	

Mechanical Properties	>= 295 MPa Metric	>= 42800 psi English	Comments
	@Temperature 100 °C	@Temperature 212 °F	
	>= 300 MPa	>= 43500 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Elongation at Break	>= 6.5 %	>= 6.5 %	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	>= 11 %	>= 11 %	
	@Temperature 100 °C	@Temperature 212 °F	
	>= 31 %	>= 31 %	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 34 %	>= 34 %	
	@Temperature 150 °C	@Temperature 302 °F	
	>= 45 %	>= 45 %	
	@Temperature 250 °C	@Temperature 482 °F	
	>= 45 %	>= 45 %	
	@Temperature 300 °C	@Temperature 572 °F	
Modulus of Elasticity	>= 47.0 GPa	>= 6820 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 54.0 GPa	>= 7830 ksi	
	@Temperature 250 °C	@Temperature 482 °F	
	>= 60.0 GPa	>= 8700 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 66.0 GPa	>= 9570 ksi	
	@Temperature 150 °C	@Temperature 302 °F	
	>= 71.0 GPa	>= 10300 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	>= 77.0 GPa	>= 11200 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Poissons Ratio	0.311	0.311	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.317	0.317	

Mechanical Properties	Metric	English	Comments
	0.321	0.321	
	@Temperature 150 °C	@Temperature 302 °F	
	0.322	0.322	
	@Temperature 200 °C	@Temperature 392 °F	
	0.329	0.329	
	@Temperature 250 °C	@Temperature 482 °F	
	0.334	0.334	
	@Temperature 300 °C	@Temperature 572 °F	
Fatigue Strength	298.5 MPa	43290 psi	P50% rotary bending values for 5X10 ⁷ cycles
Shear Modulus	24.0 GPa	3480 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	25.0 GPa	3630 ksi	
	@Temperature 250 °C	@Temperature 482 °F	
	27.0 GPa	3920 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	28.0 GPa	4060 ksi	
	@Temperature 150 °C	@Temperature 302 °F	
	29.0 GPa	4210 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	31.0 GPa	4500 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	21.8 - 22.8 µm/m-°C	12.1 - 12.7 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	22.7 - 23.7 µm/m-°C	12.6 - 13.2 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	23.6 - 24.6 µm/m-°C	13.1 - 13.7 µin/in-°F	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	

Thermal Properties	Metric	English	Comments
Melting Point	570 - 789 °C	1059 - 1452 °F	
Solidus	570.3 - 576.3 °C	1059 - 1069 °F	
Liquidus	783.1 - 789.1 °C	1442 - 1452 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	86 %	86 %	As Balance
Cobalt, Co	1.0 %	1.0 %	
Magnesium, Mg	6.0 %	6.0 %	
Manganese, Mn	4.0 %	4.0 %	
Silicon, Si	1.0 %	1.0 %	
Titanium, Ti	1.0 %	1.0 %	
Zirconium, Zr	1.0 %	1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000900 - 0.00000990 ohm-cm	0.00000900 - 0.00000990 ohm-cm	

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