PEAK Werkstoff DISPAL S250 Aluminum Alloy, AlSi20Fe5Ni2, Condition F

Category : Metal , Nonferrous Metal , Aluminum Alloy

Material Notes:

Excellent properties:abrasive stabilityhigh stiffness (E-modulus)resistance even at high temperaturesgood grindabilityPEAK DISPAL materials allow the manufacturing of pistons for highest operational demands.Information provided by PEAK Werkstoff GmbH

Order this product through the following link:
http://www.lookpolymers.com/polymer_PEAK-Werkstoff-DISPAL-S250-Aluminum-Alloy-AlSi20Fe5Ni2-Condition-F.php

Physical Properties	Metric	English	Comments
Density	2.641 - 2.919 g/cc	0.09541 - 0.1055 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	>= 105	>= 105	
Tensile Strength at Break	>= 103 MPa @Temperature 300 °C	>= 14900 psi @Temperature 572 °F	
	>= 150 MPa @Temperature 250 °C	>= 21800 psi @Temperature 482 °F	
	>= 235 MPa @Temperature 200 °C	>= 34100 psi @Temperature 392 °F	
	>= 308 MPa @Temperature 100 °C	>= 44700 psi @Temperature 212 °F	
	>= 334 MPa @Temperature 20.0 °C	>= 48400 psi @Temperature 68.0 °F	
Tensile Strength, Yield	>= 54.0 MPa @Temperature 300 °C	>= 7830 psi @Temperature 572 °F	
	>= 100 MPa @Temperature 250 °C	>= 14500 psi @Temperature 482 °F	
	>= 174 MPa @Temperature 200 °C	>= 25200 psi @Temperature 392 °F	
	>= 200 MPa @Temperature 100 °C	>= 29000 psi @Temperature 212 °F	
	>= 205 MPa	>= 29700 psi	

Mechanical Properties	Metric	English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Elongation at Break	>= 2.7 %	>= 2.7 %	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	>= 3.2 %	>= 3.2 %	
	@Temperature 100 °C	@Temperature 212 °F	
	>= 6.7 %	>= 6.7 %	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 10 %	>= 10 %	
	@Temperature 250 °C	@Temperature 482 °F	
	>= 10.7 %	>= 10.7 %	
	@Temperature 300 °C	@Temperature 572 °F	
Modulus of Elasticity	>= 49.0 GPa	>= 7110 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 60.0 GPa	>= 8700 ksi	
	@Temperature 250 °C	@Temperature 482 °F	
	>= 68.0 GPa	>= 9860 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 73.0 GPa	>= 10600 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	>= 95.0 GPa	>= 13800 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Poissons Ratio	0.318	0.318	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.323	0.323	
	@Temperature 100 °C	@Temperature 212 °F	
	0.326	0.326	
	@Temperature 150 °C	@Temperature 302 °F	
	0.327	0.327	
	@Temperature 200 °C	@Temperature 392 °F	
	0.329	0.329	
	@Temperature 250 °C	@Temperature 482 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 300 °C	@Temperature 572 °F	
Fatigue Strength	108 MPa	15700 psi	P50% rotary bending values for 5X10⁷ cycles
Shear Modulus	33.0 GPa @Temperature 400 °C	4790 ksi @Temperature 752 °F	
	34.0 GPa @Temperature 300 °C	4930 ksi @Temperature 572 °F	
	35.0 GPa @Temperature 200 °C	5080 ksi @Temperature 392 °F	
	36.0 GPa @Temperature 150 °C	5220 ksi @Temperature 302 °F	
	37.0 GPa @Temperature 100 °C	5370 ksi @Temperature 212 °F	
	38.0 GPa @Temperature 20.0 °C	5510 ksi @Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.4 - 17.4 µm/m-°C @Temperature 20.0 - 100 °C	9.11 - 9.67 µin/in-°F @Temperature 68.0 - 212 °F	
	17.1 - 18.1 µm/m-°C @Temperature 20.0 - 200 °C	9.50 - 10.1 µin/in-°F @Temperature 68.0 - 392 °F	
	17.8 - 18.8 µm/m-°C @Temperature 20.0 - 300 °C	9.89 - 10.4 µin/in-°F @Temperature 68.0 - 572 °F	
Specific Heat Capacity	0.790 - 0.830 J/g-°C	0.189 - 0.198 BTU/lb-°F	
Thermal Conductivity	108.4 W/m-K @Temperature 400 °C	752.3 BTU-in/hr-ft²-°F @Temperature 752 °F	
	113.6 W/m-K @Temperature 300 °C	788.4 BTU-in/hr-ft²-°F @Temperature 572 °F	
	116.6 W/m-K	809.2 BTU-in/hr-ft²-°F	

Thermal Properties	Metric	English	Comments
	@Temperature 200 °C	@Temperature 392 °F	
	119.3 W/m-K @Temperature 100 °C	827.9 BTU-in/hr-ft²-°F @Temperature 212 °F	
	122.7 W/m-K @Temperature 30.0 °C	851.5 BTU-in/hr-ft²-°F @Temperature 86.0 °F	
Melting Point	569 - 784 °C	1060 - 1440 °F	
Solidus	568.9 - 574.9 °C	1056 - 1067 °F	
Liquidus	777.5 - 783.5 °C	1432 - 1442 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	73 %	73 %	As Balance
Iron, Fe	5.0 %	5.0 %	
Nickel, Ni	2.0 %	2.0 %	
Silicon, Si	20 %	20 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000670 - 0.00000720 ohm-cm	0.00000670 - 0.00000720 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