

PEAK Werkstoff DISPAL S260 Aluminum Alloy, AlSi25Cu4Mg, 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-S260-Aluminum-Alloy-AlSi25Cu4Mg-Condition-F.php

Physical Properties	Metric	English	Comments
Density	2.527 - 2.793 g/cc	0.09129 - 0.1009 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	>= 110	>= 110	
Tensile Strength at Break	>= 87.0 MPa	>= 12600 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 205 MPa	>= 29700 psi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 265 MPa	>= 38400 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Strength, Yield	>= 67.0 MPa	>= 9720 psi	
	@Temperature 300 °C	@Temperature 572 °F	
	>= 144 MPa	>= 20900 psi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 180 MPa	>= 26100 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Elongation at Break	>= 1.0 %	>= 1.0 %	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	>= 2.3 %	>= 2.3 %	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 15.3 %	>= 15.3 %	
	@Temperature 300 °C	@Temperature 572 °F	
Modulus of Elasticity	>= 48.0 GPa	>= 6960 ksi	

Mechanical Properties	@Temperature 300 °C Metric	@Temperature 572 °F English	Comments
	>= 53.0 GPa	>= 7690 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	>= 85.0 GPa	>= 12300 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Poissons Ratio	0.277	0.277	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.279	0.279	
	@Temperature 100 °C	@Temperature 212 °F	
	0.279	0.279	
	@Temperature 150 °C	@Temperature 302 °F	
	0.281	0.281	
	@Temperature 200 °C	@Temperature 392 °F	
	0.282	0.282	
	@Temperature 300 °C	@Temperature 572 °F	
	0.283	0.283	
	@Temperature 250 °C	@Temperature 482 °F	
Fatigue Strength	189.1 MPa	27430 psi	P50% rotary bending values for 5X10⁷ cycles
Shear Modulus	31.0 GPa	4500 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	32.0 GPa	4640 ksi	
	@Temperature 250 °C	@Temperature 482 °F	
	33.0 GPa	4790 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	34.0 GPa	4930 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	34.0 GPa	4930 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	35.0 GPa	5080 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	16.7 - 17.7 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.28 - 9.83 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	17.5 - 18.5 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.72 - 10.3 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	18.3 - 19.3 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.2 - 10.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
Specific Heat Capacity	0.860 - 0.900 J/g-°C	0.206 - 0.215 BTU/lb-°F	
Thermal Conductivity	124.1 W/m-K	861.3 BTU-in/hr-ft ² -°F	
	@Temperature 400 °C	@Temperature 752 °F	
	131.5 W/m-K	912.6 BTU-in/hr-ft ² -°F	
	@Temperature 200 °C	@Temperature 392 °F	
	131.9 W/m-K	915.4 BTU-in/hr-ft ² -°F	
	@Temperature 300 °C	@Temperature 572 °F	
	132.7 W/m-K	920.9 BTU-in/hr-ft ² -°F	
@Temperature 100 °C	@Temperature 212 °F		
	135.5 W/m-K	940.4 BTU-in/hr-ft ² -°F	
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Melting Point	504 - 778 °C	939 - 1430 °F	
Solidus	504.1 - 510.1 °C	939.4 - 950.2 °F	
Liquidus	772.1 - 778.1 °C	1422 - 1433 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	70 %	70 %	As Balance
Copper, Cu	4.0 %	4.0 %	
Magnesium, Mg	1.0 %	1.0 %	
Silicon, Si	25 %	25 %	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric 0.0000670 - 0.0000720 ohm-cm	English 0.0000670 - 0.0000720 ohm-cm	Comments
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