

PEAK Werkstoff DISPAL S270 Aluminum Alloy, AlSi25Fe4Ni3CuMgMnCrTi, Condition T6

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-S270-Aluminum-Alloy-AlSi25Fe4Ni3CuMgMnCrTi-Condition-T6.php

Physical Properties	Metric	English	Comments
Density	2.651 - 2.930 g/cc	0.09576 - 0.1058 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	>= 200	>= 200	HV30, Condition T6 (Quenching in water at 80)
	>= 230	>= 230	HV30, Condition T6 (Quenching in water at RT)
Tensile Strength at Break	>= 252 MPa @Temperature 250 °C	>= 36500 psi @Temperature 482 °F	
	>= 425 MPa @Temperature 20.0 °C	>= 61600 psi @Temperature 68.0 °F	Condition T6 (Quenching in water at 80C)
	>= 480 MPa @Temperature 20.0 °C	>= 69600 psi @Temperature 68.0 °F	Condition T6 (Quenching in water at RT)
Tensile Strength, Yield	>= 373 MPa @Temperature 20.0 °C	>= 54100 psi @Temperature 68.0 °F	Condition T6 (Quenching in water at 80C)
	>= 470 MPa @Temperature 20.0 °C	>= 68200 psi @Temperature 68.0 °F	Condition T6 (Quenching in water at RT)
Elongation at Break	>= 0.15 % @Temperature 20.0 °C	>= 0.15 % @Temperature 68.0 °F	Condition T6 (Quenching in water at RT)
	>= 0.20 % @Temperature 20.0 °C	>= 0.20 % @Temperature 68.0 °F	Condition T6 (Quenching in water at 80C)
Modulus of Elasticity	>= 99.0 GPa @Temperature 20.0 °C	>= 14400 ksi @Temperature 68.0 °F	Condition T6 (Quenching in water at 80C)
	>= 100 GPa	>= 14500 ksi	Condition T6 (Quenching in water at

Mechanical Properties	Metric @ Temperature 20.0 °C	English @ Temperature 68.0 °F	Comments
Poissons Ratio	0.284	0.284	Condition F
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.286	0.286	
	@Temperature 100 °C	@Temperature 212 °F	
	0.288	0.288	
	@Temperature 150 °C	@Temperature 302 °F	
	0.289	0.289	
@Temperature 200 °C	@Temperature 392 °F		
0.291	0.291	Condition F	
@Temperature 250 °C	@Temperature 482 °F		
0.292	0.292	Condition F	
@Temperature 300 °C	@Temperature 572 °F		

Thermal Properties	Metric	English	Comments
CTE, linear	15.2 - 16.2 $\mu\text{m}/\text{m}\cdot\text{°C}$	8.44 - 9.00 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	15.7 - 16.7 $\mu\text{m}/\text{m}\cdot\text{°C}$	8.72 - 9.28 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	16.3 - 17.3 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.06 - 9.61 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
Specific Heat Capacity	0.800 - 0.840 J/g-°C	0.191 - 0.201 BTU/lb-°F	
Thermal Conductivity	89.60 W/m-K	621.8 BTU-in/hr-ft ² -°F	
	@Temperature 400 °C	@Temperature 752 °F	
	93.70 W/m-K	650.3 BTU-in/hr-ft ² -°F	
	@Temperature 300 °C	@Temperature 572 °F	
	94.90 W/m-K	658.6 BTU-in/hr-ft ² -°F	
	@Temperature 200 °C	@Temperature 392 °F	
	96.30 W/m-K	668.3 BTU-in/hr-ft ² -°F	

Thermal Properties	@Temperature 100 °C Metric	@Temperature 212 °F English	Comments
	98.40 W/m-K	682.9 BTU-in/hr-ft ² -°F	
	@Temperature 30.0 °C	@Temperature 86.0 °F	
Melting Point	536 - 777 °C	997 - 1430 °F	
Solidus	536.3 - 542.3 °C	997.3 - 1008 °F	
Liquidus	770.9 - 776.9 °C	1420 - 1430 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	63 %	63 %	As Balance
Chromium, Cr	1.0 %	1.0 %	
Copper, Cu	1.0 %	1.0 %	
Iron, Fe	4.0 %	4.0 %	
Magnesium, Mg	1.0 %	1.0 %	
Manganese, Mn	1.0 %	1.0 %	
Nickel, Ni	3.0 %	3.0 %	
Silicon, Si	25 %	25 %	
Titanium, Ti	1.0 %	1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000940 - 0.0000104 ohm-cm	0.00000940 - 0.0000104 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