

AIM SAC305 Lead-Free Solder for Photonic Packaging

Category : Metal , Nonferrous Metal , Solder/Braze Alloy

Material Notes:

This alloy falls under the JEIDA recommendation for lead-free soldering. When used in wave soldering, AIM's SAC305 bar solder offers far superior fluidity as compared to other alloys and makes of bar, resulting in excellent flow. AIM's SAC305 bar solder also produces less dross than other bar solder, wets well, provides superior joint strength, and offers superior copper dissolution rates. Uses include: Fiber to Ferrule Soldering Laser Die Attach Hermetic Packaging & Sealing Wetting & Sealing Laser Optics Thermal Management Information provided by AIM Specialty Materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_AIM-SAC305-Lead-Free-Solder-for-Photonic-Packaging.php

Physical Properties	Metric	English	Comments
Density	7.38 g/cc	0.267 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	276 MPa	40000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 20.0 $^\circ\text{C}$	@Temperature 68.0 $^\circ\text{F}$	
Melting Point	217 - 218 $^\circ\text{C}$	423 - 424 $^\circ\text{F}$	
Solidus	217 $^\circ\text{C}$	423 $^\circ\text{F}$	
Liquidus	218 $^\circ\text{C}$	424 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	$\leq 0.003\%$	$\leq 0.003\%$	typical impurity level
Antimony, Sb	$\leq 0.1\%$	$\leq 0.1\%$	typical impurity level
Arsenic, As	$\leq 0.01\%$	$\leq 0.01\%$	typical impurity level
Bismuth, Bi	$\leq 0.01\%$	$\leq 0.01\%$	typical impurity level
Cadmium, Cd	$\leq 0.001\%$	$\leq 0.001\%$	typical impurity level
Copper, Cu	0.40 - 0.60 %	0.40 - 0.60 %	
Indium, In	$\leq 0.10\%$	$\leq 0.10\%$	typical impurity level
Iron, Fe	$\leq 0.01\%$	$\leq 0.01\%$	typical impurity level

Component Elements Properties	Metric %	English %	Comments purity level
Nickel, Ni	<= 0.003 %	<= 0.003 %	typical impurity level
Silver, Ag	2.8 - 3.2 %	2.8 - 3.2 %	
Tin, Sn	96.2 - 96.8 %	96.2 - 96.8 %	as balance
Zinc, Zn	<= 0.001 %	<= 0.001 %	typical impurity level

Processing Properties	Metric	English	Comments
Processing Temperature	265 - 300 °C	509 - 500 °F	Wave soldering pot temperature

Descriptive Properties	Value	Comments
Creep Resistance	High	

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