

AS27-s

Thermal Insulation Pad

LiPOLY's AS27-s thermal insulation material is composed of nanoscale porous silica, carbon, and other materials. With an extremely low thermal conductivity of 0.012 W/m·K, it is one of the solid materials with the lowest known thermal conductivity. AS27-s is renowned for its extremely low density and exceptional thermal insulation properties, as well as its superior noise reduction, insulation, cushioning, and fire resistance capabilities. It is applied in various fields such as aerospace, electronics, energy, transportation, consumer electronics, and household appliances. The range of applications for AS27-s continues to expand, and with further technological advancements, we will see more applications in emerging fields, driving its importance in modern industry and daily life.

■ FEATURES

- / Thermal conductivity: 0.012 W/m·K
- / Excellent thermal insulation
- / Can be custom die-cut
- / Flexibly conforms to surfaces
- / Lightweight, Specific gravity 0.09 g/cm³
- / Both rolls and sheets are available
- / RoHS, REACH compliant

■ TYPICAL APPLICATION

/ Industrial application, such as Automotive electronic devices, Mobile communication device, Drone & aircraft, Sports and leisure electronic products, Portable computers and tablets, wearable devices, Portable game consoles, VR devices and etc.



■ TYPICAL PROPERTIES

PROPERTY	AS27-s	UNIT	TEST METHOD
Color	White	-	Visual
Thickness	Customized	mm	ASTM D374
Density	0.09	g/cm ³	ASTM D792
Hardness	10	Shore A	ASTM D2240
Water absorption	0	%	ASTM D570
Application temperature	-60~200	°C	-
Application temperature (Double-sided lamination)	-60~150	°C	-
TML (wt%)	0.02	-	Internal Test Method
Outgassing CVCM (wt%)	0.04	-	Internal Test Method
ROHS & REACH	Compliant	-	-
ELECTRICAL			
Volume resistivity	>10 ¹¹	Ohm-m	ASTM D257
Dielectric constant @KHz	5.5	-	ASTM D149
THERMAL			
Thermal conductivity	0.012	W/m·K	ASTM D5470
Thermal impedance@10 psi	158.97	°C-in ² / W	ASTM D5470
Thermal impedance@20 psi	134.59	°C-in ² / W	ASTM D5470
Thermal impedance@30 psi	105.88	°C-in ² / W	ASTM D5470

Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser's specific purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser's specific conditions. Liability and use of the product are the responsibility of the end user. LiPOLY makes no warranty as to the suitability, merchantability, or non-infringement of any LiPOLY material or product for any specific or general uses. LiPOLY shall not be liable for incidental or consequential damages of any kind. All LiPOLY products are sold in accordance with the LiPOLY Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including LiPOLY trademarks or registered trademarks of LiPOLY or its affiliates. Statements concerning possible or suggested uses made herein shall not be relied upon or be constructed as a guaranty of patent infringement. Copyright LiPOLY.