

# AS27-s

## Thermal Break Sheet (Electronics industry)

LiPOLY's AS27-s thermal insulation material is composed of nanoscale porous silica, carbon, and other materials. With an extremely low thermal conductivity of 0.009 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: 0.009 W/m\*K
- / Excellent thermal insulation
- / Can be custom die-cut
- / Flexibly conforms to surfaces
- / Lightweight, Specific gravity 0.09g/cm<sup>3</sup>
- / 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            | TEST METHOD | UNIT                   |
|---|-------------------|-------------|------------------------|
| Color   | White             | Visual      | -                      |
| Thickness   | Customized        | ASTM D374   | mm                     |
| Density   | 0.09              | ASTM D792   | g/cm <sup>3</sup>      |
| Hardness  | 10                | ASTM D2240  | Shore A                |
| Application temperature                           | -60~200           | -           | °C                     |
| Application temperature (Double-sided lamination) | -60~150           | -           | °C                     |
| TML(wt%)  | 0.02              | By LiPOLY   | -                      |
| Outgassing CVCM (wt%)                             | 0.04              | By LiPOLY   | -                      |
| ROHS & REACH                                      | Compliant         | -           | -                      |
| ELECTRICAL  |                   |             |                        |
| Volume resistivity                                | >10 <sup>11</sup> | ASTM D257   | Ohm-m                  |
| Dielectric constant @KHz                          | 5.5               | ASTM D149   | -                      |
| THERMAL   |                   |             |                        |
| Thermal conductivity                              | 0.009             | ASTM D5470  | W/m*K                  |
| Thermal impedance@10 psi                          | 158.97            | ASTM D5470  | °C-in <sup>2</sup> / W |
| Thermal impedance@20 psi                          | 134.59            | ASTM D5470  | °C-in <sup>2</sup> / W |
| Thermal impedance@30 psi                          | 105.88            | ASTM D5470  | °C-in <sup>2</sup> / W |

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