

FUTUREWAY® TIF-15

Thermal Insulation Silicone Foam

FUTUREWAY® TIF-15 is a foam material with ultra-high temperature (> 600°C) thermal insulation developed by using a new type of phase change technology. At low temperature (< 200 °C), TIF-15 has excellent elasticity, flexibility, compressibility and ultra-low density make it have the functions of buffering, thermal insulation and absorbing structural tolerance. At ultra-high temperature, it can quickly phase change and isolate thermal diffusion, which has excellent performance of thermal insulation. It is often used in energy storage units and power battery cells to delay the spread of thermal runaway.



Features & Benefits

- Excellent thermal insulation performance in high temperature (600°C~1300°C) environment
- Excellent flame retardant performance
- Microporous structure, ultra-low density
- Super high elasticity in the temperature range of -55-+200°C
- Self-adhesive and does not need PSA

Typical Applications

- Buffer and thermal insulation pad between pouch cells
- Module insulation pad
- The thermal pad between the PACK and the car body

Services

- Available with a pressure sensitive-adhesive on one or two sides
- Provide cutting, splicing and other processing services

Use

For PSA options, surfaces must be clean and free of oil, grease, moisture, dust and dirt. Isopropyl alcohol is good for cleaning the surface.

Statement: The information contained in this data sheet is intended to assist you in the design of Futureway materials. It is not intended to and does not create any explicit or implicit guaranties, including any guaranty of marketability of the goods and for special purposes. It is also not guaranteed that users can achieve the results shown in the technical specifications of this material in specific applications. They will change with different application situations, such as equipment type, environmental conditions, process conditions, etc. Users should determine the suitability of Futureway materials for each application.

Typical Properties

Property	Unit	Test Method	Value	
Basic Properties				
Colors	-	Visual	Black	
Thickness	mm	ASTM D374	1.0/1.5/2.0/3.0/4.0	
Density	g/cm³	ASTM D1056	0.53	
Tensile Strength	kPa	ASTM D412	680	
Elongation	%	ASTM D412	85	
Compression Force Deflection	kPa	ASTM D1056	10%	86
			20%	143
			25%	157
			30%	197
			40%	280
			50%	430
			Flammability	
Flame Resistance	-	UL 94	V-0	
Electrical & Thermal Properties				
Dielectric Strength	kV/mm	ASTM D149	≥ 7.0	
Thermal Conductivity	W/(m·K)	ASTM C518	0.089	
Thermal Insulation (600°C @ 5 min)	°C	Internal	140 (2 mm T)	
Temperature Range	°C	Internal	-55~+200	

Notes:

*Typical value is based on historical data. Please note the frequency of testing varies.

**Additional industry specifications are also available. All other properties are based on industry standard guidelines.

Usable Life & Storage 10 years after the date of manufacture when stored in original packaging at temperatures up to 35°C and 70% relative humidity(see applicable data sheets for pressure-sensitive adhesive option).

Packaging Information Master roll size: 914mm width. Length varies with thickness.
Special thickness and roll sizes also available.

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