

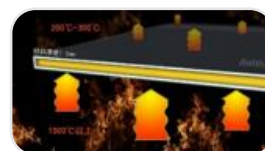
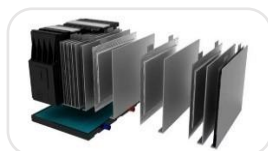
## TC series composite insulation materials

TC has passed long-term durability tests and can be cut and overlapped into any shape. It adopts a 2-layer structure, can withstand flame impacts of 1000°C and above, and maintain a certain level of strength. The material is based on synthetic elastomers, soft and elastic, capable of conforming to curved surfaces, with vibration damping function, can replace mica tape, used as fire-resistant layer and insulation layer on cores, modules, battery packs, and copper busbars, with cost advantages. The product complies with RoHS, REACH, and ELV directives.

### Features and advantages

- Excellent fire performance: 1000°C flame burning time > 5min
- Can be glued for copper bar winding, with excellent insulation performance
- Comply with RoHS, REACH, ELV directives
- Clear process, high feasibility for mass production, and flexibility for 360 ° coverage

### Applications



- Thermal insulation, fire resistance, and impact resistance between the battery box, module, and battery cell of new energy vehicles
- Copper bars for new energy vehicle batteries and energy storage batteries are coated with fire-resistant insulation

### Technical support and service

- Can provide finished products that have been cut and overlapped according to customer drawings.
- Testing services can be provided based on different fire scenarios and flame temperatures.

### Instructions for use

- Please confirm the size of the usage environment in advance
- As Boomrun cannot guarantee that products will be suitable for all potential applications, it is recommended that tests be conducted in a simulated product operating environment before mass production to confirm that the application requirements are met.

**Disclaidislaier:** The data in this article is for reference only and is subject to actual application (due to the process and the reality of the substrate), and we are not responsible for the results obtained by anyone using methods beyond our control. Boouer expressly disclaims liability for any accidental or necessary loss, including loss of profit. It is recommended that users should do experiments according to the data provided in this article before formal use.

# TC series composite insulation materials

## TC-103 Material property parameter

Property	Unit	Typical value	Remark (Test method)
<b>Physical characteristics</b>			
Thickness	mm	0.3	Tolerance: $\pm 0.03\text{mm}$
Density	$\text{g/cm}^3$	$1.7 \pm 0.1$	GB/T 533-2008
Tensile strength	MPa	$\geq 15$	GB/T 528-2009
Hardness	Shore A	$75 \pm 5$	GB/T 531.1-2008
<b>Flammability</b>			
Flammability	--	V-0	UL 94
<b>Electrical and thermal properties</b>			
Dielectric strength	kV/mm	$\geq 10$	GB/T 1408.1-2016
Volume resistivity	$\Omega \cdot \text{cm}$	$\geq 1 \times 10^{12}$	ASTM D257
Insulation resistance	$\text{G}\Omega$	$\geq 1$	1000V/DC, 60s
Withstand voltage	mA	$\leq 1$	2700V/DC, 60s
Fire resistance	min	Burn-out time $\geq 5$	$1000 \pm 100^\circ\text{C}$ Butane flame
Thermal conductivity	$\text{W}/(\text{m} \cdot \text{K})$	$\leq 0.5$	ASTM D5470
<b>Long-term weather resistance</b>			
$85^\circ\text{C} \times 85\% \text{RH}$	--	Pass	$85^\circ\text{C} \times 85\% \text{RH} \times 1000\text{Hours}$
Alternating high and low temperature	--	Pass	The temperature shock ranges from $-40^\circ\text{C}$ to $85^\circ\text{C}$ . Hold for 30 minutes after each extreme temperature point is reached. The temperature transition time is based on the device's fastest time. Test equipment 500 cycles.
High temperature aging	--	Pass	$120^\circ\text{C}$ , 1000H
<b>Prohibited substances</b>			
ELV	--	Pass	GB/T 30512-2014
RoHS	--	Pass	RoHS Directive 2011/65/EU & (EU)2015/863 Annex II
Reach	--	Pass	Two hundred and thirty-three (233) SVHC screening is performed according to Regulation (EC) No 1907/2006 concerning the REACH.

### Notes:

1. More technical parameters can be provided;
2. The typical value is the average value of the overall performance data. For more technical specification value, please contact us.

**Disclaimer:** The data in this article is for reference only and is subject to actual application (due to the process and the reality of the substrate), and we are not responsible for the results obtained by anyone using methods beyond our control. Booeer expressly disclaims liability for any accidental or necessary loss, including loss of profit. It is recommended that users should do experiments according to the data provided in this article before formal use.