

LOCTITE® TFX 3018

June 2025

Product description

LOCTITE® TFX 3018 provides the following product characteristics:

Technology	2C SMP thermal gap filler
Chemical type	Silane modified polymer
Appearance (Component A)	Black
Appearance (Component B)	White
Components	Two component – requires mixing
Appearance (cured)	Black
Cure	Room temperature cure
Application	EV battery thermal gap filler
Mix ratio by volume: (component A : B)	1 : 1
Viscosity	Thixotropic paste
In service temperature	-40 to 80°C
Specific benefits	<ul style="list-style-type: none"> • Thermal conductivity, 3.0 W/m-K • Dispensable, 2 component Silicone-free gap filler • Room temperature cure, no oven required • Low compression stress during replacement of new battery module

LOCTITE® TFX 3018 is a non-silicone, 2-part room temperature curable gap filler suitable for use in battery module replacement. With a 3.0 W/m-K thermal performance, it provides an excellent silicone-free solution critical to power storage applications using lithium ion batteries. This material is an exceptional choice for use in EV battery thermal gap filling.

Typical properties of uncured material

Component A

Viscosity, mPa·s (cP):	
High shear rate 3,000 s ⁻¹ , ASTM D5099	5,000
Low shear rate, 1.0 s ⁻¹ , DIN53019	425,000
Density, g/cc, ASTM D792	3.0
Storage life @ 25°C, days	90

Component B

Viscosity, mPa·s (cP):	
High shear rate 3,000 s ⁻¹ , ASTM D5099	20,000
Low shear rate, 1.0 s ⁻¹ , DIN53019	650,000
Density, g/cc, ASTM D792	3.0
Storage life @ 25°C, days	90

Mixed properties

Work life @ 25°C, hours ASTM D4473	4
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Typical cure schedule

24 hours @ 25°C, ASTM D4473
3 hours @ 80°C, ASTM D4473

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

Typical performance of cured material

Physical properties

Hardness, Durometer 00, 6.35 mm thickness	75
Heat Capacity, ASTM D1269, J/g-K	0.87
Flamability, UL 94	V-0
Siloxane content, ΣD4-D10, ASTM F2466, ppm	ND

Electrical properties

Dielectric strength, ASTM D149, V/mm	14,000
Dielectric constant, ASTM D150 @1,000 Hz	17
Volume resistivity, ASTM D257, Ω-meter	1x10 ⁶

Thermal properties

Thermal conductivity, ASTM D5470, W/m-K	3.0
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GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet.

Directions for use

1. Remove all residual old thermal gap filler from surface. Clean surface with TEROSON® VR 10 to remove surface contaminants.
2. LOCTITE® TFX 3018 thermal gap filler is available as 2 component cartridge system (2x200cc volume of A- and B-component). It can be applied with 2 component application tool at ambient conditions.
3. Open new cartridges. Put the thermal gap filler set into the application tool. While applying light pressure dispense a small amount making sure both components A & B are extruding equally and discard them.
4. For maximum heat dissipation apply LOCTITE® TFX 3018 evenly into gluing support while keeping the tip of the static nozzle embedded in dispensed material to avoid any air inclusions.
5. Application to the substrate should be made within 15 minutes of first dispensing of material.
6. Assemble the battery module on the applied thermal gap filler within working time and press evenly into the final position (Gap Filler should be visible at the edges of the battery after mounting).

Storage

Store product in unopened container in a controlled environment, ideally at 25°C.

Optimal storage: 25 °C for a 3-month shelf life, in sealed containers with moisture barrier packaging.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Product specification

The technical data contained herein are intended as reference only and are not considered specifications for the product. Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and certificate

Please contact Henkel representative for related approval or certificate of this product.

Data ranges

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 µm / 25.4 = mil
 N x 0.225 = lb
 N/mm x 5.71 = lb/in
 N/mm² x 145 = psi
 MPa x 145 = psi
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

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