Gelest® PP2-TC02

High Elongation Thermally Conductive Gap Filler

A Group Company of MITSUBISHI CHEMICAL

Enabling Your Technology

Gelest® PP2-TC02
is a two-part ultra high elongation thermally conductive silicone gap filler. The extreme elongation of this product reduces mechanical as well as thermal stress, creating new fabrication and assembly options. For applications requiring adhesion, use of primers and other options allow for bonding.

Typical Properties*, **	Units	Value
Mix Ratio A:B		100:1
Color Part A		White-Grey
Color Part B		Clear
Color Mixed		White-Grey
Viscosity, Uncured Mix	cP	30,000
Thermal Conductivity	W/mK	1.15
Elongation	%	1200
Tensile Strength	MPa	0.5
Durometer	Shore A	30
Specific Gravity		2.47
Volume Resistivity	ohm-cm	4.05 E+13
Dielectric Strength	kV/mm	13
Dielectric Constant (100kHz)		3.1
Dissipation Factor (100kHz)		0.008

* The properties reported are typical values and are intended as a guide for design and not intended for use in establishing specifications.
** Cured at 100°C/16h

Features & Benefits

- Thermally conductive
- Soft & compressible
- High elongation at break
- Flowable and heat curable
- No cure by-products
- Platinum addition cure

Applications

- Thermal transfer for electronic and battery modules
- Cure in place thermal pad
- Vibration damping
- Flexible electronics

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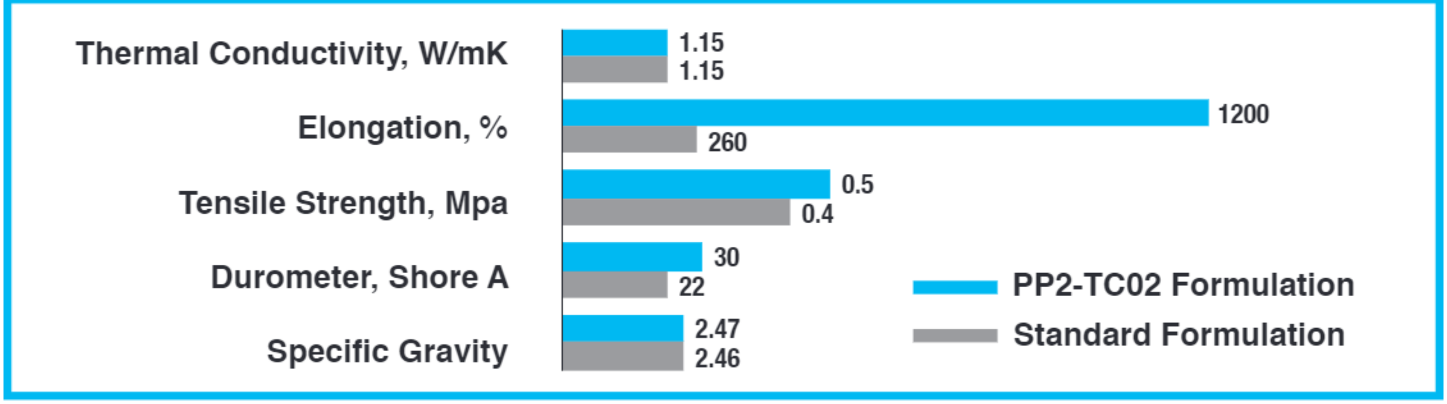
Comparison of Thermally Conductive Silicone Gap Fillers



Processing, Fabrication, and Handling

MIXING AND DEAIRING

At the specified mix ratio by weight, weigh Parts A & B into a wide mouth mixing container. Then mix manually or via a mechanical method such as centrifugal mixing. Generation of too much heat during the mixing process may initiate cure of the product.

For lab use: Alternative mixing methods can be used, but as an example we suggest first mixing the Parts A & B manually followed by mixing on a centrifugal mixer at 800 rpm, 10-25 mm Hg pressure for 105 seconds followed immediately by 15 seconds at 1500 rpm. After mixing the product should be poured carefully into the mold or electronic enclosure to avoid air entrapment. A further deairing step may be needed when pouring material over electronic modules as air can sometimes be trapped due to the 3D geometry of the module.

CURING

Recommended cure of the product is 1 hour at 100°C in a forced air oven. NOTE: Pouring into a heavy enclosure or mold containing a component of high mass may require longer cure time to allow internal components to heat up.

POT LIFE

When using the product, pot life based on snap time is typically 10 hours at 25°C. The maximum expected pot life at this temperature has not yet been determined.

COMPATIBILITY

Some chemicals, cured polymeric materials, and plasticizers can cause cure inhibition for this product. Examples may include exposure to sulfur containing materials such as polysulfides or polysulfones, phosphorus containing materials, organotin containing materials, plasticizers leached out from lab gloves by solvent, solder flux residues, and nitrogen containing chemicals like primary or secondary amines. If any chemical or material is suspected of retarding or impacting cure of the product, it is recommended that the product be cured in absence of the suspected chemical, plastic, surface, etc. to determine if there is an interaction impacting cure.

HANDLING AND SAFETY

Users should refer to the safety data sheet for any hazards associated with this product. Proper PPE should be used with this product including, at minimum, safety glasses and disposable lab gloves.

USABLE LIFE AND STORAGE

It is estimated that this product will have at least 6 months of shelf life when stored at 25°C and humidity levels below 65% with containers tightly closed. Partially used or filled containers purged with dry nitrogen after opening should ensure the longest shelf life for this product.