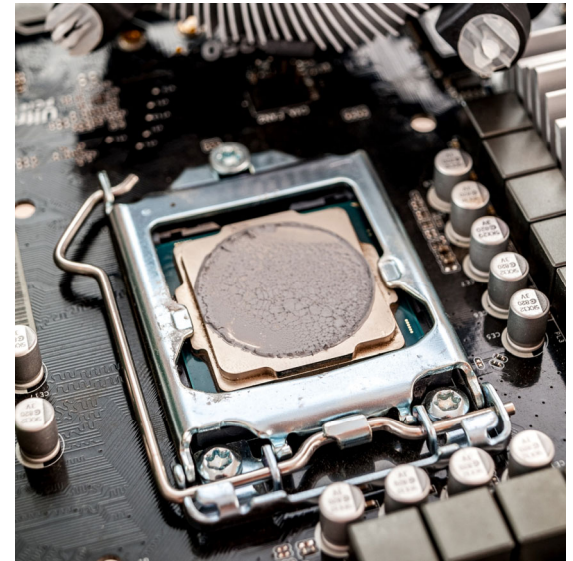


# Gelest® PP2-TC01

## Thermally Conductive Silicone Adhesive

Gelest® PP2-TC01 | A two-part non-flowable thermally conductive silicone adhesive used for bonding electronic assemblies requiring thermal management. This product forms no by-products during cure and adheres to organic, metal, and ceramic surfaces. Thin adhesive bond lines can be formed with this product increasing heat conduction between the device and heat sinks to which they are bonded.



Typical Properties*, **	Units	Value
Mix Ratio A:B		1:1
Color Part A		White-Grey
Color Part B		Grey
Color Mix		Grey
Viscosity, Uncured Mix	cP	60,000
Thermal Conductivity	W/mK	0.8
Elongation	%	125
Tensile Strength	MPa	4.9
Durometer	Shore A	66
Specific Gravity		2.14
Adhesion to Aluminum***	MPa	2.6
Volume Resistivity	ohm-cm	1.9 E+14
Dielectric Strength	kV/mm	25
Dielectric Constant (100kHz)		4.5
Dissipation Factor (100kHz)		0.0013

### Features & Benefits

- Thermally conductive
- Soft & compressible
- Self-bonding adhesion
- Non-flowable & heat curable
- No cure by-products
- Platinum addition cure

### Applications

- Bonding electric assemblies (e.g., IGBTs, transformers, inverters...) to heat sinks
- Battery module bonding
- Semiconductor bonding to heat sinks

\* 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/1h,

\*\*\* Cured 110°C/16h, cohesive failure.

## 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 the 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 2 hours at 100°C in a forced-air oven. Since substrate chemistry and surface conditions vary, higher cure temperatures and longer times may be needed to obtain the desired adhesion. NOTE: Pouring into a heavy enclosure or mold containing a component of high mass may require a longer cure time to allow internal components to heat up.

**POT LIFE** | When using the product, the typical working time of the product, as defined by the time it takes for the product to double in viscosity, is >4 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 the 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 the 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.