

Gelest® PP2-SP01

Low Temperature Cure Self-Bonding Silicone Potting Compound

Gelest® PP2-SP01 is a two-part platinum addition cure silicone electronics potting compound that has adhesion when cured to several metals, ceramics, and plastics. PP2-SP01 eliminates the need for primers to obtain adhesion to a variety of substrates. The product also requires lower cure temperatures to obtain adhesion and has higher tensile strength to break than standard competitive products.

Features & Benefits

- Self-bonding at lower temperatures
- Soft & compressible silicone
- High elongation at break
- Flowable and heat-curable
- No cure by-products
- Platinum addition cure

Applications

- Protection of electronic devices including transformers, automotive control units, ballasts, power control units, sensors, and other devices
- Stable and flexible from -50°C to +200°C
- Excellent dielectric properties



Typical Properties	Units	Value
Mix Ratio A:B		1:1
Color Part A		Blue
Color Part B		Off white
Color Mix		Blue
Viscosity, Uncured Mix	cP	12,500
Elongation	%	180
Tensile Strength	MPa	2.9
Durometer	Shore A	37
Specific Gravity		1.3
Dielectric Strength	kV/mm	15
Volume Resistivity	ohm-cm	3.58 E+13
Dielectric Constant (100kHz)		3.01
Dissipation Factor (100kHz)		0.0046

The properties reported are typical and are intended as a guide for design and not intended for use in establishing specifications.
* Cured at 100°C/30 mins on aluminum, cohesive failure.

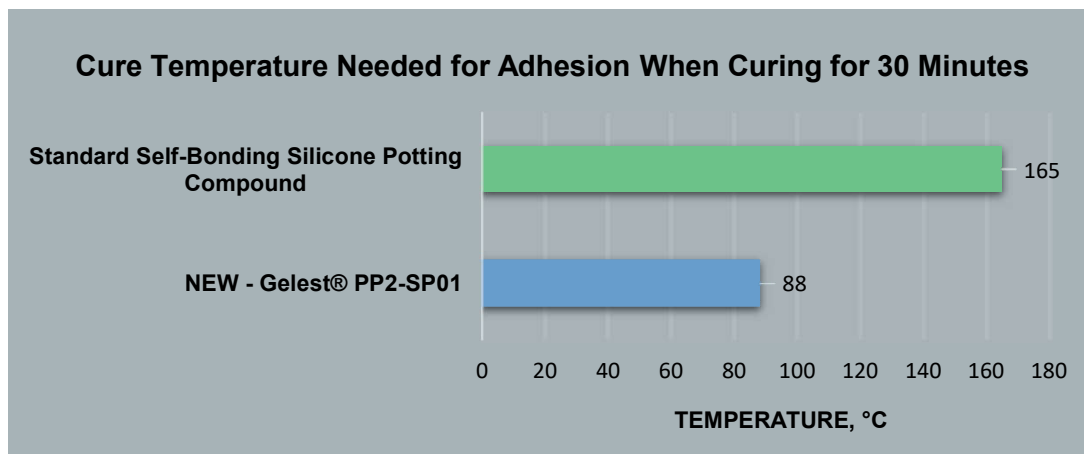


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Figure 1.



Processing, Fabrication, and Handling

MIXING AND DEAIRING | At the specified mix ratio by weight, weigh Parts A & B into a wide-mouth mixing container. 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 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 a longer cure time to allow internal components to heat up. Experiments can be done on actual parts and lower temperatures can typically be used.

POT LIFE | When using the product, pot life based on snap time is typically 3 hours at 25°C. The maximum expected pot life at this temperature has not yet been determined.

Gelest Inc. | Morrisville, PA 19067 | (215) 547-1015 | www.gelest.com | tech@gelest.com



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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 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.

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