

SnapSil™ TN3705

Description

SnapSil TN3705 is a one-component, low volatile siloxane, silicone adhesive sealant that cures at room temperature upon exposure to atmospheric moisture and exhibits primerless adhesion to many substrates.

Key Features and Typical Benefits

- Fast tack-free time
- Low volatility
- Non-corrosive to most metals
- Primerless adhesion to many substrates
- Low odor cure: releases an alcohol vapor during cure
- Flame retardant (UL94 HB, File No. E56745)

Typical Physical Properties

(JIS K 6249)

| Property | Unit | Value |
|---|-------------------|-------------------------------------|
| Uncured Properties | | |
| Appearance | | Flowable, clear, white, black |
| Viscosity (23 °C) | Pa•s | 1.5 |
| Tack-free Time (23 °C) | min | 7 |
| Cured Properties (3 days at 23 °C, 50% RH) | | |
| Appearance | | Elastic rubber, clear, white, black |
| Density (23 °C) | g/cm ³ | 1.01 |
| Hardness (Type A) | | 13 |
| Tensile Strength | MPa | 0.4 |
| Elongation | % | 130 |

| | | |
|---|-------|----------------------|
| Adhesion Strength | MPa | 0.2 |
| Volatile Siloxane ⁽¹⁾ (D ₄ -D ₁₀) | wt% | 0.01 |
| Volume Resistivity | Ω·cm | 2.0x10 ¹⁵ |
| Dielectric Strength | kV/mm | 26 |
| Dielectric Constant (60Hz) | | 2.7 |
| Dissipation Factor (60Hz) | | 0.002 |
| Impurities ⁽¹⁾ ppm | Na+ | < 2 |
| | K+ | < 2 |
| | Cl- | < 2 |

Typical properties are average data and should not be used as or to develop product specifications.

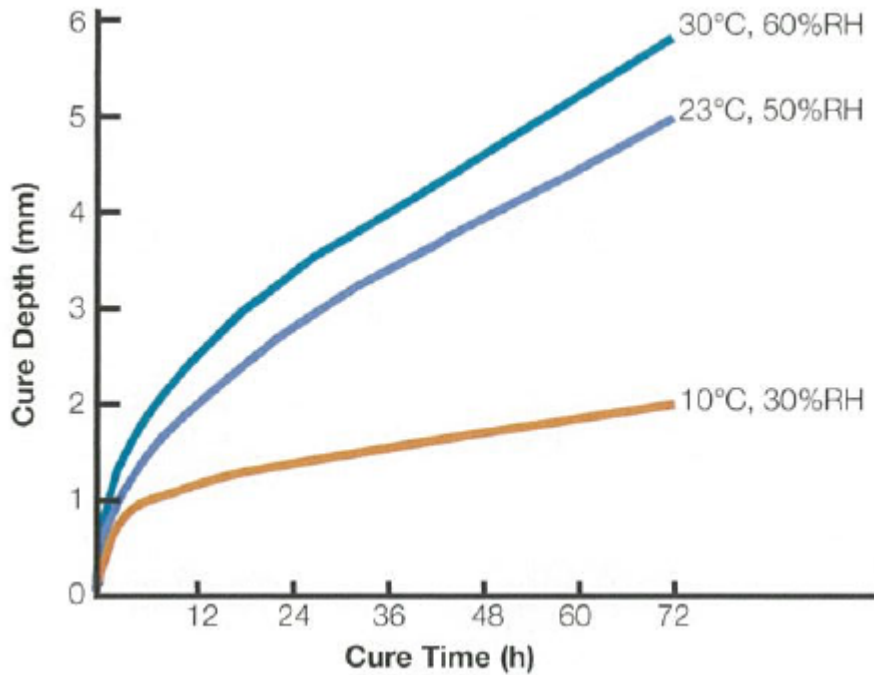
⁽¹⁾In-house test method

Potential Applications

- Insulating adhesive seal and fixing for electrical and electronic parts
- Waterproof sealant for electrical, electronic and communication equipment
- General adhesive for metal, glass, plastics, etc.

Cure Profile

SnapSil TN3705 silicone adhesive sealant cures upon exposure to atmospheric moisture, and its cure speed is affected by humidity and temperature. The material begins to cure from the sections that are exposed to the atmosphere and, therefore, greater time is required for the cure to extend to deeper sections. The cure depth of SnapSil TN3705 silicone adhesive sealant at various combinations of humidity and temperature are provided below.



Note: Test results. Actual data may vary.

Adhesion Performance

SnapSil TN3705 silicone adhesive sealant adheres to a wide variety of substrates used in electronic components. The following matrix depicts adhesion performance to typical substrates. However, actual performance may vary depending on the substrate manufacturer or grade.

| Substrate | |
|-----------------|---|
| Aluminum | O |
| Copper | O |
| Steel | O |
| Stainless Steel | O |
| Acrylic resin | O |
| Phenolic resin | O |
| Epoxy resin | O |
| PET | O |

Note: Test results. Actual data may vary.

O: Good (cohesive failure)

X: Adhesive failure

Adhesion Performance, continued

| <u>Substrate</u> | |
|-------------------------|---|
| ABS | O |
| PBT | O |
| PPS | O |
| PVC | O |
| Nylon | O |
| Polycarbonate | O |
| PPO | O |
| Polyethylene | X |
| Polytetrafluoroethylene | X |
| Glass | O |

Note: Test results. Actual data may vary.

O: Good (cohesive failure)

X: Adhesive failure

General Considerations for Use

While the typical operating temperature for silicone materials ranges from -45°C to 200°C, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated

specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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