Thermosil 7005

Ready-to-Use, Heat-Resistant, Abradable Silicone Sealant

Technical Data and Instructions

Product Description

Thermosil 7005 is a one-part, low-density, heat-resistant silicone sealant that forms an abradable air seal for high-speed compressor blades in jet aircraft engines. Unlike two-part abradable sealants that require time-consuming mixing and degassing, Thermosil 7005 is supplied ready-to-use with no mixing or degassing required. By reducing preparation time, Thermosil 7005 delivers faster throughput in aircraft manufacturing, maintenance, repair, and overhaul applications. Thermosil 7005 offers these performance advantages:

- Ready-to-use right from the container
- Maintains optimum elasticity and sealing at operating temperatures up to 550˚F (287˚C)
- A securely cross-linked glass-polymer matrix for maximum durability
- Free of glass agglomerates that can clog turbine vane cooling holes
- Self-leveling for a uniform finish in deep-section applications
- Safe; no hazardous chemicals or materials (Based on environmental risk assessment)

Thermosil 7005 offers sealing solutions for applications where a low-density, flexible, machinable, heat-resistant sealant is required. It is available in one-gallon straight-sided pails, one-gallon plastic pails, dispensing gun cartridges, and a range of custom packaging options to meet customer-specific applications.

Please read the Safety Data Sheet before use.

Important Application Information

Curing

Thermosil 7005 has a standard cure cycle of one (1) hour in-mold at 300˚F (149˚C). Post curing is optional.

Curing Inhibition

Thermosil 7005 is a platinum-catalyzed addition reaction silicone rubber. The curing mechanism is sensitive to inhibition by amines, sulfur, or tin-catalyzed rubbers.

Working with Thermosil 7005

Thermosil 7005 is a high-adhesion sealant with the following working characteristics:

- One-part, no mixing or degassing required
- No special handling required
- Thoroughly clean surfaces and apply a primer before application of the product
- When working with molds, pretreat mold surfaces with a suitable mold release
- Provides a smooth, black, machinable finish
- Clean all tools and equipment thoroughly after use. Use mineral spirits, followed by a soap and water wash

Storage, Shelf Life, and Recertification
Thermosil 7005 has a shelf-life of nine (9) months from the date of manufacture when stored in its original, unopened containers at temperatures below 90˚F (32˚C). FMi Chemical offers free recertification of its products where permitted. Contact FMi Chemical for details.

Thermosil 7005 Technical Data*

Uncured Properties	
Consistency	Flowable Elastomeric Paste
Viscosity	1900 Poise
Color	Black

Cured Properties Cured 1 hour at 300˚F (149˚C)	
Color	Black
Specific Gravity	0.74
Tensile Strength	300 psi
Elongation	110%
Lap Shear Strength	205 psi
Cohesive Failure	100%
Hardness	56 Shore A
Weight Loss after 24 hours at 600˚F (316˚C)	9%
Hardness after 24 hours at 600˚F (316˚C)	56 Shore A
Erosion Loss	< 1%

* Typical manufactured properties should not be used as specifications.

Have a question? Please contact us.
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- ISO 9001:2015 and AS9100D certified
- Nadcap™ accredited (nonmetallic materials testing)
- ANAB® accredited per ISO/IEC 17025:2017

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