Thermosil 7005

One-Part Abradable Silicone Sealant

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 advantages:

- Optimum elasticity and sealing performance 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 — providing a smooth, black, machinable finish
- Ideal for 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.

Application Information

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.

Curing

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

Handling

Thermosil 7005 does not require special handling. However, optimal material handling characteristics can be achieved with the following:

- Stainless steel, glass, or high-density polyethylene (HDPE) containers
- Stainless steel or HDPE hand tools

Clean all tools and equipment thoroughly after use. Clean with mineral spirits, followed by a solvent rinse.

Applying The Product

Thermosil 7005 is a one-part, high-adhesion sealant. Thoroughly clean surfaces and apply a primer before applying Thermosil 7005. When working with molds, pretreat mold surfaces with a suitable mold release.

Tooling

Thermosil 7005 can be tooled with acetone, methyl ethyl ketone (MEK), or isopropyl alcohol (IPA).

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 recertification of its products where permitted. Contact FMi Chemical for details.

PLEASE READ THE SAFETY DATA SHEET BEFORE USING THIS PRODUCT.

Thermosil 7005 Uncured Properties	
Consistency	Flowable Elastomeric Paste
Viscosity	1900 Poise
Color	Black
Thermosil 7005 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 call (+1) 860-243-3222
FMi Chemical, Inc.
4 Northwood Drive
Bloomfield, CT 06002 USA

fmichemical.com

ISO 9001:2015 and AS9100D certified | Nadcap™ accredited (nonmetallic testing) | ANAB® accredited per ISO/IEC 17025:2017