



Dampney Protective Coatings

Thurmalox[®] 2655 High Temperature RTV Silicone Adhesive/Sealant

Description

Thurmalox 2655 is a one-part, room temperature vulcanizing (RTV) silicone adhesive/sealant for high-temperature industrial applications. It cures to a tough, elastomeric rubber upon exposure to atmospheric moisture and retains permanent flexibility from -80°F to 550°F (-62°C-288°C) and will withstand intermittent exposures to 650°F (343°C).

Recommended Uses

Thurmalox 2655 Adhesive/Sealant provides excellent adhesion to most surfaces including: metals, painted surfaces, ceramics, glass, rubber and plastics. Typical applications include:

- Sealing hot surfaces of air pollution control equipment to prevent acid dew point corrosion caused by in-leakage of moist ambient air
- For baghouses, precipitators, access doors, expansion joints, vent and flue connections, duct work, damper seals and test ports
- Fired heaters, boilers, ovens, windows
- Prevention of dust and dirt contamination of electrical controls, instruments and motors
- Stoves, fireplace inserts and flue pipes
- Formed-in-place gaskets around pipes, valves, process equipment and tanks containing hot liquids
- Formed-in-place gaskets for compressors, pumps, engines, gear boxes and other machinery

Features

- 100% silicone rubber
- Outstanding thermal stability over a wide service temperature range
- Retains permanent flexibility under stress by heat, radiation and weather
- Unaffected by weather, moisture, UV radiation and ozone
- Highly resistant to chemical attack
- Excellent unprimed adhesion to many materials
- Will not sag, slump or run upon application
- Excellent dielectric and insulation properties

Not Recommended For

- Spaces that will be totally confined during cure as sealant requires atmospheric moisture to initiate the curing reaction. Under such conditions full cure will not take place and sealant will be subject to softening at elevated temperatures.
- Galvanized surfaces
- Porous surfaces

- Surfaces in continuous water immersion
- Surfaces that might bleed oils, plasticizers or solvents.
- Surfaces subject to direct flame contact.
- Application to painted surfaces. Paint film will not stretch with extension of sealant and may crack and peel.

Specification Compliance

Thurmalox 2655 sealant meets or exceeds the requirements of the following specifications:

- Federal Specification TT-S-001543A, Class A
- Federal Specification TT-S-00230C, Class A
- MIL-A-46106B, Group II Type I, Group III Type I
- ASTM C 920 Type S, Grade NS, Class 25 use NT, G and A
- Canadian Specification CAN 19.13-M82

Surface Preparation

Surfaces must be clean, dry and free from oil, grease, dirt, rust, moisture and other foreign matter. Mask adjacent surfaces to simplify cleanup.

Priming

Thurmalox 2655 sealant will bond to most clean surfaces without primers. A field or laboratory evaluation should always be made to determine adhesive strength for specific applications. Difficult-to-bond surfaces should be submitted to Dampney's laboratory for adhesion testing and primer evaluation. Apply recommended primer if required for increased adhesion. Priming is not required for surfaces previously painted with any Thurmalox heat and corrosion resistant coating.

Applications Guidelines and Dry Time

Surface temperature must be at least 5° F (3° C) above dew point.

1. Sealant is supplied ready-to-use and will flow readily from its container under pressure.
2. Apply using manual or air-powered caulking gun after the joint has been properly prepared to receive the sealant.
3. Sealant begins to cure on contact with moisture in the air. At conditions of 77°F (25°C) and 50% RH a skin will begin to form on the exposed surface of the sealant within 15 minutes and the skin will become tack-free within 25-35 minutes. Cure progresses inwardly from the surface.
4. Tool surface immediately after application and before skin begins to form to ensure intimate contact with the substrate.

Bulletin 2655

5. Wipe excess sealant from the surrounding areas and remove any masking tape before skin is formed.
6. Apply sealant between 1/8 in. and 1/2 in. thick maximum.
7. Cure time is affected by RH, temperature, degree of confinement and thickness of sealant.
8. High temperatures and high humidity accelerate the cure and low temperatures, low humidity and confined spaces will retard cure.
9. A 1/8 in. section will cure through in 24 hours at 77°F and 50% RH. Cure time increases with cross-sectional thickness of sealant.
10. Sealant releases acetic acid vapor during cure. Odor will disappear as cure progresses. Allow vapors to escape. If vapors are confined, cure time will be increased or cure may not be completed.

Cleanup

Uncured sealant can be removed with Dampney 100 Thinner. For cured sealant, strippers are available which will dissolve silicone rubber.

Storage

Store below 90°F (32°C) in a dry place. Sealant has a shelf life of 12 months stored in original, unopened containers.

Packaging

Available in 10.3 fl. oz. (305 ml) polyethylene cartridges, 12 cartridges per carton.

Precautionary Information

WARNING: Flammable Liquid and Vapor

Keep away from heat, sparks and flame. Vapors may cause flash fire. Do not breathe vapors or spray mist. Avoid contact with eyes, skin and clothing. Use with adequate ventilation during mixing and application. Wear an appropriate, properly fitted organic vapor cartridge-type respirator (NIOSH approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Wash thoroughly after handling. Wear protective gloves, chemical safety goggles and impervious protective clothing. Use skin cream. In confined spaces it is required to use a positive pressure supplied-air respirator (NIOSH approved). Use explosion-proof lights and electrical equipment. Use only nonsparking tools and equipment. Wear conductive and nonsparking footwear. Make certain all electrical equipment is grounded. Observe all safety precautions and follow procedures described in OSHA regulations. See Material Safety Data Sheet (MSDS) for complete precautionary and disposal information.

If instructions and warnings cannot be strictly followed, do not use this product.

FOR INDUSTRIAL USE ONLY

TECHNICAL DATA

Characteristics	Thurmalox 2655
Generic Type	100% Silicone
Consistency	Spreadable Paste
Color	Oxide Red
Application Rate (g./min.) 1/8 in. orifice, 100 psi	200 minimum
Tack-free Time	25-35 minutes
Tooling Time	20-25 minutes
Cure Time 1/8 in. thickness @ 77°F (25°C) and 50% RH	20-30 hours
Service Temperature – cured Continuous	-80°F - 550°F (62°C - 288°C)
Intermittent	650°F (343°C)
Durometer Hardness - Shore A	25-30
Tensile Strength	600 – 800 psi
Elongation (%)	600 – 800
Adhesion in Peel (psi)	60 minimum
Dielectric Strength (v./mil.)	570
Dielectric Constant @ 60 Hz	2.7 ± 0.3
Dissipation Factor @ 60 Hz	0.002 ± 0.0002
Volume Resistivity (ohm-cm)	2 X 10 ¹⁶ ± 10%

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