



## Cleaning & Maintenance

Information for use with GE silicone construction products

### Longevity of Silicone Rubber

GE silicone materials have the inherent ability to withstand degradation from UV exposure, hot & cold temperature extremes, rain, snow and most weathering exposures – potentially for decades - without significantly changing property or breaking down from age. Thus, when properly installed these products may require little, if any, true maintenance. In some common applications (as weathersealants, structural silicone, and insulating glass in commercial-scale buildings), silicone rubber sealants have shown the ability to perform as intended for decades without reported need for maintenance or replacement (there exist some project applications are currently 40+ years old, and running). However, if maintenance becomes necessary or if cleaning of the silicone is desired, the following information is offered.

### Repairs to Localized Failed Sealant

For building modification and/or building repair work, it may become necessary to ‘patch in’ to the existing sealant. Or if installed sealant loses effectiveness in a localized area (leaks via mechanical damage, cohesive rupture, adhesion loss, vandalism, etc...), then the failed GE sealant portion can be repaired or replaced using fresh GE sealant of the same type.

- Note; in this situation - when a ‘patch-in’ needs to be made to existing sealant - it is important to use the same product for repair as the originally installed sealant since not all silicone sealants are adhesively compatible (that is to say; in general, silicone sealants will attain strong adhesive bonds to other silicone sealant products as well as to other silicone sealant products by other manufacturers, however it is not universally true and cannot be stated that any silicone sealant will always adhere to any other silicone sealant, there are always exceptions). If a different silicone sealant is to be utilized for the repair material, then a site adhesion test should be made to assess adhesion between the two sealants.
  - To proceed (using same sealant type), cut out the distressed portion of sealant and discard.
  - Clean the surface(s) of existing sealant for 3 or more inches to either side of the repair area (so as not to interfere with adhesion when marrying new sealant atop existing).
  - Clean adjacent substrates where relevant.
  - Leaving a thin layer of existing silicone on the substrate bond lines is acceptable and may be advantageous (assuming the existing sealant is not being replaced for adhesion reasons) for adhesion of the new sealant.
  - If the repair is to be done immediately following sealant removal, then the newly exposed cut surfaces of existing sealant should be clean and ready for direct application of fresh sealant. However, if time passes (hours or longer) and these surfaces become dirty, then clean the sealant surfaces before application of fresh sealant.
    - Isopropyl Alcohol (IPA) can be used on a clean rag to clean the sealant.
    - A 50/50 mix of IPA and water is also effective.
    - Other solvents may also be considered; confirm with sealant manufacturer.



- Use white lint-free wipes for the cleaning whenever fresh sealant is going to be applied over damaged, cured sealant. Check the white rag surface after each wipe, repeating the wipe/clean process until all contaminants have been removed.

## Cleaning of Sealant Surfaces

- If it is desired to clean the weathering surface(s) of existing cured sealant, a solution of Trisodium-phosphate and water, or a solution of IPA & water, or undiluted IPA are generally effective at removing most airborne contaminants that may have become deposited on the surface of the sealant.
  - Use caution to confirm that cleaning solutions do not mar adjacent surfaces. A small test patch is suggested.
  - Contact your Momentive Performance Materials (MPM) representative for advice if other than those solvents and solutions listed above are proposed for use.

## Façade Cleaning Agents

- Prior to using cleaning solvent/detergent solutions for cleaning or refreshing of façade components, it is recommended to check with MPM for compatibility with the installed sealant products. Upon request, MPM can review and assess, or test, the suitability of any particular cleaning agent or solution for safe use such that degradation of the silicone is avoided. In general, it is prudent to avoid strong or concentrated acidic and basic materials and solutions.
  - Contact your MPM representative for assistance.
  - At a minimum, product datasheets and SDS's of proposed cleaning agents, and proposed concentrations of such, will need to be submitted to MPM for review.

## Repair of Broken or Damaged Glass

- For repair of GE structural glazing sealant due to glass replacement needs, or similar modification, contact your MPM representative for the latest revision of the following MPM document: "*GE\_QC Information for FIELD REGLAZING*".

## Inspection Routine

- Some cities have adopted a façade inspection ordinance that requires building owners or property managers to periodically inspect and file a report on a façade's condition to assure public safety. These ordinances vary by city and state and it is suggested to check with your local governing code agency for any such requirements.
- While properly installed GE silicone products can survive decades of weathering without need for maintenance, it would still be prudent for property owners to consider an inspection plan of some reasonable frequency. A baseline 5-year interval is suggested for most installations. An inspection can ascertain the overall efficacy of the sealant-façade system and in theory could reveal potential deficiencies or trouble spots that could be taken care of earlier, rather than later thereby minimizing the scale of subsequent repair work. This becomes especially important on larger, taller applications such as skyscrapers. A façade or waterproofing consultant should be considered to perform this work. MPM can assist with a list of known, reputable consultants to perform this type of investigation.



- **Types of system checks**
  - Adhesion of the sealant – ASTM C1521 (latest revision) Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
  - Adhesion/cohesion of the sealant to the building surfaces – MPM Field Adhesion Testing procedure & information
  - Elasticity, flexibility, Hardness & overall general condition
  - Structural performance - ASTM C1392 (latest revision) Standard Guide for Evaluating Failure of Structural Sealant Glazing
  - Structural performance - ASTM C1394-03 Standard Guide for In-Situ Structural Silicone Glazing Evaluation