RGS7700 RapidStrength™

Two-Component, Fast Curing Silicone Elastomeric Adhesive

Product Description

RGS7700 silicone elastomeric adhesive is a two-component, 100% silicone neutral cure sealant that rapidly builds adhesive and elastomeric strength for bedding and glazing of glass in residential and commercial window designs.

Key Features and Typical Benefits

Performance

- **Silicone Durability**—Cured silicone rubber exhibits excellent long-term resistance to natural weathering including: extreme temperatures, ultraviolet radiation, rain and snow, with negligible change in elasticity.
- **Adhesion Performance**—Attains strong bonds to many conventional construction materials without primer.
- **Structural Capability**—May be utilized as the sealant for structural glazing applications.

Application

- **Low Pumping Viscosity**—Can allow for high unit throughput, low strain on production pumping equipment, and void free filling of the sealant joint.
- **Quick Green Strength**—SIlows for movement of assemblies within minutes of application without silicone transfer or glass shifting.
- **Fast Cure**—May allow for shipping of finished assemblies within hours of completion without silicone transfer or glass shifting.
- **Non-flammable**—Does not require special handling or storage associated with flammable materials.
- **Compatibility**—Compatible with GE structural and weather sealing silicones as well as many commonly used accessories in the glass and glazing trade.

Potential Applications

RGS7700 is an excellent candidate to consider as bedding or glazing adhesive where fast green strength and cure speed facilities movement of assemblies on high speed production lines.

Packaging

Base RGS7700A: white paste in 55-gallon drums filled to a volume of 44.4 gallons (166.5 L) with a polyethylene liner.

Catalyst Packaging: black paste, supplied in 5 gallon pails containing 4.6 gallons (17.3 L) or 55 gallon steel open top drums containing 46.1 gallons (172.9 L).

- All components are sold separately and kit matching is not required.

Colors

- Curing Agent RGS7700B Grey (Yields Gray when mixed with RGS7700A)
- Curing Agent RGS7700B Black (Yields Black when mixed with RGS7700A)

Typical Physical Properties

Typical property values of RGS7700 RapidStrength as supplied and cured are set forth in the tables below..

Typical Properties

Uncured Properties	Base	RGS7700A
Color	Off White	Thixotropic Paste
Specific Gravity	1.35	–
Shelf Life	18 months(1)	–
Uncured Properties	**Catalyst**	**RGS7700B**
Color	Black	Thixotropic Paste
Specific Gravity	1.04	–
Shelf Life	12 months(1)	–

Mixed Compound Properties

RGS7700A+RGS7700B Gray or +RGS7700B Black		
Color	(Yields) Grey or Black	Thixotropic Paste
Specific Gravity	1.19	Mixed at 10:1 volume
Mix Ratio Range	8:1 to 12:1	By volume
Snap Time	6-18 minutes	Depends on ratio, temp. & RH
Tack Free Time	2X snap time	Depends on ratio, temp. & RH
Consistency/Sag	<0.05”	Non-sagging

Cured Properties(2)

Full Cure at Standard Laboratory Conditions RGS7700A+RGS7700B @ 10:1 volume ratio		
Color	(Yields) Grey or Black	RGS7700B
Hardness Points (type A indenter)	28	ASTM D2240
Ult. Tensile Strength Ult. Elongation	230 psi (1.58 MPa) 280%	ASTM D412
Modulus @ 50% Elongation	50 psi (0.34 MPa)	ASTM D412
Modulus @ 100% Elongation	110 psi (0.76 MPa)	ASTM D412
Peel Strength	50 ppi (59 kg/cm)	ASTM C794
Green Strength Tensile 15 minute cure 60 minute cure	15 psi (0.10 MPa) 100 psi (0.69 MPa)	ASTM C1135
Movement Capability	±50%	
Accelerated Weathering, 5000 hours	Excellent, no degradation	ASTM C1369
Heat Resistance	300°F (149°C)	–

(1) When properly stored; see section on storage.
(2) Typical properties are average data and are not to be used as or to develop specifications.

Installation

Mixing, Pumping and Dispensing

- RGS7700 should be mixed and dispensed using two-component mixing equipment. These mixing / pumping systems are specifically designed to meter precise proportions of A base and B catalyst, in a sealed environment, then mix and dispense material at the proper ratio, free of entrained air.
- When exchanging B catalyst on equipment, care should be taken to minimize exposure to the environment in order to prevent premature curing of the catalyst.
- RGS7700 is a suitable candidate for both ‘in-line’ mixing systems and “purgeless” after-the-gun mixing equipment. Consult equipment manufacturer and/or Momentive Performance Materials (MPM) for information on mixing device options.
- When properly mixed, the material should be a solid, homogeneous color free of any swirling or marbling of colors. If incomplete mixing is noticed, cease operation until equipment adjustments can be performed to ensure that complete mixing is being attained.

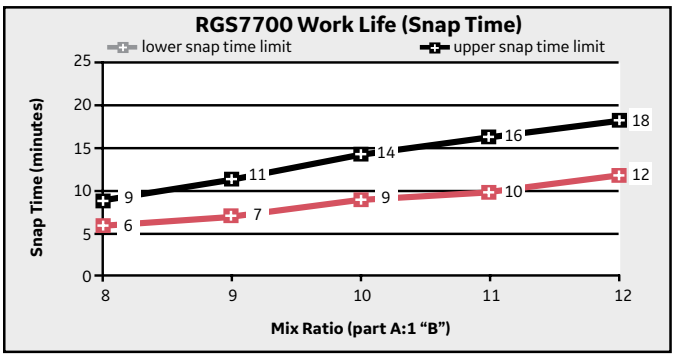
Quality Control Recommendations

- Upon receipt and prior to production, a sample of base (part A) and catalyst (part B) can be taken from each lot of material to be used, weighed to the desired A/B ratio, mixed and checked for proper curing before placing material into production. This procedure validates material performance separately from production equipment.
- A Quality Control program is highly recommended to aide in the assessment of proper and consistent mixing during operations. Daily snap time and butterfly testing should be performed at line start up and after material changes on equipment. Contact an MPM Technical Services representative for information on suggested Quality Control checks.
- Adhesion testing to production substrates should be included within the quality control program.

RGS7700 Volume to Weight Ratio Correlation(1)

Volume	Weight
8:1	10.4:1
9:1	11.7:1
10:1	13.0:1
11:1	14.3:1
12:1	15.6:1

(1) Calculated based on typical values. Reference certificate of analysis for calculation batch specific ratios.



Applicable Standards

- RGS7700 meets the strength requirements of the ASTM C1184 Specification for Structural Sealants.
- RGS7700 meets AAMA 802.3-16, Type II; 805.2-16, Group C.
- RGS7700 passes ASTM C719 Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle) at ±50%.

Technical Services

Additional technical information, literature, laboratory testing and application engineering may be available upon request from MPM. Any technical advice furnished by MPM or any representative of MPM concerning any use or application of any MPM product is believed to be reliable but MPM makes no warranty, expressed or implied, of suitability for use in any application for which such advice is furnished.

Limitations

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

- Although RGS7700 is not directly dependent on exposure to atmospheric moisture to cure, it requires ventilation to complete its cure and adhesion development by releasing its cure byproduct.
- RGS7700 should not be used in a completely sealed environment.
- It is not designed for continuous water immersion.
- RGS7700 provides primerless adhesion to a wide range of substrates, but variability in substrate composition and/or cleanliness can interfere with adhesion.
- The user is responsible for ensuring that the adhesion characteristics of RGS7700 to the user's substrates will meet his/her expectations.
- Structural glazing industry guidelines (ASTM C1401) suggest that drawings and details are to be reviewed by all parties involved in the manufacture of an SSG system and for each building project. RGS7700 should only be used in structural glazing applications that MPM has reviewed shop drawings and has performed adhesion and compatibility tests on project substrates and spacer materials. Review and testing is done on a project-by-project basis. No blanket approval is given by MPM for structural glazing applications.
- RGS7700 should not be used for structural adhesion on bare metals or surfaces subject to corrosion (i.e., mill aluminum, bare steel, etc.).
- RGS7700 is not intended for use in food contact applications.

Precautions

Silicone setting blocks are recommended for direct contact with RGS7700. Avoid using non-silicone materials (i.e., EPDM, Neoprene) as they could degrade or discolor the RGS7700 seal over time. Compatibility testing is recommended on all materials that are to be in direct contact with RGS7700.

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 considering the use of this product should review the latest Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Safety Data Sheets are available at www.gesilicones.com or, upon request, from any MPM representative. Use of other materials in conjunction with MPM sealants products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

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