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**80270 StoGuard® RapidSeal™
Gun-grade Waterproof Air Barrier Sealant for Sheathing Joints, System Transitions and
Rough Opening Protection**

Notes in italics, such as this one, are explanatory and intended to guide the design/construction professional and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.





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PART 1 GENERAL

1.1 SUMMARY

- A. Section includes gun-grade waterproof air barrier sealant for construction of a continuous plane of waterproofing and air leakage protection. Furnish StoGuard® RapidSeal™ for protection of rough openings, mechanical penetrations, and transitions of water-resistive barrier system onto flashings.
- B. Section includes flexible transition membrane, StoGuard® Transition Membrane for joints and system terminations at dissimilar substrates, foundations and joints where structural movement is anticipated.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

1.3 REFERENCES

- A. South Coast Air Quality Management District (SCAQMD) Rule 1116
- B. U.S. Environmental Protection Agency (EPA) 40 CFR Part 59, National Volatile Organic Compound Emission Standards for Architectural Coatings

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: The manufacturer shall be a company with at least twenty years experience and regularly engaged in the manufacture and marketing of products specified herein. The manufacturer shall have an ISO 9001:2008 certified quality system and ISO 14001:2004 Environmental Management System.
- B. Installer's Qualifications: The contractor shall be qualified to perform the work specified by reason of experience.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.
- B. Store products in a dry area with temperature maintained between 40 and 80 degrees F (4 and 27 degrees C). Protect from direct sunlight. Protect from freezing. Protect from extreme heat (>100 degrees F (37.7 degrees C)).
- C. Handle products in accordance with manufacturer's printed recommendations.

PART 2 PRODUCTS

2.1.1 MATERIALS

- A. Provide gun-grade sealant for rough-opening moisture protection, termination of waterproof air barrier system and transition onto through-wall flashing and foundations.
- B. Product: 80270 StoGuard® RapidSeal™
- C. Manufacturer: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331. (800) 221-2397 www.stocorp.com
- D. Performance and Physical Properties: Meet or exceed the following values for material cured at 77 degrees F (25 degrees C) and 50 percent relative humidity (unless otherwise specified).
 - 1. Water penetration resistance, resist 21.6 inches (55 cm) head for 5 hours with no leakage, AATCC-127.
 - 2. Adhesion (bond strength), minimum 100 psi (689 kPa), ASTM D 4541
 - 3. Elongation: minimum 400%, ASTM D 412
 - 4. Tensile Strength: minimum 170 psi (827 kPa)
 - 5. Water Vapor Permeability: 21.0 perms (1205 ng/Pa•s•m²), ASTM E 96, wet cup
 - 6. Surface Burning: Flame Spread <25 ; Smoke Developed <450, ASTM E 84, ICC Class A building material.
 - 7. VOC: <50 g/L, EPA 24, Complies with SQAQMD and U.S. EPA requirements for architectural coatings.
- E. Provide pre-cured, fabric faced waterproof air barrier transition membrane for system transitions at flashing, dissimilar substrates, and at joints where building movements are anticipated.
- F. Product: StoGuard® Transition Membrane
- G. Manufacturer: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331. (800) 221-2397 www.stocorp.com
- H. Performance and Physical Properties: Meet or exceed the following values for material cured at 77 degrees F (25 degrees C) and 50 percent relative humidity (unless otherwise specified).
 - 1. Water penetration resistance, resist 21.6 inches (55 cm) head for 5 hours with no leakage, AATCC-127.
 - 2. Elongation: minimum 260%, ASTM D 412
 - 3. Tensile Strength: minimum 60 psi (0.41 MPa), ASTM D 412 (perpendicular to length of roll)
 - 4. Water Vapor Permeability: 1.48 perms (85 ng/Pa•s•m²), ASTM E 96, wet cup
 - 5. Air leakage: ≤ 0.02 L/m²•s at 75 Pa (≤ 0.004 cfm/sq.ft. at 1.57 psf), ASTM E 2178
 - 6. Tear and Adhesion at 25% elongation: No tearing or loss of adhesion after conditioning. Pass in dry, wet, frozen and heat-aged conditions, ASTM C 1523

7. Cyclic elongation: No loss of continuity of membrane or bond at joint after 500 cycles elongation from 0 to 50 percent and return.
- I. Provide self-adhesive glass fiber reinforcing mesh.
- J. Product: StoGuard® Mesh
- K. Manufacturer: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, Georgia 30331. (800) 221-2397 www.stocorp.com
- L. Performance and Physical Properties: Meet or exceed the following values for material cured at 77 degrees F (25 degrees C) and 50 percent relative humidity (unless otherwise specified).
 1. Weight: 5.0 oz/sq.yd (169 g/sq.m)
 2. Tensile Strength: 150 lbs/inch (267.5 g/mm) warp direction; 165 lbs/inch (294 g/mm) weft direction, ASTM E 2098
 3. Tensile Strength, post alkaline exposure: > 120 lbs/inch (214 g/mm), ASTM E 2098.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected by the appropriate trade. The following substrates are acceptable when properly prepared to receive StoGuard RapidSeal:
 1. Concrete
 2. Concrete Masonry
 3. ASTM C 1177 glass mat faced gypsum sheathing
 4. Wood framing
 5. Exterior-grade plywood
 6. Exposure 1 OSB
 7. Fire-retardant treated plywood
 8. Pressure treated plywood
 9. Metal flashing (copper, aluminum, galvanized steel)
 10. Primed structural steel
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing, handling and application of materials.
- C. Surface Preparation and application conditions: Comply with manufacturer's printed instructions and the following.
 1. Remove all bond-inhibiting materials including oil, mildew, dust, dirt, efflorescence, laitance, coatings, and other foreign matter.

2. Surface must be frost-free, and between 33 degrees F (0.6 degrees C) and 100 degrees F (37.7 degrees C). Do not apply if temperatures below 33 degrees F (0.6 degrees C) are anticipated within 24 hours of application.
 3. Do not apply to wet surfaces or surfaces with standing water. Wood, concrete or concrete masonry may be damp.
 4. Wipe galvanized metal with mild solvent such as isopropyl alcohol to remove oils and bond inhibiting materials.
- D. Mixing: Not required
- E. Application: Comply with manufacturer's printed instructions and the following:
1. Rough Openings:
 - a. Apply StoGuard RapidSeal with caulk gun.
 - b. Apply generous bead of StoGuard RapidSeal and spread to minimum 12 wet mils (0.3 mm) using plastic spreader.
 - c. Coat the entire rough opening surface and return onto exterior face of sheathing minimum 2-inches (51 mm) around perimeter of opening.
 2. Sheathing Joints in field of wall:
 - a. Fill joints that are wider than ¼-inch (6.4 mm) with low-expanding spray foam. Trim excess spray foam flush with sheathing.
 - b. Apply minimum 2-inch (51 mm) wide strip of StoGuard Mesh centered along the sheathing joint.
 - c. Apply StoGuard RapidSeal using a caulk gun and spread to minimum 12 wet mils (0.3 mm) using plastic spreader to fully coat the mesh and to achieve a void and pinhole free surface. Mesh pattern may remain visible, but mesh color must not show through.
 3. Sheathing Joints at corners:
 - a. Fill sheathing joints that are wider than ¼-inch (6.4 mm) with low-expanding spray foam. Trim excess spray foam flush with sheathing.
 - b. Apply minimum 4-inch (102 mm) wide strip of StoGuard Mesh centered along and folded onto both sides of corner.
 - c. Apply StoGuard RapidSeal using a caulk gun and spread to minimum 12 wet mils (0.3 mm) using plastic spreader to fully coat the mesh and to achieve a void and pinhole free surface. Mesh pattern may remain visible, but mesh color must not show through.
 4. Movement Joints: (Joints up to 1-inch (25 mm) wide and up to 50% movement – masonry control joints, through-wall joints in masonry or frame construction. Requires StoGuard Transition Membrane).
 - a. Insert backer rod sized to friction fit in the joint (diameter 25% greater than width of joint. Recess backer rod ½ inch (13 mm).
 - b. Apply StoGuard RapidSeal using a caulk gun along both sides of joint.
 - c. Center StoGuard Transition Membrane along the joint and immediately press into freshly applied StoGuard RapidSeal.

- d. Loop StoGuard Transition Membrane into joint minimum against the backer rod surface to provide slack.
 - e. Minimum bonded width of StoGuard Transition Membrane shall be 1 inch (25.4 mm) on both sides of joint.
 - f. Tool both sides of the StoGuard RapidSeal and StoGuard Transition Membrane to seal and fully adhere transition membrane.
 - g. Where horizontal and vertical expansion joints intersect, install StoGuard Transition Membrane at horizontal joints first. Stop membrane at edge of vertical expansion joints. Install vertical expansion joints to be continuous.
 - h. Inspect the installed membrane for fish-mouths, wrinkles, gaps, holes or other deficiencies.
 - i. Correct fish mouths by cutting then embedding the area with additional StoGuard RapidSeal under and over the membrane.
 - j. Seal gaps, holes and complex geometries at three-dimensional corners with additional StoGuard RapidSeal as needed to provide a continuous seal.
5. Transitions to flashing:
- a. StoGuard Mesh option:
 - 1) Apply strip of StoGuard Mesh along upper leg of flashing and extending minimum 2-inches (51 mm) onto wall surface.
 - 2) Apply StoGuard RapidSeal to minimum thickness of 12 wet mils (0.3 mm) and fully coating the reinforcing mesh.
 - b. StoGuard Transition Membrane option:
 - 1) Apply StoGuard RapidSeal to vertical flashing leg and surface of wall to receive transition membrane.
 - 2) Place StoGuard Transition Membrane in wet StoGuard RapidSeal and tool flat, using excess StoGuard RapidSeal to embed edges of transition membrane.
 - 3) Apply additional StoGuard RapidSeal along top edge of StoGuard Transition Membrane and tool to provide a continuous lap onto the transition membrane.
 - 4) Inspect the installed membrane for fish-mouths, wrinkles, gaps, holes or other deficiencies.
 - 5) Correct fish mouths by cutting then embedding the area with additional StoGuard RapidSeal under and over the membrane.
 - 6) Seal gaps, holes and complex geometries at three-dimensional corners with additional StoGuard RapidSeal as needed to provide a continuous seal.
6. Transitions to dissimilar substrates (no expansion joint in substrate construction):

NOTE: *The requirement for expansion joints and locations of expansion joints to accommodate anticipated structural movement must be determined by a qualified design professional. Inclusion of this section in the specification is not intended to imply that the options listed below function as or should be used to replace expansion joints where they are called for by the design professional.*

- a. StoGuard Mesh option:
 - 1) Apply strip of StoGuard Mesh along the joint between dissimilar substrates, centered on the joint and extending minimum 4-inches (102 mm) onto each substrate.
 - 2) Apply StoGuard RapidSeal to minimum thickness of 12 wet mils (0.3 mm) and fully coating the reinforcing mesh.
 - b. StoGuard Transition Membrane option:
 - 1) Apply StoGuard RapidSeal to substrates on both sides of the joint between dissimilar substrates.
 - 2) Place StoGuard Transition Membrane in wet StoGuard RapidSeal and tool flat, using excess StoGuard RapidSeal to embed edges of transition membrane.
 - 3) Apply additional StoGuard RapidSeal along top edge of StoGuard Transition Membrane and tool to provide a continuous lap onto the transition membrane.
 - 4) Inspect the installed membrane for fish-mouths, wrinkles, gaps, holes or other deficiencies.
 - 5) Correct fish mouths by cutting then embedding the area with additional StoGuard RapidSeal under and over the membrane.
 - 6) Seal gaps, holes and complex geometries at three-dimensional corners with additional StoGuard RapidSeal as needed to provide a continuous seal.
7. StoGuard Transition Membrane overlaps
- a. Shingle-lap, minimum 2 inches (51 mm), StoGuard Transition Membrane where required for vertically oriented applications.
 - b. Overlap horizontal applications of StoGuard Transition Membrane minimum 2 inches (51 mm).
 - c. Use StoGuard RapidSeal to bond layers of StoGuard at overlaps.
8. Top-coating StoGuard RapidSeal
- a. Apply the specified StoGuard waterproof air-barrier coating to StoGuard RapidSeal within 48 hours after StoGuard RapidSeal has achieved initial cure (StoGuard RapidSeal may have a tacky feel, but material will be firm and will not transfer with firm pressure and contact.)

ATTENTION

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**STO GUIDE SPECIFICATION 80270 – Specification 80270
StoGuard® RapidSeal™ Gun-grade Waterproof Air Barrier
Sealant**



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