Specifier editing notes and additional information is hidden by default. To view hidden text, see methods below.

1. Method 1: Activate “Show/Hide ¶” to reveal formatting symbols. The default shortcut for this setting is ctrl+* (ctrl+shift+8).
2. File > Options > Display, Check “Hidden Text.”

Specifier Note: This guide specification has been prepared using the *CSI*® (Construction Specification Instute) *MASTERFORMAT*® 2018 Edition.

The purpose of this guide specification is to assist the specifier in correctly specifying sealant products and execution. The specifier needs to edit the guide specifications to fit the needs of specific projects. Editable text fields are highlighted in orange for visibility. Contact a Henkel OSI® Specialist to assist in appropriate product selections.

This guide provides for a high performing OSI® QUAD® Foam, single component, minimal expansion and low pressure polyurethane foam packaged in a pressurized metal container. It is specifically designed for use with the OSI® QUAD® Window and Door System. It is dispensed in bead form for sealing gaps and cracks, holes and voids around windows and doors, in most types of construction projects. The product exhibits slight to moderate expansion during application and cures upon reaction with moisture to form a flexible, urethane foam. The closed cell structure of this material provides an R factor of 5 per inch of cured foam making it an efficient method for stopping air and moisture infiltration and expensive warm and cold air loss between windows and rough frame. OSI® QUAD® Foam will not warp or deform windows and doors. OSI® QUAD® Foam adheres to all types of building materials including wood, concrete, and drywall and is compatible with asphalt and butyl flexible flashing. OSI® QUAD® Foam complies with all Federal and State VOC regulations.

DISCLAIMER: This Henkel Corporation Guide Specifications has been written as an aid to the professionally qualified specifier and design professional. The use of this guideline specification requires the sole professional judgment and expertise of the qualified specifier and design professional to adapt the information to the specific needs for the building owner and the project, to coordinate with their construction document process, and to meet all the applicable building codes, regulations, and laws. HENKEL EXPRESSLY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OF THIS PRODUCT FOR THE PROJECT.

OSI® QUAD® Foam: Window and Door Installation Foam

SECTION 07 27 36 – Sprayed Foam Air Barrier

PART 1 GENERAL

1.01 SUMMARY (Specifier Note: edit the following [A. This section includes the following] to meet project specific project applications and conditions.)

A. This section includes the following:
   1. OSI QUAD Foam: Application of sprayed foam air barrier for use in window and door flashing applications.

B. RELATED SECTIONS: (Specifier Note: edit the following [B. RELATED SECTIONS] to meet project specific applications and conditions. Specify section numbers in accordance with CSI MASTER FORMAT and section titles referenced. Remove any of the following that do not apply.)
   1. 01 00 00 General Requirement
   2. 04 20 00 Unit Masonry
   3. 06 10 00 Rough Carpentry

4. 07 10 00 Dampproofing and Waterproofing
5. 07 21 00 Thermal Insulation
6. 07 26 00 Vapor Retarders
7. 07 27 00 Air Barriers
8. 07 62 00 Sheet Metal Flashing and Trim
9. 07 65 00 Flexible Flashing
10. 07 90 00 Joint Protection
11. 07 92 00 Joint Sealants

1.02 REFERENCES

A. ASTM International (ASTM)

1. ASTM E2112 – Standard Practice for Installation of Exterior Windows, Doors and Skylights.
2. ASTM C 518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
3. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E 96 – Standard Test Methods for Water Vapor Transmission of Materials.
5. ASTM E 283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
6. ASTM E 285 – Standard Test Method for Assemblies, Properties, and Materials in response to heat and flame under controlled laboratory conditions.
7. ASTM E 2178 – Standard Test Method for Air Permeance of Building Materials.
8. ASTM D 1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics.

B. American Architectural Manufacturers Association (AAMA)

1. AAMA 504 – Voluntary Laboratory Test Method to Qualify Fenestration Installation Procedures
2. AAMA 800-08 Voluntary Specifications and Test Methods for Sealants
3. AAMA 812 04 Voluntary Specifications of Single Component Aerosol Expanding Polyurethane Foams for Sealing Rough Openings of Fenestration Openings.

C. Underwriters Laboratories, Inc.
1. (UL) 723 - Test for Surface Burning Characteristics of Building Materials.

D. California Air Resources Board (CARB)

E. South Coast Air Quality Management District (SCAQMD)

1.03 SUBMITTALS

A. Refer to section 01 33 00 – Submittal Procedures (Specifier Note: Delete all that do not apply or have not been submitted.)
1. 01 33 13 – Certificates
2. 01 33 16 – Design Data

3. 01 33 19 – Field Test Reporting
4. 01 33 23 – Shop Drawings, Product Data, and Samples
5. 01 33 26 – Source Quality Control Reporting
6. 01 33 29 – Sustainable Design Reporting

B. Product Technical Data: Submit most current manufacturer technical literature for each type of product used including the following, but not limited to:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Samples: All products specified. Verify performance criteria and installation procedure.

D. Quality Assurance Submittals
   1. Manufacturer Instructions: Provide manufacturer's written installation instructions.

1.04 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Installer to comply with quality assurance articles referenced in ASTM E2112 for installation of air barrier foam sealants.
   2. Installer shall have documented OSI® QUAD® Window and Door System Certification with the installation of OSI® QUAD® Window and Door System.
   3. Installation shall be in accordance with manufacturer's installation guidelines and recommendations.
   4. Installer shall have documented history of successful project execution and installation of said product.

B. Pre-Construction Mock-Up: (Specifier Note: Mock-ups are recommended for all projects using OSI QUAD Foam. Mock-up requirement will likely be included in the specification section for the wall cladding and/or windows. Include OSI QUAD Foam as part of the required mock-up.)
   1. Install mock-up prior to installation using OSI® QUAD® Foam sprayed foam air barrier including surface preparation per sprayed foam air barrier manufacturer's instructions. Obtain Architect/Engineer/Consultant or Owner's approval of joint treatments to establish adhesion, appearance, and workmanship standard.
      a. Mock-Up Size: insert measurement
      b. Mock-Up Substrate: insert substrate vertical surfaces as agreed to prior to Mock-up installation.
      c. Maintain mock-up during construction for workmanship standard.
      d. Mock-up to be incorporated into final construction upon Architect/Engineer/Consultant/Owner's written approval.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, handle, and protect all products in accordance with Section 01 60 00, Product Requirements. (Specifier Note: Review the following. Delete all that do not apply.)
   1. 01 61 00 – Common Product Requirements
   2. 01 64 00 – Owner-Furnished Products.
   3. 01 65 00 – Product Delivery Requirements

4. 01 66 00 – Product Storage and Handling Requirements
5. 01 66 13 – Product Storage and Handling Requirements for Hazardous Materials
6. 01 66 16 – Product Storage and Handling Requirements for Toxic Materials

B. Deliver all OSI® QUAD® Foam materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Comply with manufacturer's ordering instructions and lead-time(s) required to avoid construction delays.

D. Store OSI® QUAD® Foam materials as recommended by manufacturer. Refer to manufacturer Technical Data Sheet (TDS) available at www.ositough.com.

1.06 PROJECT CONDITIONS

A. Environmental Requirements:
   1. Verify substrates and ambient air temperature at project site before, during, and after application to assure compliance with manufacturer's recommendations.
      a. Weather Conditions:
         i) Apply in accordance with manufacturer's instructions. Refer to product Technical Data Sheets (TDS) available at www.ositough.com.
         ii) Compliance: Follow manufacturer's specific safety, health and environmental recommendations per most recent Safety Data Sheets, technical bulletins, and instructions. Handle all solvents in compliance with applicable EPA, OSHA, and VOC requirements regarding health/safety standards.

1.07 WARRANTY

A. OSI® Limited Warranty:
   1. OSI® products are warranted by Henkel Corporation to be free from defects in materials when used as directed. Henkel's sole obligation shall be, at its option, to replace or refund the purchase price of product proven to be defective. Henkel makes no other warranty – express or implied – including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE and will not be liable for consequential or incidental damages. This Limited Warranty gives you specific legal rights, which vary from state to state.
      a. For warranty assistance, contact Henkel at 1.800.624.7767 M-F 9:00 AM to 4:00 PM ET.
   2. Submit manufacturer's limited warranty at completion for projects that meet criteria to receive Manufacturers Limited Warranty.
      a. Limited Warranty Areas: insert limited warranty areas per specifier note here (Specifier Note: Use warranty areas for description of work protected and areas of work excluded as required by project conditions.)

PART 2 PRODUCTS (Specifier Note: Product Information is proprietary to OSI products. If additional products are required for competitive procurement, contact the Henkel Corporation for assistance – 1-800-624-7767, Mon. – Fri. 9:00AM – 4:00PM ET)

2.01 MANUFACTURERS

A. Approved Manufacturer:
   1. Henkel Corporation:
      a. Address: 26235 First Street, Westlake, OH 44145
      b. Phone: 1-866-591-2178
      c. Web Address: http://www.ositough.com.

2.02 MATERIALS (Specifier Note: Sealant product listed has been tested for compatibility and intermittent contact with OSI Butyl Flash and OSI QUAD Flash. EDIT for specific project as appropriate when sealants are specified within this section.)

A. Description: OSI® QUAD® Window and Door Foam – Low Expansion, Low Compression Spray Polyurethane Foam:
   1. Appearance: Minimal expansion foam
   2. Color: Tan
   3. Composition: Single Component Polyurethane Spray Foam
   4. Flashing System Applications: Perimeter Seal for Window and Door Openings
   5. Flash Point: -155.2°F (-104°C)
   6. VOC Content (CARB): 16% by weight
      a. SCAQMD rule 1168 177 g/L
   7. Shelf Life: 18 months from date of manufacture (unopened)

B. Application Properties:
   1. Product storage (at least) 12 hours prior to application:
      a. 41°F (5°C) and 77°F (25°C)
      b. For best results, store at room temperature.
      c. During application, working environment and
   2. Surface and ambient temperatures: 14°F (-10°C) and 86°F (30°C). during application and cure
   3. Tack-free Time: Approx. 8 to 10 minutes (At 73°F and 70% relative humidity)
      a. Cure time is dependent on temperature, humidity and depth of sealant applied
   4. Cut Time Gun: Approx. 25-35 minutes
      a. Cure time is dependent on temperature, humidity and depth of sealant applied
   5. Cure Time: Approx. 24 hours
      a. Cure time is dependent on temperature, humidity and depth of sealant applied

C. Performance Properties:
   1. Service Temperature: -40°F (-40°C) to 194°F (90°C)
   2. Surface Burning (ASTM E 84):
      a. Flame Spread: 10
      b. Smoke Development: 25
   3. Pressure Build Up: AAMA 812,
      a. 0.2471 psi
      b. Deflection: 0.0050 in.
   4. Flash Point: -155.2ºF (-104 ºC)

2.03 ACCESSORIES:

A. General:
   1. Verify compatibility of any product that makes physical contact with or is used in combination with OSI® QUAD® Foam.

B. Product Specific Application Equipment & Tools: (Specifiers Note: Remove sections below that do not apply to project specific conditions. Include additional sections that aren't explicitly outlined below but are part of project scope and conditions.)
   1. OSI® QUAD® Foam Applicator Gun
   2. OSI® Foam Clean – Foam and Applicator Cleaner

C. Adhesive Primers: Use primers only as recommended by sprayed foam air barrier manufacturer where required for adhesion of sealant to joint substrates indicated and as determined for use from pre-construction mock-up testing. (Specifier Note: Edit the following. Installer shall use manufacturer approved adhesive primer and verify compatibility. Specify manufacturer approved primer below. Delete this section if primer is not specified.)
   1. Specify manufacturer approved adhesive primers.

D. Bond-breaker tape: Polyethylene tape or other approved plastic tape as recommended by sprayed foam air barrier manufacturer to prevent 3-sided joint adhesion to rigid, in-flexible joint fillers or filet joint surfaces at back of joint where such (Specifier Note: Edit the following. Installer shall use manufacturer approved bond-breaker tape and verify compatibility. Specify manufacturer approved bond-breaker tape below. Delete this section if bond-breaker tape is not specified.)
   1. Specify manufacturer approved bond breaker tape.

E. Cylindrical Sealant Backer Rod: Provide joint backings that meet ASTM C1330, Type C (closed) or Type B (soft cell, non-absorbent bi-cellular backing materials with surface skin) sized 25% or greater than joint opening with proper density to control sealant depth and profile. Follow foam manufacturer's recommendations with backer rod selections for optimum joint sealant performance.
   1. **Note:** Installer shall not use "open cell" backer rod material in combination with the use of OSI® QUAD MAX® Joint Sealant or OSI® QUAD® Foam. Contact designated manufacturer representative for questions or concerns. (Specifier Note: Edit the following. Installer shall use manufacturer approved backer rod and verify compatibility. Specify manufacturer approved backer rod below. Delete this section if backer rod is not specified.)
   2. Specify manufacturer approved backer rod

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify substrate and surface conditions are in accordance with OSI® QUAD® Foam manufacturer recommended tolerances prior to installation.

B. Review requirements for sequencing of installation of OSI® QUAD® Foam with installation of windows, doors, louvers, and wall penetrations to provide a weather-tight

flashing assembly.

3.02 PREPARATION

A. General:
   1. Installer shall refer to manufacturer approved installation instructions and individual product Technical Data Sheets (TDS) for required environmental installation conditions and surface/substrate preparation. www.positough.com

3.03 INSTALLATION

A. General:
   1. For comprehensive installation instruction, refer to ***OSI® INSTALLATION GUIDE***.
      a. Follow this link to download the OSI® Installation Guide
         i) Contact Henkel Sales Representative for any additional assistance with the *OSI® Installation Guide*, training, and installation scenarios not explicitly outlined within *OSI® Installation Guide*.
         ii) For additional information refer to product Technical Data Sheets (TDS) available at www.positough.com.

3.04 FIELD QUALITY CONTROL

A. Notify manufacturer's designated representative to obtain periodic observations of sprayed foam installation.

B. Field Adhesion testing is recommended for unverified or unapproved substrates. Contact designated manufacturer representative for consultation.

3.05 CLEANING AND PROTECTION

A. For additional information refer to product Technical Data Sheets (TDS) available at www.positough.com.

END OF SECTION