



TECHNICAL DATA SHEET

Revision: June 20, 2018
Supersedes: May 25, 2016
Ref. #: 477545, 584166

WINDOW, DOOR & SIDING SEALANT

QUAD[®] MAX

STRETCHES 5X



DESCRIPTION:

OSI® QUAD® MAX is the next generation of siding, window and door sealants that offers maximum durability and application performance for use in many interior or exterior conditions. QUAD MAX takes the guess work out of color matching with over 4,600 color matches to primary building material manufacturers. It has been proven to stick on wet and cold surfaces and offers long term durability against the harmful effects of sun exposure. Unlike traditional solvent sealants, QUAD MAX is resistant to bubbling and has no shrinkage. By providing superior protection against air and moisture, you've done it right the first time.

Available As:

Item #	Size	Color
1868684	9.5 fl oz (280 ml) cartridge	White (001)
Various Colors	9.5 fl oz (280 ml) cartridge	See www.ositough.com
2058483	19.2 fl oz (568 ml) sausage	White (001)

FEATURES & BENEFITS:

- Flexibility: ± 50% Joint Movement Capability
- Easy to Use in All Temperatures: 0°F to 140°F Application
- 24 Hour Fast Cure for Quicker Protection*
- Available in 4,600+ Color Matches
- Paintable in 1 Hour*
- Strong Adhesion to Most Building Materials Without Primer

**Cure time is dependent on temperature, humidity and depth of sealant applied*

RECOMMENDED FOR:

OSI QUAD Max is designed for interior/exterior use for sealing around windows, doors and siding. It bonds to a wide variety of materials without need for a primer such as fiber cement, cedar, brick, stone, XPS, EPS, coated aluminum, steel, fiberglass, vinyl, PVC, stucco, EIFS, wood, glass, concrete, masonry, flashing tapes and Kynar® coatings.

LIMITATIONS:

- DO NOT TOOL or smear/feather on prefinished colored claddings (i.e. siding, trim, etc.) as this will reduce any sealants ability to withstand UV exposure and joint movement, causing premature joint failure and color fading.
- DO NOT use as a nail hole filler or in touch-up applications on prefinished exterior building materials. Follow prefinished cladding manufacturer's instructions for nail hole filling
- Not recommended for field joint/butt joint applications on pre-finished exterior claddings and trim materials
- Do not use on joints immersed in water or applications requiring continuous water immersion
- Do not use as a traffic bearing sealant or on log homes
- For joints deeper than 3/8" (9.5 mm), a backing material should be used

COVERAGE

For a 9.5 fl. oz. (280 ml) cartridge:

- A 1/4" (6 mm) bead extrudes approximately 29.1 ft. (8.9 m)
- A 3/8" (9.5 mm) bead extrudes approximately 13.3 ft. (4 m)

For a 19.2 fl. oz. (568 ml) sausage:

- A 1/4" (6 mm) bead extrudes approximately 58.8 ft. (17.9 m)
- A 3/8" (9.5 mm) bead extrudes approximately 26.9 ft. (8.2 m)



TECHNICAL DATA SHEET

Revision: June 20, 2018
Supersedes: May 25, 2016
Ref. #: 477545, 584166

TECHNICAL DATA

Typical Uncured Physical Properties:

Color:	4,600 color Matches listed on ositough.com	VOC Content:	2.48% by weight	CARB
Appearance:	Non-slumping paste		36 g/l	SCAQMD rule 1168
Base:	Silane Modified Polymer	Shelf Life:	24 months from date of manufacture (unopened)	
Odor:	Alcohol	Lot Code	YYDDD	
Specific Gravity:	1.4 – 1.5	Explanation:	YY= Last two digits of year of manufacture DDD= Day of manufacture based on 365 days in a year	
Flashpoint:	224.6° F (107° C)	Example:	14061 = 61 st day of 2014 = March 2, 2014	

Typical Application Properties:

Application Temperature:	Can be applied between 0°F (-18°C) and 140°F (60°C) For easier extrusion of sealant at lower temperatures, store cartridge at room temperature at least 24 hours prior to use		
Skin Formation Time:	17-20 minutes*	At 72°F and 70% relative humidity	
Tack-free Time:	15 hours	At 72°F and 70% relative humidity	
Cure Time:	24-72 hours*	*Cure time is dependent on temperature, humidity and depth of sealant applied	
Extrusion Rate:	42 ml/min	ASTM C1183 (Procedure A)	
Vertical Sag:	0 inches	ASTM C639	

Typical Cured Performance Properties:

Color:	Various colors	Hardness:	32	ASTM C661
Service Temperature:	-14°F (-25°C) to 158°F (70°C)	Joint Movement:	± 50%	ASTM C719
Water Resistant:	Yes	Tensile Strength:	234 psi	ASTM D412
Paintable:	Yes, with latex paint or primer	Maximum Elongation:	577%	ASTM D412
Bubble Resistant:	Yes	Specifications: Meets the performance requirements of: <ul style="list-style-type: none"> ASTM C 920: Type S, Grade NS, Use NT, Class 50, M, G and A Federal Spec. TT-S-00230C, Type II AAMA 808.3 (Type I) Exterior Perimeter Sealing AAMA 802.3 (Type I) & 805.2 (Group C) Back Bedding/Glazing AAMA 713-08 Chemical Compatibility of Sealants ASTM C1382 (EIFS) GreenGuard® Certified 		
Nail-Hole Filling:	DO NOT use as a nail hole filler or in touch-up applications on prefinished colored claddings and trim. Suitable only on unfinished or primed siding materials prior to painting. Follow prefinished cladding manufacturer's instructions for nail hole filling.			
180° Peel Adhesion:	ASTM C794			
PVC Trim:	47.6 lb./in			
Fiber Cement:	47.0 lb./in			
Coated (Painted) Aluminum:	51.1 lb./in			
Vinyl Siding:	54.7 lb./in			
Mortar:	42.0 lb./in			

DIRECTIONS

Tools Typically Required: Utility knife and caulking gun. For best application results, OSI recommends the use of a high-quality caulking gun such as the Albion® B12 Cartridge Gun.

Safety Precautions: Wear gloves and wash hands after use.

Surface Preparation: All surfaces should be clean, dry, and free of all contaminants, such as, old caulking, grease, dust, and any other material that can interfere with adhesion. Remove any ice, snow, or frost that may be present on substrates. For more information refer to cladding manufacturer's instructions for approved cleaning methods. Ensure proper drain plane design to avoid trapped water and or moisture. The combination of trapped moisture and other variables will tend to create back pressure and cause sealant bubbling regardless of technology. While QUAD MAX is generally considered a non-priming sealant, special circumstances or substrates may require a primer. It is the user's responsibility to test substrate compatibility and the adhesion of the cured sealant on a test joint before applying to the entire project. It is also the end user's responsibility to verify acceptable color match to all substrates prior to the start of job and during the application.



TECHNICAL DATA SHEET

Revision: June 20, 2018
 Supersedes: May 25, 2016
 Ref. #: 477545, 584166

DIRECTIONS

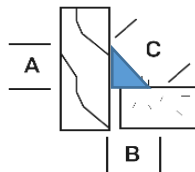
Masonry: Concrete, stone, stucco and other masonry must be cleaned where necessary by grinding or wire brushing to expose a sound surface free of contamination and laitance. Concrete must be fully cured and free of release agents.

Wood and painted wood: New and weathered wood must be clean and structurally sound. Cut back weathered surfaces and dry rot until clean, sound wood is reached. Scrape away paint to bare wood. Any coating that cannot be removed must be tested to verify adhesion of the sealant. QUAD MAX will adhere to most new and old, dry, oil-free wood.

Metal: Remove scale, rust, and residue from metal to expose a bright metal sheen by wire brushing. Remove any chemical residue, film/oils, and loose or incompatible coatings using the appropriate solvent. Any coating that cannot be removed must be tested to verify adhesion of the sealant. Remove any other coatings or finishes that could interfere with adhesion. An adhesion test is recommended for anodized aluminum or any questionable substrates.

Joint Preparation: The number of joints and the joint width should be designed for a maximum of $\pm 50\%$ joint movement from the initial joint width. The depth of the sealant joint should be one-half the width of the joint. The maximum depth is $\frac{1}{2}$ inch (13 mm) and the minimum is $\frac{1}{4}$ " (6 mm). The minimum recommended joint width is $\frac{1}{4}$ " inch and the maximum recommended joint width is $\frac{5}{8}$ " inches (15 mm). See table below.

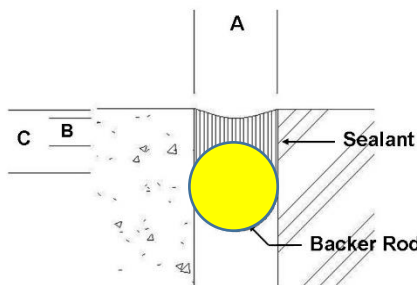
Joint Width (inches)	Sealant Depth @ Midpoint (inches)	Joint Width (mm)	Sealant Depth @ Midpoint (mm)
1/4	1/4	6	6
1/2	1/4	13	6
5/8	1/2	15	13



Fillet Joint Design

Fig. 1

- Dimension A and B must be a minimum of $\frac{1}{4}$ "
- Dimension C must be a minimum of $\frac{3}{8}$ "



Control Joint Design

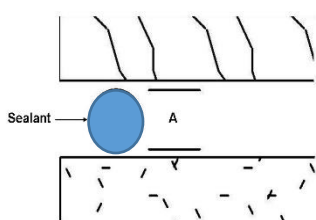
Fig. 2

- Dimension A must be a minimum of $\frac{3}{8}$ " or maximum of $\frac{5}{8}$ "
- Dimension B must be a minimum of $\frac{1}{4}$ " depth
- Dimension C can be a maximum of $\frac{1}{2}$ "

Dynamic Joint Design

- Dimension A can be up to $\frac{5}{8}$ " wide
- Dimension C must be a maximum depth of $\frac{1}{2}$ "

NOTE: Form bead to a concave shape keeping sealant inside the joint edges. DO NOT bridge the sealant or smear beyond the joint edges otherwise it may result in premature color fading on prefinished siding and trim materials. Tooling spatula recommended. Size to joint width. Use masking tape to prevent smearing of sealant if necessary.



Bedding Bead Structure

- Dimension A must be a $\frac{3}{8}$ " rounded sealant bead
- Apply sealant to substrate.
- Minimize pressure when applying sealant to maintain a rounded bead
- Compress sealant between both substrates
- Avoid excessive substrate movement after compression. Movement of the substrates can smear sealant and breakdown the sealants capacity to maintain a seal.

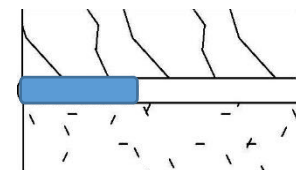


Fig. 3



TECHNICAL DATA SHEET

Revision: June 20, 2018
Supersedes: May 25, 2016
Ref. #: 477545, 584166

DIRECTIONS

If the depth of the joint exceeds 3/8" (9.5 mm) the use of a backer rod such as a Closed-Cell Backer-Rod or Soft Backer-Rod is recommended. Where the joint depth does not permit the use of backer-rod, a bond breaker (polyethylene strip) must be used to prevent three-sided adhesion. To maintain the recommended sealant depth, install backer-rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed-Cell Backer-Rod should be approximately 1/8" (3 mm) larger in diameter than the width of the joint to allow for compression. Soft Backer-Rod should be approximately 25% larger in diameter than the joint width. Backer-rod becomes an integral part of the joint. The sealant does not adhere to it, and no separate bond breaker is required. Do not prime or puncture the backer-rod.

General Preparation: The temperature of the product, the surfaces and the working area should be between 0°F (-18°C) and 140°F (60°C). For best performance, store cartridge at room temperature at least 24 hours before use. Use nozzle to fully puncture seal and cut the tip at a 30° to 45° angle with a sharp blade. Screw on plastic nozzle, insert cartridge into a high-quality caulking gun, and dispense a 3/8" bead of sealant for optimal joint protection. For more information, refer to ASTM C1193 – Standard Guide for Use of Joint Sealants.

Application Instructions:

Using a caulking gun, the sealant can be pushed or pulled when applying but positive pressure should be maintained throughout extrusion. Use steady pressure to force sealant into joint ensuring an adequate and even bond of sealant to substrate and to maintain consistency avoiding irregular bead shapes, such as, too small or too large. If the depth of the joint exceeds 3/8" (9.5 mm) the use of a backer rod is recommended. Always apply sealant in a bead form. A fillet joint is formed when two surfaces come together to form a right angle (see Fig. 1). The sealant used to join these two surfaces is triangular in shape. Masking tape can be used to ensure a clean application. **DO NOT TOOL** or smear/feather on prefinished colored claddings (i.e. siding, trim) as this will reduce any sealants ability to withstand UV exposure and joint movement, causing premature joint failure and color fading. If masking tape is used along the sides of the joint to prevent surface smearing, ensure the tape is removed immediately by pulling the tape away. Full cure may take 24-72 hours or longer depending on ambient conditions and volume of sealant used. Sealant is paintable in 1 hour*. High quality latex paint is recommended. If using oil based/alkyd paint, a latex primer should be used first. (See *OSI BEST PRACTICE GUIDE FOR PROPER INSTALLATION*).

Tips on Terminating Sealant Beads:

- **Terminating Beads at the End of a Joint:** When terminating a bead at the end of a joint, first release dispensing gun pressure to prevent run-on by pressing the release trigger, then use a twist and pinch motion at a sharp angle to sever the bead. In the event of excess string formation, guide onto existing bead. **DO NOT** pull or smear the bead onto adjacent surfaces like cladding or trim materials. **DO NOT TOOL** on prefinished cladding or trim materials.
- **Terminating Beads that will be Continued:** When terminating a bead that is to be continued (i.e. at the end of a tube), first release dispensing gun pressure to prevent run-on by pressing the release trigger. Next, pinch-off the bead by pressing the nozzle onto the joint surface to cut-off the bead. **DO NOT** smear bead onto adjacent surfaces. This action will create a slight smear inside the joint. Cover this smear with the start of the next bead

DO NOT TOOL: Do Not Tool or smear/feather sealant on prefinished colored claddings (i.e. siding, trim) as this will reduce any sealants ability to withstand UV exposure and joint movement, causing premature joint failure and color fading. If smearing/feathering of the sealant occurs, painting over the smeared areas will be the only corrective resolution.

DO NOT USE AS NAIL HOLE FILLER: **DO NOT** use as a nail hole filler or in touch-up applications. Doing so will limit the sealant's ability to withstand UV exposure, and will result in fading or white out within six months. Follow prefinished cladding manufacturer's instructions for nail hole filling.

BUTT / FIELD JOINT APPLICATIONS: QUAD MAX is not recommended for field joint/butt joint applications on pre-finished siding and trim materials. However, QUAD MAX may be used in butt or field joint applications on unfinished or primed siding and trim materials prior to painting. Care must be taken to NOT smear the sealant beyond the joint edges. Masking tape can be used to ensure a clean application. It should be noted that joint widths of less the 1/4" and 1/4" in depth will become "maintenance" situations and need to be inspected regularly for premature failure. The reason being that joints less than 1/4" are too small to accommodate a sufficient amount of sealant in the joint to warrant long term durability. If the sealant is showing signs of degradation, remove sealant and apply fresh sealant to the joint. What is important to know is that all sealants will require maintenance and sometimes replacement, because of the effects of aging, insufficient sealant used, or because of poor joint design. When using prefinished exterior claddings (i.e. siding and trim) please refer to manufacturer's instructions for proper installation.

CONTROL / DYNAMIC JOINT APPLICATIONS: For control and dynamic joints form bead to a concave shape (see Fig. 2). Use of a spatula, sized to joint width. Care must be taken to NOT smear the sealant beyond the joint edges. Masking tape can be used to ensure a clean application and prevent smearing sealant on adjacent surfaces.

COMMERCIAL APPLICATIONS: For all commercial applications or applications not mentioned herein contact Henkel Technical support for review of intended use.

PAINTABILITY: QUAD MAX can be painted one hour after application using a high quality exterior latex paint. In situations where less humidity is present it is important to wait until a skin has formed over the sealant before painting. In joints that have a high degree of movement capability, the paint can crack, distort, or delaminate from the substrate. The reason for this is simple: the paint does not have the flexibility of a high movement/ Class 50 sealant, such as, QUAD MAX. It is the responsibility of the applicator to conduct on-site testing to determine compatibility and adhesion. It is always recommended to use a color matched sealant where available. Visit OSITough.com for a complete color match listing.

Clean-up: Clean tools and uncured sealant residue immediately with mineral spirits or paint thinner following solvent manufacturers precautions. Cured sealant must be carefully cut away with a sharp-edged tool. **NOTE:** Use of solvents may damage prefinished siding and trim materials. Always test a small area before proceeding. Painting affected areas may be only remedy.



TECHNICAL DATA SHEET

Revision: June 20, 2018
Supersedes: May 25, 2016
Ref. #: 477545, 584166

STORAGE & DISPOSAL

NOT DAMAGED BY FREEZING. Store away from heat, flame and spark in a cool, dry, well-ventilated area. Storing product in too hot or too cold of conditions will considerably reduce Shelf Life of unopened containers. Use an approved hazardous waste facility for disposal.

LABEL PRECAUTIONS

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION.

DANGER! Contains petroleum distillates, n-hexane and crystalline silica. **EXTREMELY FLAMMABLE.** Vapors may ignite explosively. Do not use or store near heat, sparks or open flame. Do not smoke when using this product. Extinguish all flames and pilot lights and turn off all sources of ignition, including stoves, heaters and electric motors, during use and until all vapors are gone. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation. Use in a well-ventilated area. Avoid breathing vapors. Avoid contact with eyes and skin. Prolonged or repeated exposure may affect the nervous system causing dizziness, headache or nausea. If you experience eye watering, headache or dizziness, leave the area to obtain fresh air. Prolonged and repeated exposure to hexane can cause nerve damage to extremities, which may be permanent. Do not take internally. **FIRST AID:** If swallowed do not induce vomiting, call a physician or Poison Control center immediately. For eye contact flush with water for 15 minutes, call a physician. For skin contact wash thoroughly with soap and water. If overcome by vapors, get fresh air. **KEEP OUT OF REACH OF CHILDREN.**

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage or may cause cardiac arrhythmia. **INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL**



WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov.

Refer to the Safety Data Sheet (SDS) for further information.

DISCLAIMER

The information and recommendations contained herein are based on our research and are believed to be accurate, but no warranty, express or implied, is made or should be inferred. Henkel recommends purchasers/users should test the products to determine acceptable quality and suitability for the intended use. All adhesive/sealant applications should be tested under simulated or actual end use conditions to ensure the adhesive/sealant meets or exceeds all required project specifications. Since assembly conditions may be critical to adhesive/sealant performance, it is also recommended that testing be performed on specimens assembled under simulated or actual production conditions. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.



OSI Tougher than the Elements. For Professional Use Only. The Battle will be Fierce.

OSI works side by side with residential builders, contractors and remodeling professionals who use our products every day on their jobsites. OSI combines this deep understanding with the sophisticated global innovation and manufacturing excellence of Henkel to make the world's best professional-grade caulks, sealants and adhesives.

For Technical Assistance call: 1-800-624-7767 – Mon-Fri - 9:00a – 4:00p ET

www.ositough.com



OSI Brand is part of the Henkel family of brands. Founded in 1876, Henkel is a global leader in the consumer and industrial businesses. Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Beauty Care and Adhesive Technologies.

Henkel Corporation - Professional & Consumer Adhesives Headquarters - Rocky Hill, CT 06067

www.henkelna.com