BEST PRACTICE GUIDE FOR PROPER INSTALLATION OF QUAD® MAX

OSI TOUGHER THAN THE ELEMENTS®

INTRODUCTION

This Best Practice Guide was designed to teach the fundamentals of proper application, storage, and joint design of OSI QUAD® MAX sealant along with correct handling and storage of primary building materials used as part of the installation.

Adhering to the best practices outlined in this guide and referencing the technical data sheets will optimize the features of QUAD MAX and alleviate call backs to ensure a long lasting durable installation for the homeowner.

BEFORE THE INSTALLATION

PRIMARY BUILDING MATERIAL CONSIDERATIONS

BUILDING MATERIALS STORAGE

Pre-installation—all siding, trims, and other claddings must be protected from the elements at all times, preferably, in an enclosed building, with material stored, off the ground. A high moisture substrate can potentially cause joint movement beyond the capability of low quality primers that will tend to delaminate from boards causing failure at the joint. New and weathered wood must be clean and structurally sound. Any loose paint should be scraped away until structurally sound wood is reached. Any coating that cannot be removed must be tested to verify adhesion of the sealant. Refer to manufacturer's instructions for specific details on acceptable moisture levels for primed wood trim.

SURFACE PREP

All surfaces should be clean, dry, and free of all contaminates, such as, old caulking, dust, grease, 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 plain 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.

BEFORE THE INSTALLATION

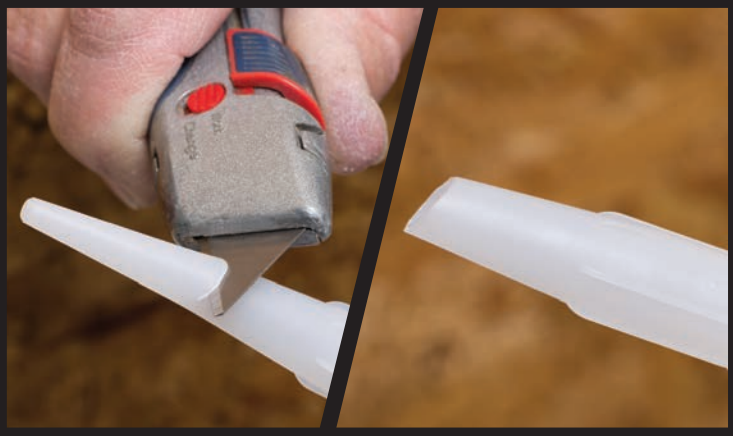
SEALANT CONSIDERATIONS

SEALANT STORAGE

QUAD® MAX should be stored in a cool, dry place. Over exposure of the sealant to moisture will cause curing of the sealant. QUAD MAX can be applied in temperatures ranging from 0°F to 140°F. When QUAD MAX is applied at temperatures below freezing, it is important to make sure that ice and frost are not present on the substrate.

APPLICATION PREP

Fully puncture seal and cut the tip at the ⅜" mark and at a 45° to 70° angle for best finishing results. 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 to ensure an adequate bond of sealant to substrate. It is recommended to push the cut nozzle flush to the wall to maintain consistency and avoid irregular bead shapes, such as too small or too large.



SEALANT TOOLING

Quad Max can be tooled to remedy sealant imperfections and helps ensure proper surface contact of the sealant with the substrate. Tooling must be completed before skinning or curing of the sealant begins. If a smooth finish is desired, light tooling is acceptable to smooth out the texture caused by the substrate beneath the sealant. Final cured bead will look the same as the freshly applied bead. Quad Max should always be applied in bead form, any areas outside the sealant bead should be masked off to limit smearing of the sealant onto substrates. Smearing of the sealant beyond the joint will limit UV resistance, lower overall performance, and cause premature color fading.

NAIL HOLE FILLING

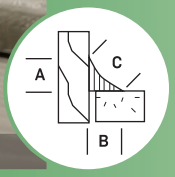
Nail hole filling is ONLY acceptable if painted. Keep in mind that a nail hole filling application does not follow best practice sealant joint design. The absence of paint after filling nail holes does not offer protection of the sealant and can lead to premature color fading and failure.

BEST PRACTICE

DURING SEALANT APPLICATION

FILLET JOINT

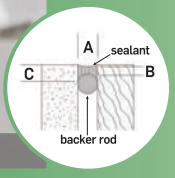
A fillet joint is formed when two surfaces come together to form a right angle. The sealant used to join these two surfaces is triangular in shape.



- Dimension A and B must be a minimum of ¼"
- Sealant bead must be tooled to ensure contact to both substrates during application with nozzle or spatula
- Dimension C must be a minimum of ⅜"

CONTROL JOINT

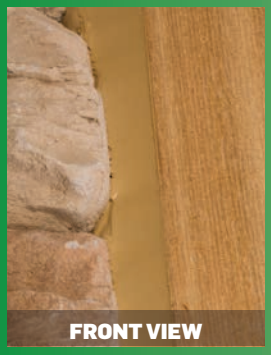
A control joint is formed when two similar or dissimilar materials meet or when substrates do not form a right angle. This joint will require both a backer rod and sealant for proper application.

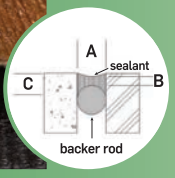


- Dimension A must be a minimum of ⅜" or maximum of ⅝"
- Dimension B must be a minimum of ¼" depth
- Dimension C can be a maximum of ½"
- Tool bead to a concave shape.
  Tooling spatula recommended.
  Size to joint width

DYNAMIC JOINT

Sealant joints that exhibit a high level of expansion & contraction due to fluctuation within substrate and building design.



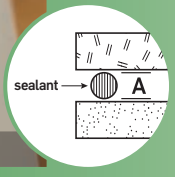


- Dimension A must be a maximum width of ⅝"
- Dimension B must be ⅜" in depth
- Dimension C must be a maximum depth of ½"
- Tool bead to a concave shape.
  Tooling spatula recommended.
  Size to joint width

BEDDING BEAD

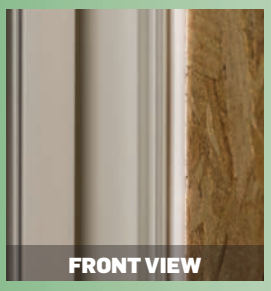
A bedding joint is a type of sealant joint that is parallel between two planes to bond & seal both surfaces together.

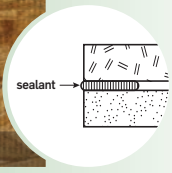
DIAGRAM 1



- Dimension A must be a ⅜" rounded sealant bead
- Apply sealant to substrate
- Minimize pressure when applying sealant to maintain a rounded bead

DIAGRAM 2



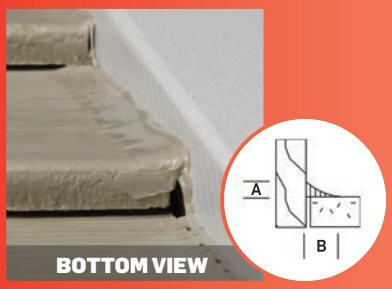


- Compress sealant between both substrates
- Avoid excessive substrate movement after compression. Movement of the substrate can smear the sealant & breakdown the sealants capacity to maintain a gasket seal

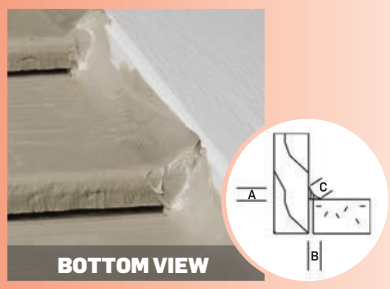
MISAPPLICATION

DURING SEALANT APPLICATION

UNRELIABLE FILLET JOINT: UNBALANCED BEAD & OVERTOOLED BEAD

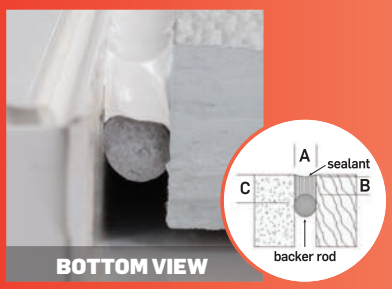


• Dimension A under ¼" minimum. This will compromise the sealants adhesion performance and ability to sustain joint movement capability • Reduced sealant volume will diminish sealants ability to accommodate joint movement

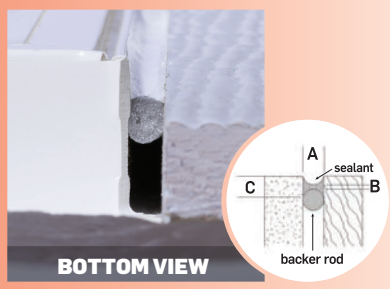


• Dimension A and B are covered by a thin layer of sealant. Overtooling reduced sealant volume necessary to accommodate joint movement
• Dimension C is under the standard ⅜" minimum

UNRELIABLE CONTROL JOINT: UNBALANCED BEAD & OVERTOOLED BEAD

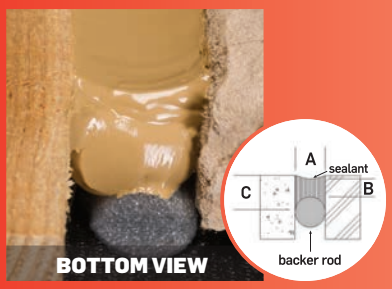


• Dimension C beyond standard maximum depth. This will debilitate joint movement capability causing fissures and fractures • Slow cure due to excessive sealant depth may compromise sealant performance • Dimension B beyond standard maximum depth

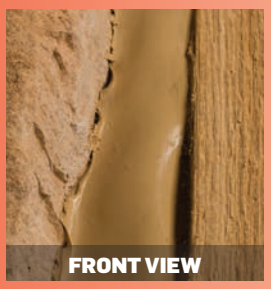


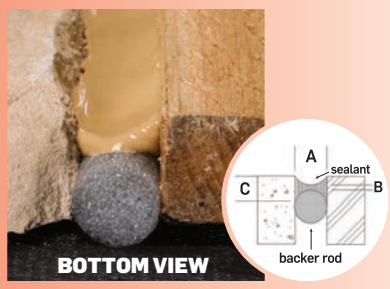
• Dimension A and C meet the required standard but overtooling reduced sealant volume necessary to accommodate joint movement causing separation • Dimension B below standard depth (shallow depth of this sealant will not provide optimum performance). Excessive sealant removed due to overtooling

UNRELIABLE DYNAMIC JOINT: UNBALANCED BEAD & OVERTOOLED BEAD



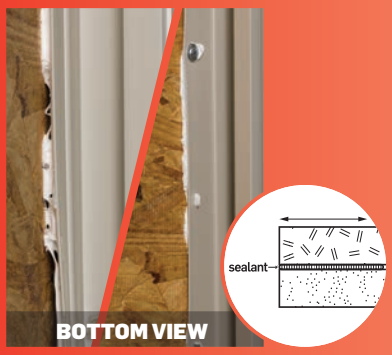
• Dimension C beyond standard maximum depth. This will debilitate joint movement capability causing fissures and fractures • Slow cure due to excessive sealant depth may compromise sealant performance • Dimension B beyond standard maximum depth





• Dimension A and C meet the required standard but overtooling reduced sealant volume necessary to accommodate joint movement causing separation • Dimension B below standard depth (shallow depth of this sealant will not provide optimum performance). Excessive sealant removed due to overtooling.

UNRELIABLE BEDDING BEAD



• Substrate movement will smear the sealant breaking down the capacity to maintain a gasket seal. This will leave insufficient amount of sealant to accommodate joint movement allowing for air and moisture infiltration

AFTER THE INSTALLATION

APPEARANCE

QUAD® MAX is a moisture cure non-shrinking sealant that will not change in appearance or shrink like other latex or solvent based sealants. Final cured bead will look the same as the freshly applied bead.

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 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.

Visit **OSITough.com** for complete color match listing.

CLEAN UP

Clean tools with mineral spirits before sealant dries. Once cured, sealants must be cut or scraped away.

For more information, references and supporting technical documents call OSI Technical Customer Service at 800-624-6676 and visit **OSITough.com**

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And for more learning opportunities and to get OSI Certified for the use of the QUAD® Window & Door System visit **OSITough.com/training**

OSI TOUGHER THAN THE ELEMENTS®

CERTIFIED INSTALLER PROGRAM

FOR THE USE OF THE QUAD® WINDOW AND DOOR SYSTEM

Henkel

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