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Technical Bulletin

40 | Air Water  
Barriers

# MasterSeal® AWB Application Guidelines

## For Joint Treatment and Flashing Rough Openings on Framed Construction

MasterSeal AWB products can be used to create a seamless air/water-resistive barrier with integrated flexible flashings on a variety of sheathing substrates. This bulletin outlines approved methods for application of MasterSeal AWB, with a choice of three systems for flashing openings and treating sheathing joints.

Methodologies described in this bulletin can be used to span joints in ASTM C1177 sheathing, oriented strandboard (OSB), cement board and plywood sheathing in an airtight, watertight and flexible manner. Steel or wood studs can be used.

This bulletin describes flashing window rough openings; other rough openings, such as doors, vents and scuppers, can be treated using a similar approach.

### PRE-APPLICATION INSPECTION

Examine surfaces to receive product and verify that substrate and adjacent materials are clean, dry, sound, and free of release agents, paint or other residue. Verify that sheathing has been installed according to the manufacturer's specifications. Ensure that gaps between sheathing are within specification and that fasteners have not been overdriven. Report unsatisfactory conditions to the General Contractor.

Application of MasterSeal AWB, MasterSeal AWB 970 FIB and/or MasterSeal AWB 900 shall not proceed until unsatisfactory conditions have been corrected.

**Note: See last page for additional applicator notes and images.**

### JOINT TREATMENT PROCEDURE

Sheathing joints can be treated prior to application of MasterSeal AWB to the face of the wall using MasterSeal AWB 900 Liquid Flashing Membrane, MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I, or with MasterSeal AWB 970 FIB. Each method of spanning sheathing joints offers unique advantages.

For all methods, a subsequent coat of MasterSeal AWB shall be applied to sheathing joints, typically when MasterSeal AWB is applied to the main body of the sheathing.

### MASTERSEAL AWB 900 LIQUID FLASHING MEMBRANE

Advantages: Fast, economical application to tightly butted sheathing joints.

1. Apply a thick bead of MasterSeal AWB 900 to sheathing joints. (See Figure 1).
2. Spread MasterSeal AWB 900 evenly 1-inch beyond the joint on either side. (See Figure 2). Apply 20-30 mils of MasterSeal AWB 900 across the sheathing joint.
3. Spot fastener heads with MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I.
4. Allow MasterSeal AWB 971 FIB to skin before applying subsequent coat of MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I.

**Limitations: Do not use MasterSeal AWB 971 FIB to fill seams, gaps or cracks greater than ½" wide. See MasterSeal AWB 971 FIB Technical Data Sheet for more information.**



Figure 1



Figure 2



Figure 3

### MASTERSEAL AWB 971 FIB SATURATED WITH MASTERSEAL AWB 660 OR MASTERSEAL AWB 665 OR MASTERSEAL AWB 660 I

**Advantages: Cost of application does not vary with sheathing joint gap size. Allows easy visual inspection.**

1. Mix MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I per product bulletin instructions.
2. Cut 4-inch MasterSeal AWB 971 FIB to a conveniently handled length, typically about 4-feet. Use 6-inch or 9-inch MasterSeal AWB 971 FIB for inside or outside corners.
3. Apply a generous receiving coat of MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I sufficient to completely saturate MasterSeal AWB 971 FIB and out 3 to 4 inches on each side of the sheathing joint. (See Figure 4).
4. Place one ply of MasterSeal AWB 971 FIB into the wet MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I. (See Figure 5).
5. Using a roller loaded with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I, apply additional MasterSeal AWB to the MasterSeal AWB 971 FIB, fully embedding the fabric. Roll from the center outward to prevent MasterSeal AWB 971 FIB from spooling onto the roller. Ensure that MasterSeal AWB 971 FIB is fully embedded, with no wrinkles or fishmouths. (See Figure 6).
6. Provide a minimum 2-inch overlap when placing subsequent lengths of MasterSeal AWB 971 FIB.

7. If using roller, brush or trowel for subsequent application of MasterSeal AWB, allow joints to dry before applying MasterSeal AWB to the entire wall surface. If spraying MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I, wet-on-wet application is acceptable.
8. Spot all fastener heads with a dab of MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I.

**Note: MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I forms a continuous membrane that can span the rough edge of gypsum sheathing, and gaps at outside corners and sheathing joints.**

**Limitations: Do not use MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660 or MasterSeal AWB 665 or MasterSeal AWB 660 I to span sheathing joint gaps greater than ½-inch. Minimum 2-inches of MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I must be fully and continuously adhered to the substrate on all sides of areas where it is not continuously bonded to the substrate.**

### **MASTERSEAL AWB 970 FIB**

**Advantages: Can be used to create expansion joints, bridge dissimilar substrates and correct deficient sheathing joint conditions.**

1. Apply MasterSeal AWB 950 P and allow it to become tacky.
2. Reapply MasterSeal AWB 950 P if time or contamination causes MasterSeal AWB 950 P to lose its tackiness.
3. Remove release paper and apply MasterSeal AWB 970 FIB , looping it lengthwise into the joint to allow for subsequent movement.
4. Allow 2-inch overlap for subsequently applied lengths of MasterSeal AWB 970 FIB .
5. Apply 3M Super 77 spray adhesive or MasterSeal AWB 950 P to MasterSeal AWB 970 FIB in areas where MasterSeal AWB 970 FIB will lap over itself.
6. Use a hard roller to firmly post-roll the MasterSeal AWB 970 FIB, compacting it onto the sheathing. Ensure the MasterSeal AWB 970 FIB is free from fishmouths.
7. Fully saturate MasterSeal AWB 970 FIB with MasterSeal AW, creating a continuous, monolithic air/water-resistive barrier. Typically this is done when applying MasterSeal AW to the main body of the sheathing.

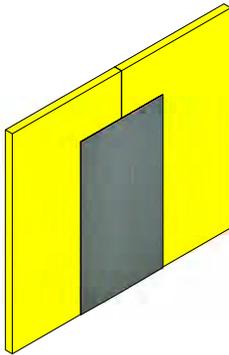


Figure 4

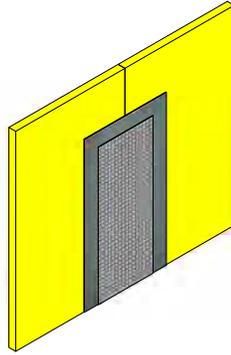


Figure 5

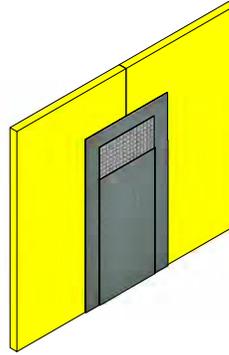


Figure 6

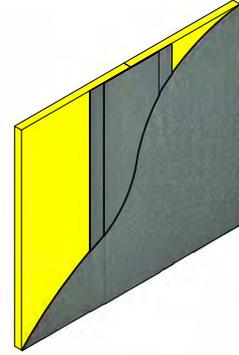


Figure 7

### **FLASHING ROUGH OPENINGS:**

Rough openings must be flashed prior to application of MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I to the face of the wall. MasterSeal AWB 900 Liquid

Flashing Membrane, MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I, or MasterSeal AWB 970 FIB can be used. Each method of flashing rough openings offers unique advantages. If metal studs in the head, sill or jambs have cutouts, they must be covered prior to application of MasterSeal AWB 900 or MasterSeal AWB 971 FIB.

Apply MasterSeal AWB 950 P around cutouts and allow to become tacky. Place MasterSeal AWB 970 FIB over the cutout, allowing minimum 1-inch of contact around the perimeter of the cutout. Use a hard roller to compact MasterSeal AWB 970 FIB. This step is not necessary if MasterSeal AWB 970 FIB is used to flash the rough opening. If MasterSeal AWB 900 is used, cutouts can be bridged with self-adhesive fiberglass mesh, then treated with MasterSeal AWB 900.

**MasterSeal AWB 900 Liquid Flashing Membrane**

Advantages: Complex geometries created by recessed (See Figures 8-11) and protruding (See Figures 12-15) window bucks and large fastener heads can be readily treated with MasterSeal AWB 900.

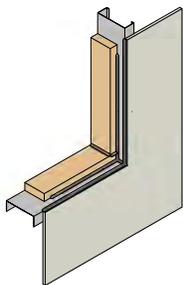


Figure 8

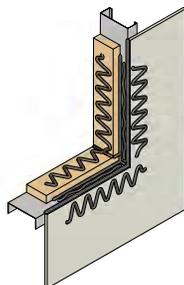


Figure 9

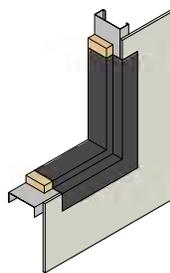


Figure 10

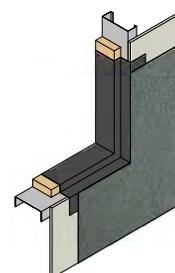


Figure 11

1. Apply a bead of MasterSeal AWB 900 in each corner of the rough opening. (See Figure 8 or 12).
2. Apply a thick bead of MasterSeal AWB 900 in a zigzag pattern to the rough opening, and onto the exterior wall. (See Figure 9 or 13). Spread MasterSeal AWB 900 evenly, creating a continuous, void and pinhole-free membrane with a thickness of 12-30 mils.
3. Extend the flashing membrane throughout the rough opening and minimum 4-inches onto the face of the exterior wall, maintaining a 12-30 mil thickness. (See Figure 10 or 14).

4. Allow MasterSeal AWB 900 to skin before applying MasterSeal AWB to sheathing. Lap MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I a minimum of 2-inches onto MasterSeal AWB 900, creating a continuous, monolithic air/water-resistive barrier. (See Figure 11 or 15).
5. Allow MasterSeal AWB 900 to cure before installing windows.

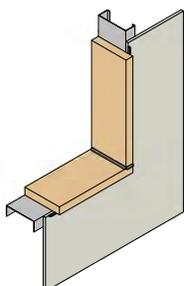


Figure 12

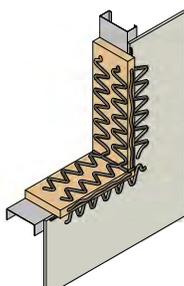


Figure 13

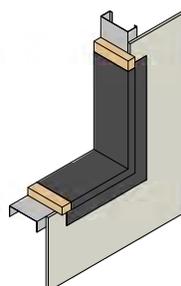


Figure 14

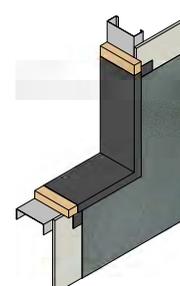


Figure 15

**MasterSeal AWB 971 FIB saturated with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I**

Advantages: Fast and economical way to create a flexible flashing system on many common rough opening configurations.

1. Apply MasterSeal AWB and MasterSeal AWB 971 FIB to window rough openings while treating sheathing joints.
2. Apply a generous receiving coat of well-mixed MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I to the window corners, fully saturating the entire corner area.
3. Remove a MasterSeal AWB 975 FIB from the dispenser package.
4. Place the MasterSeal AWB 975 FIB into the wet MasterSeal AWB. (See Figure 17).
5. Use a brush or roller loaded with MasterSeal AWB to completely saturate and embed the MasterSeal AWB 975 FIB, ensuring that the MasterSeal AWB 975 FIB is fully embedded and free of fishmouths and voids.
6. Repeat steps 1-4 on the other three corners.
7. Apply a generous receiving coat of well-mixed MasterSeal AWB or MasterSeal AWB to the sill.
8. Cut 9" MasterSeal AWB 971 FIB to the desired length. Allow minimum 2-inches of overlap with MasterSeal AWB 975 FIBs.
9. Fold the MasterSeal AWB 971 FIB lengthwise so that one side is the same length as the depth of the window. Gently rub the MasterSeal AWB 971 FIB on a scaffold or other hard, smooth surface to crease the MasterSeal AWB 971 FIB.
10. Place the creased MasterSeal AWB 971 FIB into the wet MasterSeal AWB so that the crease runs along the outside edge of the sill and MasterSeal AWB 971 FIB extends to the full depth of the rough opening.
11. Use a roller loaded with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I to apply additional MasterSeal AWB to the 9" MasterSeal AWB 971 FIB, fully embedding the fabric. Roll from the center outward to prevent MasterSeal AWB 971 FIB from spooling onto the roller. Ensure that MasterSeal AWB 971 FIB is fully embedded, with no fishmouths.
12. Repeat steps 6 – 10 on the head and jamb. (See Figure 18).
13. Apply a second coat of MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I. This is typically done when applying MasterSeal AWB onto sheathing. (See Figure 19).

**Note: MasterSeal AWB 971 FIB saturated with MasterSeal AWB forms a continuous membrane that can span the rough edge of gypsum sheathing and other discontinuities.**

**Limitations: Minimum 2-inches of MasterSeal AWB 971 FIB saturated with MasterSeal AWB must be fully and continuously adhered to the substrate on all sides of areas where it is not continuously bonded to the substrate..**

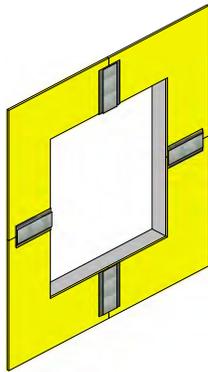


Figure 16

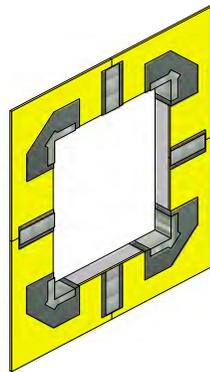


Figure 17

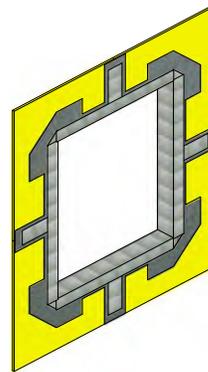


Figure 18

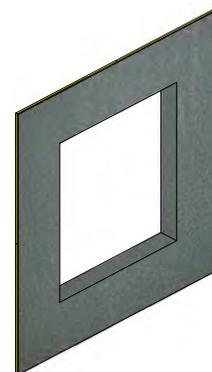


Figure 19

**MASTERSEAL AWB 970 FIB AND MASTERSEAL AWB 975 FIB**

**Advantages: Provides all of the benefits of self-adhering membranes while creating a seamless, monolithic tie-in to the air/water-resistive barrier. Avoids material compatibility issues commonly associated with other self-adhesive membranes. Use of MasterSeal AWB 975 FIB eliminates challenges of applying self-adhesive membranes into rough opening corners.**

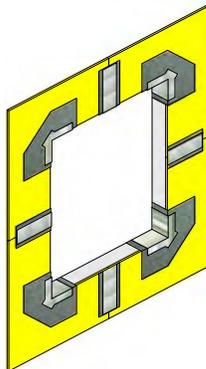


Figure 20

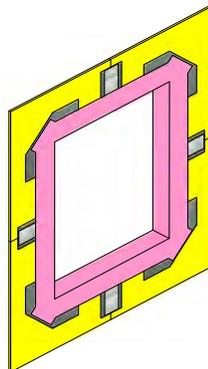


Figure 21

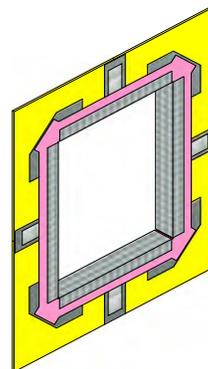


Figure 22

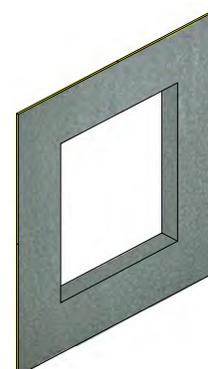


Figure 23

1. Apply MasterSeal AWB 975 FIBs as described in steps 1-5 from previous section. Allow the MasterSeal AWB saturated MasterSeal AWB 975 FIBs and sheathing joints to dry. (See Figure 20).
2. Apply MasterSeal AWB 950 P to the head, sill and jambs, including the embedded MasterSeal AWB 975 FIBs, covering all areas that will subsequently bond to MasterSeal AWB 975 FIB. (See Figure 21).
3. Allow MasterSeal AWB 950 P to become tacky. Reapply MasterSeal AWB 950 P if time or contamination causes MasterSeal AWB 950 P to lose its tackiness.
4. Cut a length of 9-inch MasterSeal AWB 975 FIB that extends to the full length of the sill, allowing a minimum 2" overlap onto embedded MasterSeal AWB 975 FIBs. (See Figure 22).
5. Remove half of the release paper lengthwise and fold it, exposing half of the adhesive. Stick one corner to the inside edge of the sill, and then attach the MasterSeal AWB 975 FIB across the top of the sill, ensuring that the MasterSeal AWB 975 FIB covers the entire sill. Do not overlap MasterSeal AWB 970 FIB onto itself at window corners.
6. Remove the release paper. Starting from the center of the sill, fold the MasterSeal AWB 975 FIB down onto the sheathing, adhering the MasterSeal AWB 970 FIB to the sheathing.
7. Use a hard roller to firmly post-roll the MasterSeal AWB 975 FIB, compacting it onto the sill and sheathing. Ensure that the MasterSeal AWB 975 FIB is free of fishmouths.
8. Repeat steps 3 – 6 on the head and jambs. (See Figure 22).
9. Fully saturate MasterSeal AWB 975 FIB and MasterSeal AWB 975 FIBs with MasterSeal AWB 660, MasterSeal AWB 665 or MasterSeal AWB 660 I. Typically this is done when applying MasterSeal AWB to the main body of the sheathing. Ensure that no coloration from the previous application of MasterSeal AWB 950 P is visible – it shall be entirely covered with MasterSeal AWB. (See Figure 23).

## WINDOW OPENINGS WITH LARGE FASTENERS IN THE HEAD, SILL AND JAMBS

Certain window opening designs have large fasteners that protrude from the head, sill and/or jamb. For these designs, cut a star shaped opening into MasterSeal AWB 971 FIB or MasterSeal AWB 970 FIB, allowing it to seat around the fastener. Apply extra MasterSeal AWB around the fastener, fully coating the fastener and sealing the surrounding area. Alternately, MasterSeal AWB 900 Liquid Flashing Membrane can be used to accommodate complex shapes.

## MASTERSEAL AWB INSPECTION GUIDELINES FOR SHEATHED CONSTRUCTION

Seven aspects of MasterSeal AWB application should be considered during inspection.

1. Complete coverage. MasterSeal AWB and/or MasterSeal AWB 900 Liquid Flashing Membrane shall form a continuous, pinhole-free membrane on all sheathing, sheathing joints, window rough openings, expansion joints, penetrations and transitions to other parts of the air barrier system.
2. MasterSeal AWB 900 Liquid Flashing Membrane shall extend a minimum of 1 inch on either side of sheathing joints and a minimum of 4 inches onto sheathing at rough openings.
3. Reinforcement shall be present where required. Presence of MasterSeal AWB 971 FIB and MasterSeal AWB 970 FIB where required can be visually confirmed.
4. MasterSeal AWB 971 FIB and MasterSeal AWB 970 FIB shall be fully saturated with MasterSeal AWB, and free from fishmouths. This can also be visually confirmed. If MasterSeal AWB 971 FIB and MasterSeal AWB 970 FIB are fully saturated with MasterSeal AWB, there is no need to confirm thickness in these locations.
5. Application thickness. MasterSeal AWB 660 is applied at minimum 10-mils wet film thickness (7 mils dry). MasterSeal AWB 660 I is applied at minimum 26-mils wet film thickness (19 mils dry). Absence of read-through of the sheathing can be used as visual confirmation of correct application thickness. MasterSeal AWB 900 must be installed at 12-30 mils wet film thickness at rough openings, and minimum 20-30 wet film mils at sheathing joints.
6. Areas that receive MasterSeal AWB 970 FIB must be primed beforehand with MasterSeal AWB 950 P. MasterSeal AWB 970 FIB must be firmly postrolled with a hard roller.

7. MasterSeal AWB shall be kept from freezing prior to application. Store at no less than 40 °F. If MasterSeal AWB has been applied at temperatures below 40 °F, verify that one quart of MasterSeal AWB 960 AC has been thoroughly mixed into each pail of MasterSeal AWB. MasterSeal AWB mixed with MasterSeal AWB 960 AC shall not be exposed to temperatures below 25 °F until it has fully dried.

### APPLICATORS NOTES

Note that new roller pads must be premoistened before use. Dip new rollers in clean water and spin out excess water. This is only needed the first time the roller is used.

Generous amounts of MasterSeal AWB should be used when saturating MasterSeal AWB 975 FIB and MasterSeal AWB 971 FIB with MasterSeal AWB. By using generous amounts of MasterSeal AWB in these areas, MasterSeal AWB 971 FIB saturates quickly, allowing fast, easy installation.

If insufficient MasterSeal AWB is used, MasterSeal AWB 975 FIB and MasterSeal AWB 971 FIB become more difficult to saturate, and may not remain attached to the wall, particularly in hot, dry climates. Slightly greater material cost from generous application of MasterSeal AWB is more than offset by fast, reliable MasterSeal AWB 971 FIB installation.

### HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting [www.master-builders-solutions.basf.us](http://www.master-builders-solutions.basf.us), e-mailing your request to [basfbcst@basf.com](mailto:basfbcst@basf.com) or calling 1(800) 433-9517. Use only as directed. For medical emergencies only, call ChemTrec® 1(800)424-9300.

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