



# DensElement® Barrier System Repair Guide

In the event that the DensElement Barrier System is damaged during delivery, installation or while in service, the damage should be repaired as soon as possible. Damaged areas should be assessed and repaired to maintain the desired fire-resistance, structural integrity and water-resistive / air barrier (WRB-AB) properties of the system. An appropriate repair method should be chosen according to the type and severity of the damage.<sup>1</sup>

## Recommended Tools and Materials

- DensElement® Sheathing
- DensDefy® Transition Membrane
- DensDefy® Liquid Flashing
- Cutting Tool or Knife
- Metal Track
- Standard sheathing fastener
- Soft bristle brush and rags
- Sausage caulking gun
- Straight Edge Tool
- Metal Track
- J-Roller
- Rasp

## Misplaced or Stripped Fasteners and Vacated Fastener Holes

If sheathing or cladding fasteners miss the framing, remove the fastener then fill and seal the vacated fastener hole with DensDefy® Liquid Flashing. All effort should be taken to ensure façade fasteners are driven straight and tight to the substrate without being stripped. Façade fasteners not driven properly may need to be evaluated and repaired.

## Minor Surface Damage

Minor damage or surface indentations may be sealed with DensDefy® Liquid Flashing. Apply DensDefy® Liquid Flashing, using a straight edge tool to spread the material evenly over the affected area to achieve 16 mils and overlap onto intact sheathing by at least 1 inch.

## Deep Indentations or Extensive Surface Damage

Damage to the DensElement® Sheathing that results in the fiberglass mat being torn away, no longer intact with the gypsum core of the sheathing, or leaves the gypsum core exposed must be repaired.

If the fiberglass mat has disengaged from the core of the sheathing in a surface area that is:

- *Greater than 8 inches*, replace that section of sheathing following the steps in the repair section for “Large Size Holes”.
- *Less than 8 inches*, continue steps 1-3 below.
  1. Cut away and remove any loose fiberglass mat.
  2. Prime any exposed gypsum core with water-based bonding primer or surface conditioner suitable for raw gypsum.
  3. Apply DensDefy® Liquid Flashing to the entire primed area, covering a minimum 1” beyond the damaged area on all sides to achieve 16 mils.

<sup>1</sup> For additional guidance for repairing small holes in fire rated assemblies, refer to the Gypsum Association GA-225 Repair of Fire-Rated Gypsum Panel Product Systems.





## Small Holes (not Greater than 1 inch)

For WRB-AB repairs in non-fire-rated construction, for holes larger than ¼" and less than 1" install a backer rod or a back dam and cover the entire area with DensDefy® Liquid Flashing.

## Small to Medium Sized Holes (1-8 inches)<sup>1</sup>

Small to medium holes may be repaired with infill framing and a panel patch.

1. The patch should be mechanically secured to maintain the integrity of the DensElement® Barrier System:
  - From the back side of the sheathing panel (inside the wall cavity), center a flat metal track on the edge of the cut square opening, leaving half of the metal track exposed to later secure the panel patch.
  - Secure the metal track to the original sheathing using standard sheathing fasteners.
  - Repeat on all four sides of the opening.
  - Fit the panel patch into the hole tightly.
  - Attach the panel patch to the metal track using standard sheathing fasteners.
2. Using a cutting tool or utility knife, square off the hole and surrounding damaged area of the sheathing. It should be cut large enough to secure metal track to all four sides of the hole on the backside of the sheathing.
3. From the backside of the sheathing panel (inside the wall cavity), center a flat metal track on the edge of the square cut opening, leaving half the metal track exposed to later secure the panel patch.
4. Secure the metal track to the original sheathing using standard sheathing fasteners. Repeat on all four sides of the opening.
5. Cut a patch from the same thickness of DensElement sheathing so that it will fit tightly into the patch area.
6. Attach the panel patch to the metal track using standard sheathing fasteners.
7. Treat the seams of the newly patched hole with a minimum of 1 inch of DensDefy® Liquid Flashing on both sides of the seam, at a minimum thickness of 16 wet mils.
8. Treat fastener heads with DensDefy® Liquid Flashing.

<sup>1</sup> For additional reference for repairing small holes, refer to the Gypsum Association GA-225 Repair of Fire-Rated Gypsum Panel Product Systems.



## Large Sized Holes (8-inches and greater)

Holes in the DensElement® Sheathing that are larger than 8-inches in diameter should be cut and removed to the closest framing members on both side of the hole. Then:

1. Secure metal track to back of the remaining sheathing (inside the wall cavity) at the top and bottom edges of the opening.
2. Tightly secure the framing to the metal track using standard sheathing fasteners driven through the sheathing and into the metal track.
3. Attach the replacement DensElement® Sheathing to the exposed framing members and the installed metal track with standard sheathing fasteners.
4. Treat the seams of the replacement DensElement® Sheathing with a minimum of 1 inch of DensDefy® Liquid Flashing on both sides of the seam.
5. Seal fasteners heads with DensDefy® Liquid Flashing.

## Installed DensDefy Transition Membrane with Bubbles, Fishmouths, or Wrinkles

During the course of installation, if an air bubble, fishmouth or wrinkle form, a J-roller may be used to smooth out the effected area. If after rolling out the area, the bubbles, fishmouths, and or wrinkles are still evident, then the following method can be used to repair the area .

1. Cut the area to release any trapped air and to aid in laying the transition membrane flat to the substrate.
2. Firmly press the DensDefy® Transition Membrane back to the substrate and ensure the desired adhesion is achieved by rolling out the Transition Membrane with a J-roller. The Transition Membrane should be firmly attached around the puncture.
3. Apply DensDefy® Liquid Flashing over the repaired area.
4. With a straight edge tool, spread the DensDefy® Liquid Flashing and apply at a rate to achieve a minimum if 16 wet mils completely covering the affected area.

## Damaged DensDefy® Transition Membrane

Damage to DensDefy® Transition Membrane that results in holes or punctures must be repaired. Ensure the area to be repaired is clean, dry, and that all bond-inhibiting agents are removed prior to installing a patch of DensDefy® Transition Membrane to the substrate.

### Option 1

1. Cut out the damaged area of the DensDefy® Transition Membrane back to where the transition membrane is completely bonded to the substrate.



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2. Cut a patch of the DensDefy® Transition Membrane to fit over the center of the damaged area and a minimum of 2-inch (50mm) overlap on to the non-damaged membrane.
  3. Remove release paper from the DensDefy® Transition Membrane and press in place with hands or tool. The Transition Membrane should be firmly attached around the puncture.
  4. Apply pressure by rolling with a J-roller to adhere the membrane and achieve a smooth and wrinkle-free surface without voids or fish mouths.
  5. Apply DensDefy® Liquid Flashing over all edges of the applied DensDefy® Transition Membrane patch.
  6. With a straight edge tool, spread DensDefy® Liquid Flashing evenly over the membrane edge.
  7. Apply at a rate to achieve a minimum wet mil thickness of 16 mils over the membrane edge, leaving no exposed membrane edge.

## Option 2

1. Apply DensDefy® Liquid Flashing®
2. Using a straight edge tool to spread the material evenly over the effected area to achieve 16 wet mils and 1" passed the damaged area.

These repairs, when done properly, help maintain the water and air resistive properties of the DensElement® Barrier System. For Georgia-Pacific Building Products' limited warranty for the DensElement® Barrier System visit [www.DensElement.com](http://www.DensElement.com) for complete warranty details. For additional assistance, contact Georgia-Pacific Building Product's Technical Service at 1-800-225-6119.



[DensElement.com](http://DensElement.com)