

Icon PolyFuse Application for Poly Containment Sumps REV 02/21

Background

This procedure is for the repair of “minor” damage to high density polyethylene (HDPE) material secondary containment sumps with cracks, holes, or seam leaks. Icon PolyFuse structural adhesive plastic bonder is specifically designed for polyolefin plastics like HDPE, and has been proven compatible for in-sump applications through 3rd-party testing to UL 2447 requirements. Icon products should be installed by Icon Certified Technicians. If you require any technical support or training, please contact us at techsupport@icontainment.com. Always follow site specific and regulatory safety rules when entering confined spaces.

Tools, Parts & Materials

Make sure that you have all required tools and materials on hand prior to starting the repair. The working life on PolyFuse is generally short, so you want to make sure that you are fully prepared before dispensing the bonder. Typical Items to have ready include:

- Icon PolyFuse in 50ml or 250ml cartridge as applicable
- Dispensing Gun specific to cartridge size
- Scraping/Cutting Tools for removal of materials before bonding
- Acetone or Isopropyl Alcohol and Rags to clean surface area
- Sandpaper (40 grit) for roughing the bonding surface area
- HDPE sheeting to size and thickness, and any void filler materials



Active Water Intrusion?

A dry surface is required for bonded repairs with PolyFuse. If there is an active water leak, it must be stopped before the repair can proceed. If pumping the water table down is not feasible, you can use Icon products like FastFoam instant water blocking foam and/or WetWeld leak putty to bring the surface to a dry condition.

STEP 1 Surface Preparation

Workmanship is highly critical to the success of the repair. Contaminants on the bonding surface area will result in a poor bond, so make sure that the immediate and surrounding area of the sump damage is completely clean of grime, fuel/oily residues, sealant, or previous bonder materials. Some scraping may be required to remove larger/harder surface material initially. Acetone is a highly effective cleaner, and isopropyl alcohol is also an acceptable stripping/cleaning agent to remove surface contaminants without leaving any residue.

Next, hand sand the cleaned repair area with a course sandpaper (40 Grit) to remove the top micro-layer of the HDPE surface where hydrocarbon penetration may cause some surface corrosion, and to roughen the surface to provide some mechanical lock/adhesion. Afterwards, a final cleaning with acetone or isopropyl alcohol to remove loose materials, contaminant residue, and humidity moisture accumulation is required.



Adhesive does not contact surface
Poor Bond



Adhesive wets out surface
Good Bond



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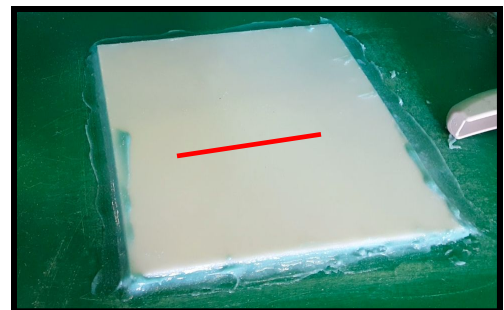
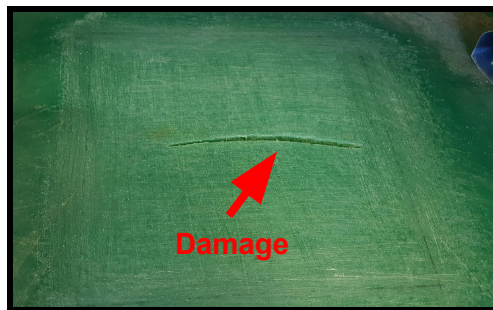
STEP 2
Bonder
Application

Once surface preparation is completed, you are ready to dispense the bonder to the repair area surface. Take note that PolyFuse has the following characteristics:

- Dispensed two-part material with gel consistency and blue color
- 5-minute working life when the cartridge is at room temperature (70°F)
- Exothermic reaction (heat) and a puckering surface as curing are normal
- Approximately 6-Hour cure time to 80% strength, 12-hours to 100% strength

With Lamination

When a separate HDPE sheet is being bonded over the damaged sump surface with the PolyFuse bonder (lamination), the bonding surface area of the HDPE sheet should be prepared the same as the sump surface. Quickly dispense and distribute the PolyFuse evenly and completely over the sump repair area surface at a **minimum coating thickness of 1/8"**, and then immediately place the HDPE sheet onto the bonder and press firmly. The laminated piece must be held in place with weight or brace for a minimum of 2 hours or until a sufficient initial cure has occurred (hard). Finish edges of lamination with additional PolyFuse as necessary.


Without Lamination

When applying PolyFuse directly as a patch repair over damaged sump surface (no lamination), quickly dispense and distribute the PolyFuse evenly and completely over the repair area surface at a **minimum coating thickness of 1/4"**. Smooth out any edges immediately and let cure. Remember that the working life is very short, so quick work is required. If the PolyFuse has started to "set" (not freely distributed - pulls), do not continue to spread or distribute at that point. If additional PolyFuse is required for coverage or thickness after the initial application has set, wait for 30 minutes before you add any additional PolyFuse over the first layer.

