

# Installation Guide Repair Products CRP

## Repair patch for high-temperature polyethylene coated pipelines

### Pipeline Repair Patch



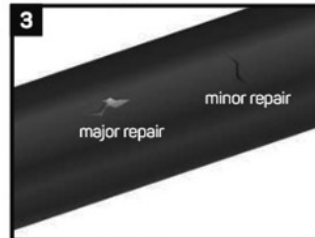
The Coating Repair Patch (CRP-PE) is supplied in 150mm x 150mm (6" by 6") patches or in rolls 150mm wide by 15m long, and can be field cut-to-size.

### Equipment List



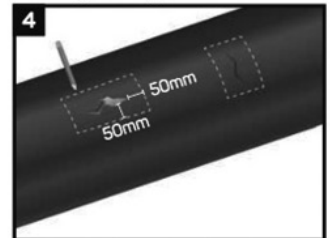
Propane tank, hose, torch & regulator; Appropriate tools for surface abrasion: grinder, 80-120 grit sandpaper; Appropriate tools for cleaning: rags & approved cleaner; Tools: roller, digital thermometer, knife, marker, measuring tape, scraper / spatula & pliers; Standard safety equipment; gloves, goggles, hard hat, etc.

### Repair Analysis



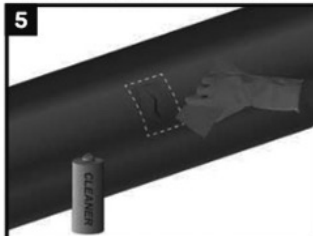
The type of repair is dependant on the extent of the damage to the mainline coating. If the damage to the coating (i.e. deflection, peeling, nick, etc.) results in a thickness of 50-80% of nominal, it is categorized as minor repair (see step 5). Major repairs (see step 6) are required when the coating thickness is less than 50% of nominal (i.e. tears, holes, destructive tests, blisters, etc.).

### Repair Analysis: Marking Damage



Using a marker, mark a rectangle 50mm beyond the damaged areas on all sides.

### Minor Damage: Surface Prep



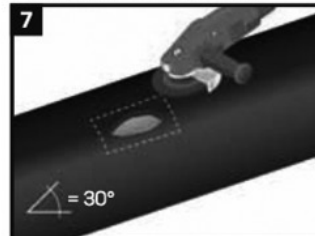
Using the sandpaper, abrade the mainline coating in the repair area. Remove all oxidation (shine) under area of the patch. Continue on step 8.

### Major Repair: Exposed Metal



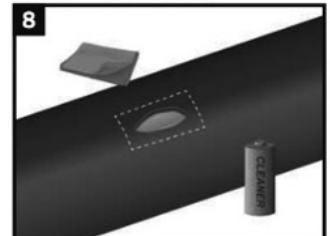
Using a knife, carefully cut out only the damaged coating into a smooth sided shape.

### Major Repair: Surface Prep



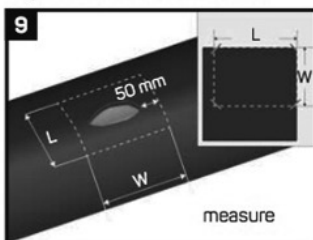
Using a hand grinder with a grit paper wheel, lightly abrade the repair area to expose FBE and/or bare metal surface and bevel the edges of the repair area to a 30° maximum angle. Using the hand grinder, lightly abrade the mainline coating in the major repair area. Continue to step 8.

### Repair: Surface Prep



Using a grease and lint-free rag, clean the prepared coating with an approved cleaner (i.e. xylol, xylene, trich, Isopropanol, Acetone, MEK, denatured alcohol) to remove the presence of oil, grease and other contaminants. For damages extending to steel, refer to the Polyethylene Repair Products Install Guide for application of liquid epoxy and filler material.

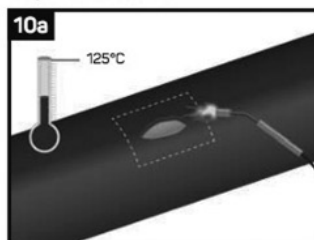
### Repair: Patch Measurement



Measure the dimensions required for the Repair Patch. Cut the Repair Patch to the appropriate size to cover the patch area, with a minimum 50mm overlap from any point of the damage.

RECOMMENDED STEP: Cut the 4 corners off the patch to avoid lifting of the corners

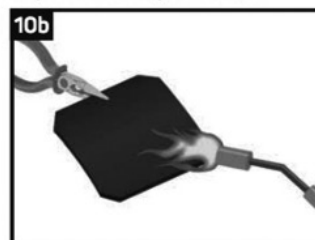
### Repair: Pre-Warm



Using the propane torch, heat the repair area to 125°C. Using a digital thermometer, ensure the correct temperature has been reached.

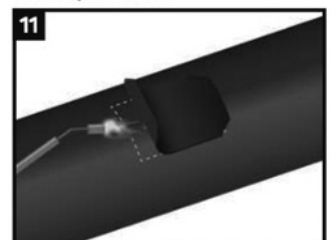
**CAUTION: Do not hold propane torch on one spot, but keep moving over the repair area.**

### Repair: Heat Repair Patch



While holding the Repair Patch with a pair of pliers, use the propane torch to heat the black backing material until the Repair Patch becomes soft and flexible.

### Repair: Applying the Repair Patch

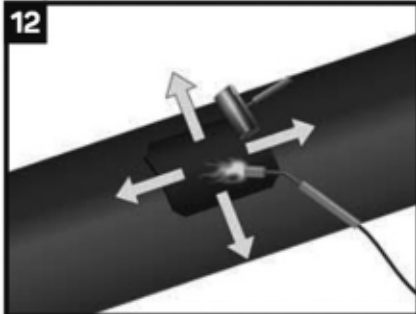


As the Repair Patch is laid on the pipe, place torch between Repair Patch Adhesive & pipe surface. Continue heating area as the Repair Patch is applied.

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### Repair: Post Heating Repair Patch



Using the roller and propane torch, continue heating and rolling from the middle to each edge. Continue until the adhesive is fully molten and has wet out on all edges.

**CAUTION:** Too much heat in one spot can damage mainline coating. Keep the torch moving at all times.

### Quality Check & Backfilling Guidelines



After application, allow the repaired area to cool, then holiday test to project requirements prior to backfilling.

### Disclaimer:

Always check with the mainline coating manufacturer for proper repair procedure prior to beginning repair work.