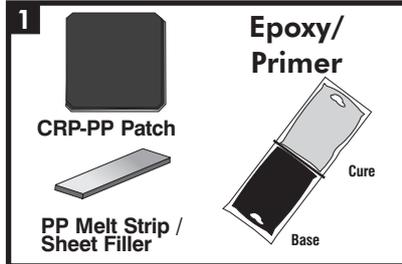


CRP-PP

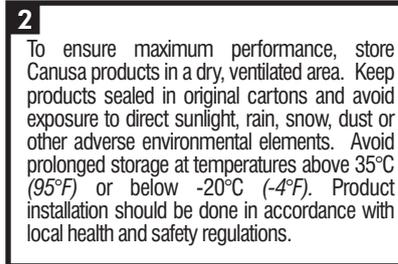
PP Repair Patch and PP Melt Strip for polypropylene coated pipelines

PP Pipeline Repair Products



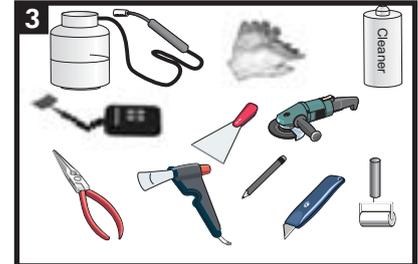
The Coating Repair Patch (CRP-PP) is supplied in 150mm x 150mm (6" by 6") patches or in rolls 300mm, 150mm or 100mm wide by 15m long, and can be field cut-to-size. PP Melt strip is used to repair holidays or fill voids. Canusa Epoxy/Primer is also supplied in a kit with gloves and applicator pad. PP Melt Strip is also available in sheet filler form.

Storage & Safety Guidelines



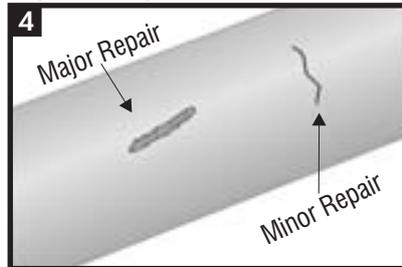
To ensure maximum performance, store Canusa products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid prolonged storage at temperatures above 35°C (95°F) or below -20°C (-4°F). Product installation should be done in accordance with local health and safety regulations.

Equipment List



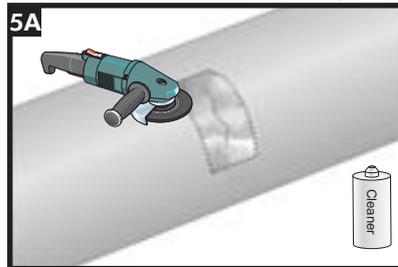
Propane tank, hose, torch and regulator
 Appropriate tools for surface abrasion: grinder, abrasive blasting equipment
 Hot air tool (3400 Watt) and powersource
 Appropriate tools for cleaning: rags & approved cleaner
 Tools: roller, digital thermometer, knife, marker, measuring tape, scraper / spatula & pliers
 Standard safety equipment; gloves, goggles, hard hat, etc.

Repair Analysis



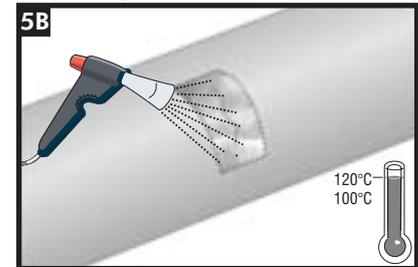
For scratches to the PP layer where the steel is not exposed a minor repair (See Step 5) is required. For scratches to the PP layer where the steel is exposed, a major repair (See Step 6) is required (i.e. a primer shall be applied to the steel). For major damage of size > 100cm to the PP coating and steel is exposed the repair shall be effected as per a field joint area (i.e. Remove the PP coating around the area and apply a GTS-PP heat shrink sleeve as per the Canusa recommended procedure).

Minor Damage - Surface Prep



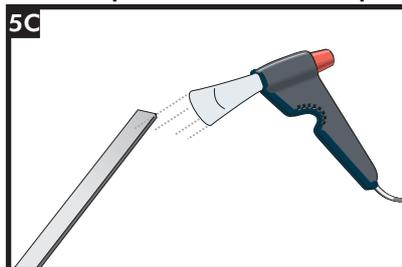
Using an approved grinding wheel or abrasive tool, chamfer the edges of the polypropylene coating surrounding the damaged area until a smoothly contoured surface is obtained in the repair area. Using a grease and lint-free rag, clean the prepared coating with an approved cleaner (i.e. xylol, xylene, trich) to remove the presence of oil, grease and other contaminants.

Minor Repair-Heat PP Repair area



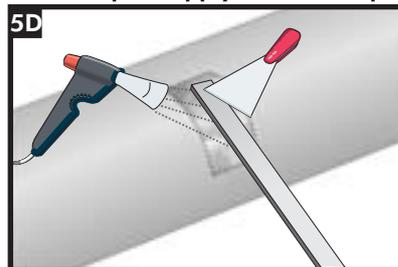
Using the hot air tool, heat the minor repair area to 100 - 120°C. Using the digital thermometer, ensure the correct temperature has been reached.

Minor Repair-Heat PP Melt Strip



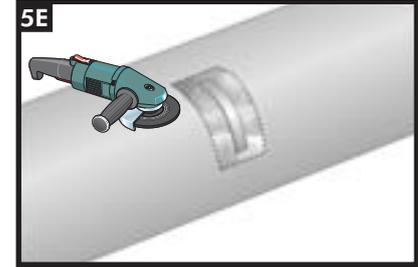
While holding the cut-to-length PP Melt Strip use the hot air tool to heat the end of the material until it becomes soft and flexible.

Minor Repair-Apply PP Melt Strip



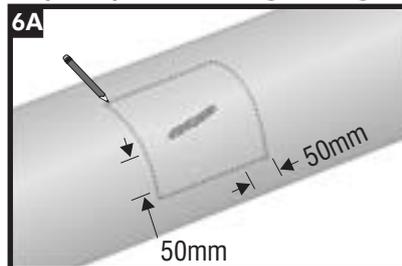
Holding the strip, fill the affected area with the heated PP Melt Strip. Use the hot air tool to heat the PP Melt Strip until it is soft and pliable. Force the activated material into the repair area or depression with a scraper / spatula, heating and smoothing to achieve a uniform finish.

Minor Repair - Quality Check



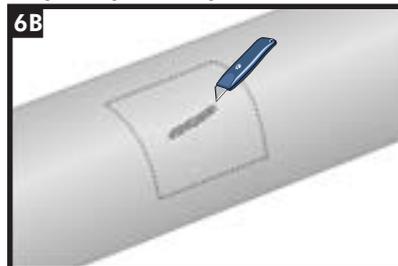
Visually inspect the repair area. If necessary, grind or rasp any protruding material or uneven areas to achieve a flush finish with the PP mainline coating. Holiday test to project requirements

Major Repair - Marking Damage



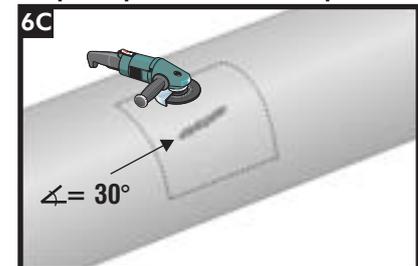
Using a marker, mark a rectangle 50mm beyond the damaged areas on all sides (major repair area).

Major Repair - Exposed Metal



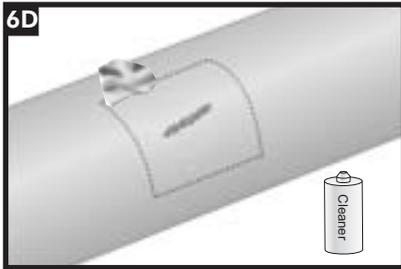
Using a knife, carefully cut out only the damaged coating into a smooth sided shape.

Major Repair - Surface Prep



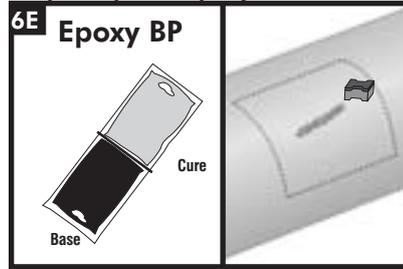
Using a hand grinder with a grit paper wheel, lightly abrade the repair area to expose FBE and/or bare metal surface and bevel the edges of the repair area to a 30° angle. Using the hand grinder, lightly abrade the mainline coating in the major repair area.

Major Repair - Surface Prep



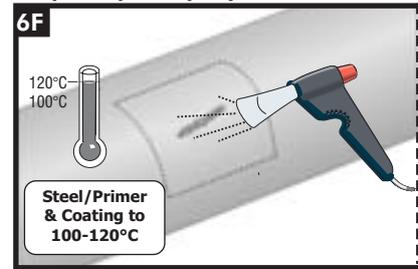
Using a grease and lint-free rag, clean the prepared coating with an approved cleaner (i.e. xylol, xylene, trich) to remove the presence of oil, grease and other contaminants.

Major Repair - Epoxy Primer



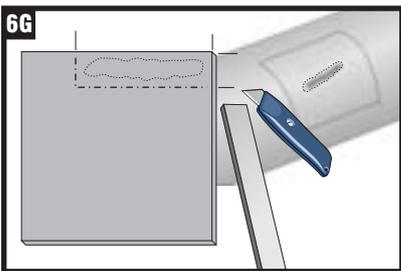
Follow the Preparation, Mixing and Application instructions provided with the supplied Canusa Epoxy Pack. Use the application pad to apply the epoxy to the FBE/steel area of the major repair area. Ensure all FBE and exposed steel is covered to a uniform thickness of 150-200µm (6-8mils).

Major Repair-Epoxy Primer Cure



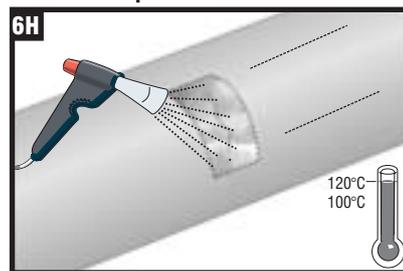
Using the hot air tool, heat the epoxy and surrounding coating to 100-120°C until cured.

Major Repair - CRP-PP Filler / Melt Strip



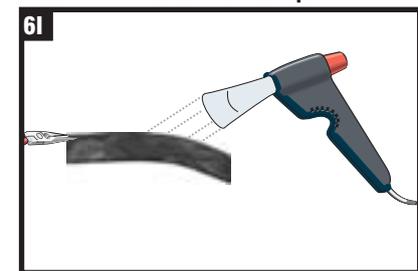
Cut the CRP-PP Filler to the appropriate shape to fill the gap, or use separate pieces of the standard melt strip.

Major Repair - Heat PP Repair Area



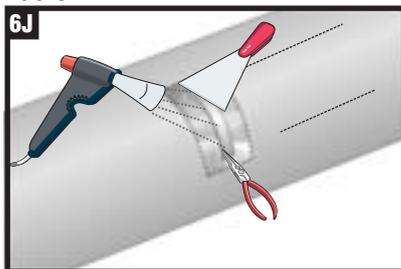
Using the hot air tool, heat the repair area to 100 - 120°C. Using the digital thermometer, ensure the correct temperature has been reached.

Major Repair - Heat PP Filler / Melt Strip



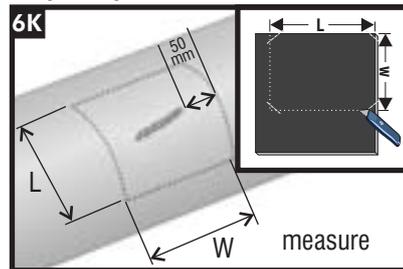
While holding the cut-to-length CRP-PP Filler or melt strip with a pair of pliers, use the hot air tool to heat the material until it becomes soft and flexible.

Major Repair - Apply PP Filler material



Using the pliers and the scraper / spatula, fill the affected area with the heated CRP-PP material. Use the hot air tool to heat the CRP-PP material until it is soft and pliable. Force the activated material into the repair area with a scraper / spatula, heating and smoothing to achieve a uniform finish. If necessary, grind or rasp to achieve a flush finish with the PP mainline coating.

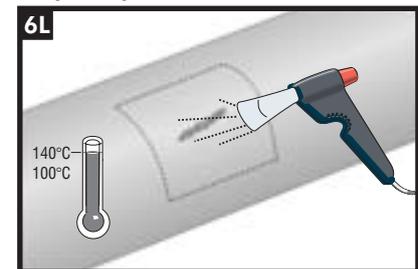
Major Repair - Patch Measurement



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

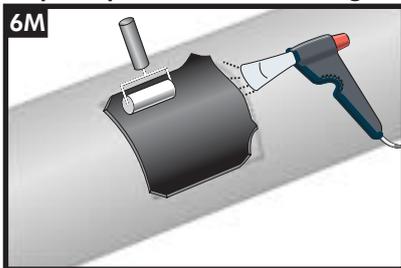
RECOMMENDED STEP:
Cut 4 corners off of patch to avoid lifting of corners

Major Repair - Pre-Warm



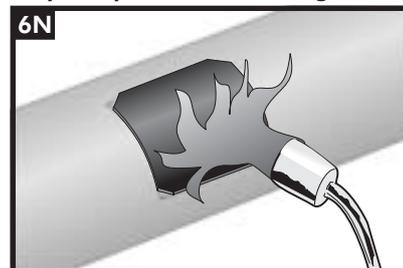
Use the hot-air tool to pre-warm the repair area to 100 - 140°C. Use a temperature measuring device to ensure the correct temperature.

Major Repair - Hot Air Welding



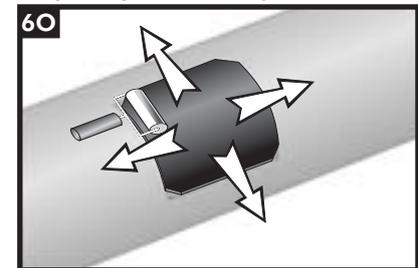
Using the hot-air tool and roller, weld the underside of the CRP-PP Patch to the repair area of the PP mainline coating. Ensure a positive contact.

Major Repair - Post Heating Patch



Using the propane torch and a medium flame, uniformly heat the entire CRP-PP Patch and localized area.

Major Repair - Rolling



Using the roller, carefully roll the patch from the middle to each edge.

QUALITY CHECK & BACKFILLING GUIDELINES: After application, allow the repaired area to cool then Holiday Test to project requirements before backfilling.



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