

TECHNOLOGY FOR REPAIRING DAMAGED 3LPE INSULATION WITH ANTICORRay REP MATERIALS

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1. SELECTION OF MATERIALS FOR REPAIRS

ANTICOR company – according to the types of damages - offers the following ranges of materials.

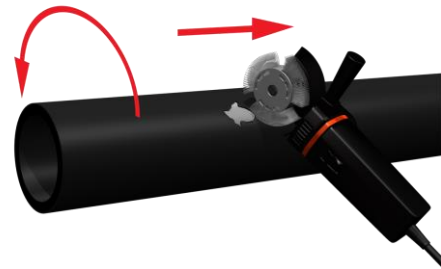
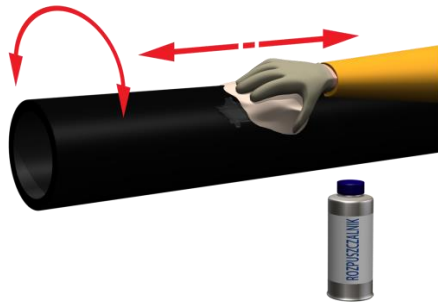
- For repairing deep damages – down to the pipe metal core - sized no more than 100 x 200 mm
 - Epoxide primer: ANTICORRay Epoxy Primer 801
 - Cavity filler: ANTICORRay Mastic Filler
 - Repair patch: ANTICORRay REP
- For repairing deep damages – down to the pipe metal core - sized over 100 x 200 mm
 - Epoxide primer: ANTICORRay Epoxy Primer 801
 - Heat shrink sleeve: ANTICORRay WSS60
- Repairs of surface damages not reaching the pipe metal, under 10 mm wide (scratches)
 - Repair stick: ANTICORRay Melt Stick
- Repairs of surface damages not reaching the pipe metal, over 10 mm wide
 - Cavity filler: ANTICORRay Mastic Filler
 - Repair patch: ANTICORRay REP

2. AUXILIARY MATERIALS AND TOOLS

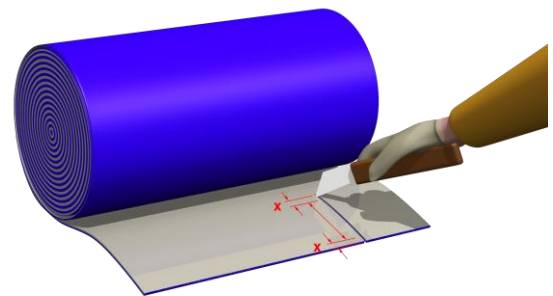
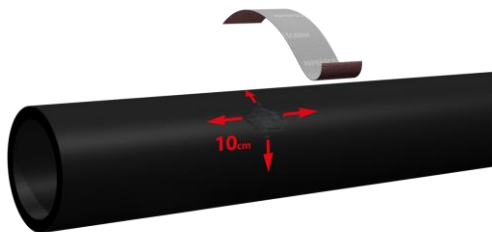
- Scraper
- Fitter's knife
- Scissors
- Cylinder with gaseous propane – butane and burner
- Contact thermometer
- Silicon roller
- Metal spatula
- Degreaser
- Cleaning cloth
- Small spatula
- Abrasive cloth 40
- Bristle Blaster® – a device for preparing the steel surface
- Standard protective clothing and other statutory equipment

3. REPAIRING TECHNOLOGY

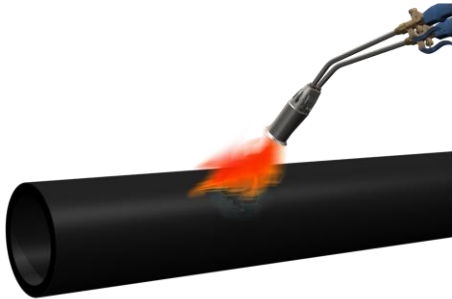
3.1 REPAIRING TECHNOLOGY FOR DEEP DAMAGES – for the metal surface, sized under 100 x 200 mm.



- Remove the loose 3LPE coating not adhering to the pipe.
- Chamfer the edged of 3LPE coating down to an angle of 15°.
- Degrease the exposed surface of the steel pipe and the adjacent 3LPE insulation surface.
- Remove the rust other pollutions from the exposed steel pipe surface with the Bristle Blaster® device and continue to obtain a cleanliness level Sa 2½.



- Roughen the 3LPE surface adjacent to the damage at a distance of 10 cm away from the edge of the damaged place.
- Cut out a suitable piece of repair patch ANTICORRay REP with a 50 mm allowance towards the edge of the damaged place.
- Round off the patch corners.



- Heat up the place under repair up to $70 \pm 80^{\circ}\text{C}$.



- Mix thoroughly ingredients A and B of epoxy primer ANTICOR Ray Primer 801.
- Apply the primer on the steel surface.



- Cut out a suitable piece of ANTICORRay Mastic Filler.
- Complete the defects of the 3LPE coating with permanently plastic and manually mouldable filler (without heating) apply with a spatula as above keeping an allowance of up to 2 mm above the factory-made coating.



- Heat up the adhesive layer of ANTICORRay REP patch until the 'vitreous' state.



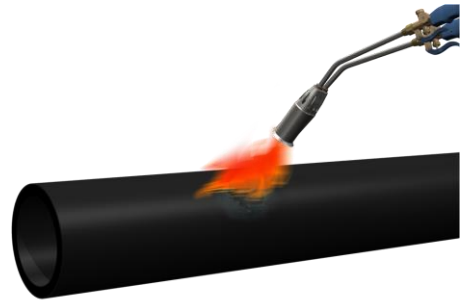
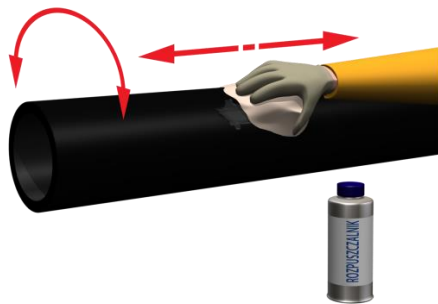
- Place the patch on the place under repair with 50 mm overlap on the 3LPE coating.
- Hold the patch in the burner flame.
- Remove air bubbles, if any, using a silicon roller.
- Stop heating up the patch when an adhesive flash has appeared in the periphery.

3.2. REPAIRING TECHNOLOGY FOR DEEP DAMAGES – for the steel surface, sized over 100 x 200 mm.

Repair according to technology DMTA-An-19.



3.3. REPAIRING TECHNOLOGY FOR SURFACE DAMAGES – only isolation coating (steel surface not exposed) width up to 10 mm (scratches).

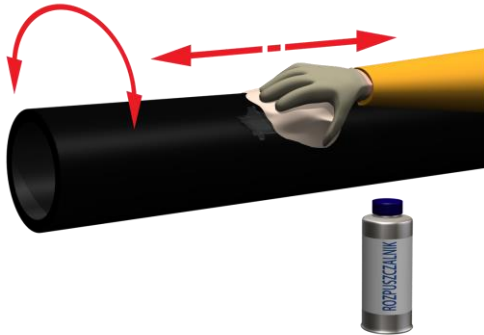


- Remove the loose 3LPE coating not adhering to the pipe.
- Chamfer the edges of 3LPE coating at the damaged place.
- Degrease the exposed surface of the damaged 3LPE insulation.
- Heat up the place under repair with a burner to reach 40 – 60°C.

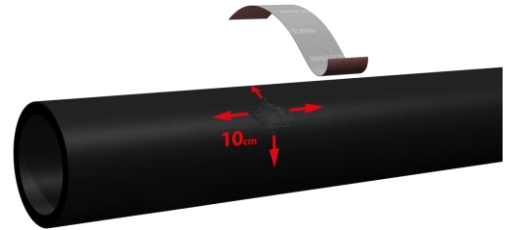


- Heat up the end of the repair stick - Melt Stick until the state of fluidity.
- Fill losses in 3LPE coating with the molten material
- Smoothen the surface of the laid sealing layer with a small, heated spatula, keeping an allowance of up to 2 mm above the factory applied coating.

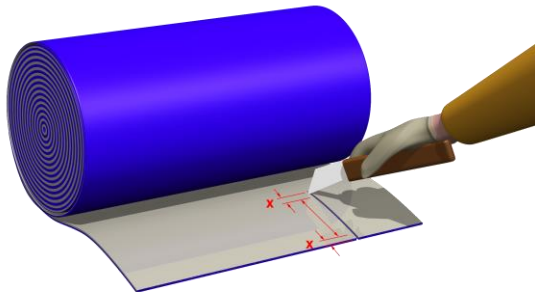
3.4. REPAIRING TECHNOLOGY FOR SURFACE DAMAGES – only isolation coating (steel surface not exposed) with a diameter exceeding 10 mm.



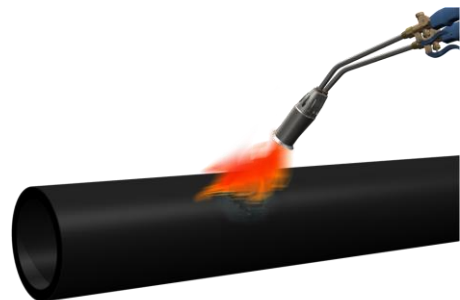
- Remove the loose 3LPE coating.
- Chamfer the edges of 3LPE coating at the damaged place, down to 15°.
- Degrease the exposed surface of the damaged 3LPE insulation.



- Roughen the 3LPE Surface adjacent to the damage at a distance of 10 cm away from the edge of the damaged place.



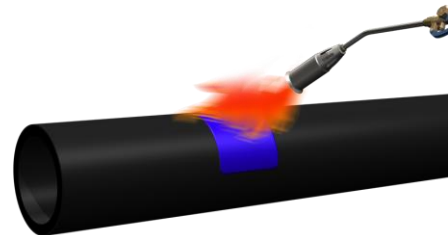
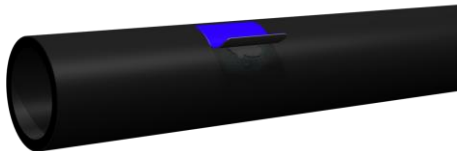
- Cut out a suitable piece of the repair patch ANTICORRay REP with a 50 mm allowance towards the edge of the damaged place.
- Round off the patch corners.



- Heat up the place under repair with a burner to reach 40 – 60°C.



- Cut out a suitable piece of ANTICORRay Mastic Filler.
- Complete the defects of the 3LPE coating with permanently plastic and manually mouldable filler (without heating) apply with a spatula as above keeping an allowance of up to 2 mm above the factory-made coating.
- Heat up the adhesive layer of ANTICORRay REP patch until the 'vitreous' state.



- Place the patch on the place under repair with 50mm overlap on the 3LPE coating.
- Hold the patch in the burner flame.
- Remove any air bubbles with a silicon roller.
- Stop heating up the patch when a glue flash has appeared in the periphery.

4. CHECKS

- Check visually the fitting for correctness immediately when the repair is over. Verify whether the material adheres firmly all over the surface.
- Check the insulation for tightness with a holyday detector at a voltage of 15kV when the area under repair has been cooled down to the ambient temperature.