TECHNOLOGY FOR REPAIRING DAMAGED 3LPE INSULATION WITH ANTICORRay REP MATERIALS ACCORDING TO EN-ISO21809

Contents:

1. SELECTION OF MATERIALS FOR REPAIRS

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

1) for repairing deep damages reaching the surface of the pipe (metal), sized less than 10 cm^2
   - Epoxide primer - ANTICORRay Epoxy Primer 801
   - Cavity filler - ANTICORRay Mastic Filler
   - Repair patch - ANTICORRay REP

2) for repairing damages reaching the surface of the pipe (metal), sized over 10 cm^2
   - Heat shrink sleeve - ANTICORRay WSS60

3) for repairing damages, so-called “cracks” – 3LPE insulation, sized less than 10 cm^2
   - Repair stick - ANTICORRay Melt Stick

4) for repairing deep damages which does not reach the surface of the pipe (metal), sized less than 10 cm^2
   - Cavity filler - ANTICORRay Mastic Filler
   - Repair patch - ANTICORRay REP

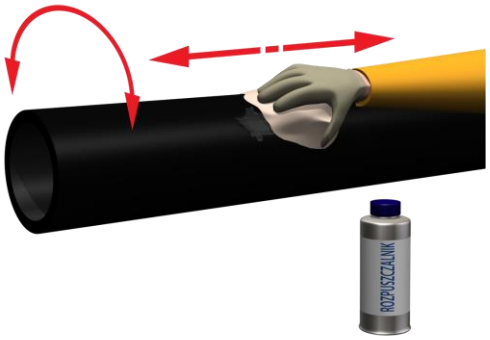
5) for repairing deep damages which does not reach the surface of the pipe (metal), sized over 10 cm^2
   - Heat shrink sleeve: ANTICORRay WSS60

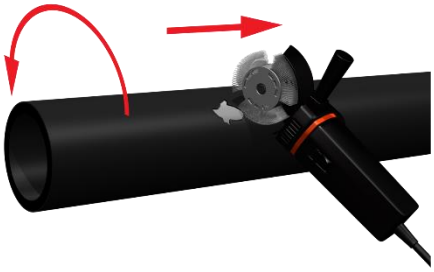
2. EQUIPMENT

- 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

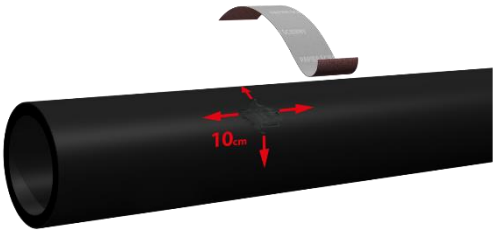
3.1 TECHNOLOGY FOR REPAIRING DEEP DAMAGES REACHING THE SURFACE OF THE PIPE (METAL), SIZED LESS THAN 10 CM^2

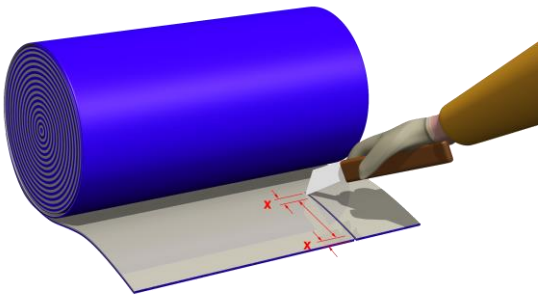




- Remove the loose factory coating not bonded to the pipe.
- Chamfer the edges of factory coating at the damaged place, down to 15°.
- Degrease the surface of the exposed steel pipe and the adjacent damaged insulation surface.

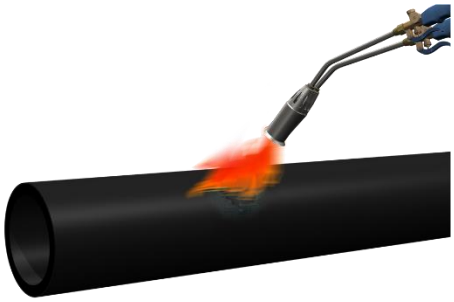
- Clean the exposed surface of the steel pipe of rust and other contaminants using a Bristle Blaster® to a cleanliness grade of Sa 2½ or St 3.



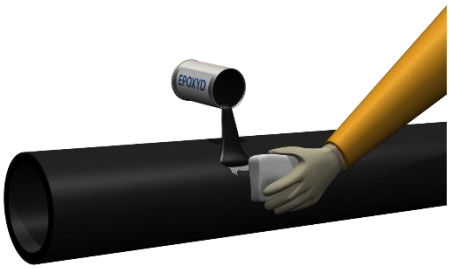


- Roughen the surface adjacent to the damage at a distance of 10 cm away from the edge of the damaged place.

- 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.



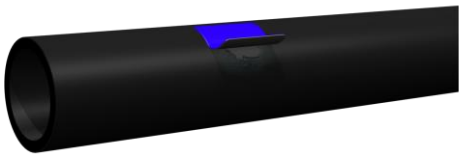
- Heat up the place under repair with a burner to reach 70 ÷ 80°C (3LPE insulation – burner flame).

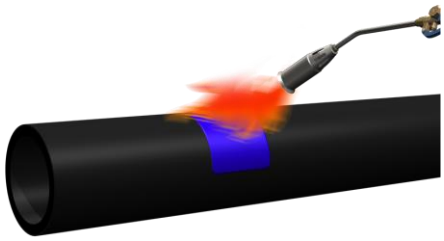


- Mix components A and B of ANTICORRay Primer 801 epoxy primer thoroughly.
- Apply primer to steel surface.

- Cut out a suitable piece of ANTICORRay Mastic Filler.
- Complete the defects of the 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.





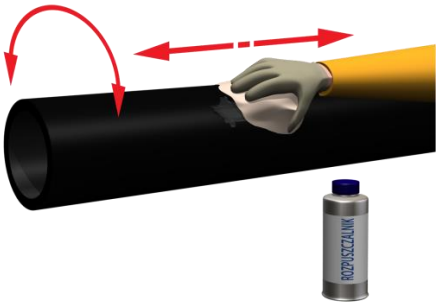
- Place the patch on the place under repair with 50 mm overlap on the factory coating.

- Hold the patch in the burner flame (3LPE).
- Remove air bubbles, if any, using a silicon roller.
- Stop heating up the patch when an adhesive flash has appeared in the periphery.

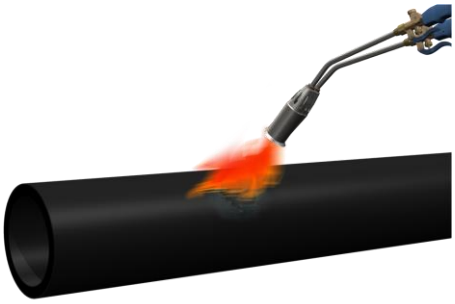
3.2. TECHNOLOGY FOR REPAIRING DAMAGES REACHING THE SURFACE OF THE PIPE (METAL), SIZED OVER 10 CM^2

The damaged must be repaired in accordance with technology DMTA-An-19.

3.3. SURFACE DAMAGE REPAIR TECHNOLOGY, SO-CALLED “CRACKS” – 3LPE INSULATION, SIZED LESS THAN 10 CM^2



- 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.

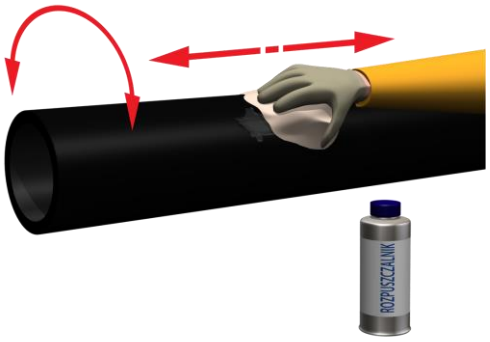


- Heat up the place under repair with a burner to reach 40 ÷ 60°C.

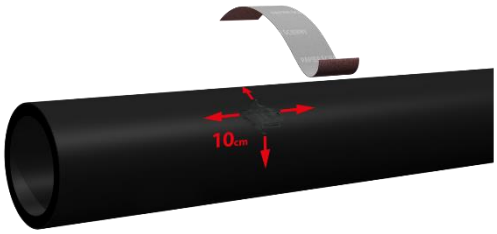
- Heat up the end of the repair stick - Melt Stick until the state of fluidity.
- Fill losses in 3LPE coating with the molten material

- Smooth the surface of the applied filler layer using a heated spatula, maintaining an allowance of 2 mm above the factory coating.

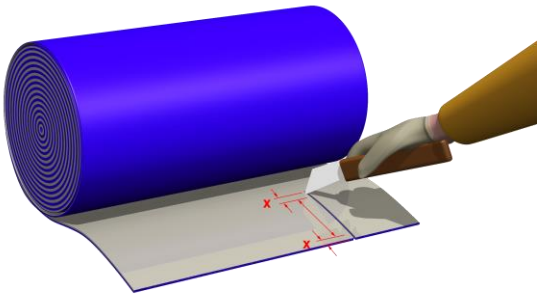
3.4. TECHNOLOGY FOR REPAIRING DEEP DAMAGES WHICH DOES NOT REACH THE SURFACE OF THE PIPE (METAL), SIZED LESS THAN 10 CM^2



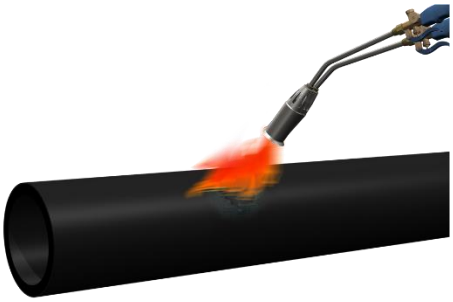
- Remove the loose factory coating.
- Chamfer the edges of factory coating at the damaged place, down to 15˚.
- Degrease the surface of the exposed damaged insulation surface.



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



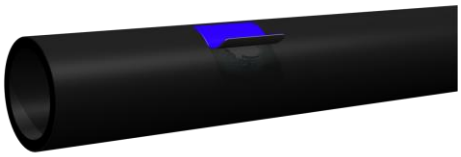
- Cut out a suitable piece of the repair patch ANTICORRay REP with a 50 mm allowance towards the edge of the damaged place.
- Round off the patch corners.



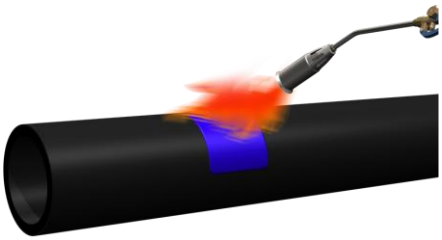
- Heat up the place under repair with a burner to reach 40 ÷ 60^{0}C (3LPE).

- Cut out a suitable piece of ANTICORRay Mastic Filler.
- Complete the defects of the 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 factory coating.



- Heat the patch with the burner flame.
- Remove any air bubbles with a silicon roller.
- Stop heating up the patch when a stream of glue appears around the perimeter.

3.5 TECHNOLOGY FOR REPAIRING DEEP DAMAGES WHICH DOES NOT REACH THE SURFACE OF THE PIPE (METAL), SIZED OVER 10 CM^2

The damaged must be repaired in accordance with technology DMTA-An-19.

NOTE:
When repairing 3LPP insulation, do not use "open flame" from gas burners.

4. CONTROL ACTIVITIES

- 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.