



80 YEARS OF PIPELINE PROTECTION

# APPLICATION INSTRUCTIONS

## Steelcoat 100/400 System

### USE:

For the protection of structural steel, pipes, welded joints, bends, fittings and similar structures from corrosion, above ground. To protect the substrate from corrosion the system completely encases and segregates its surface from the surrounding environment by making intimate contact with the entire exposed substrate.

### EQUIPMENT LIST:

#### These items may be required

Power wire brush and spare brushes / scraper / blast cleaning equipment (optional)

Paint brush, brush cleaning solvent. Utility knife, tape measure.

Overalls, gloves, safety glasses, safety boots, cleaning cloth, hand cleaner, barrier cream

If necessary hard hats, scaffolding / safety belt.

### SURFACE PREPARATION:

Surfaces must be dry and free from dirt. Solvent wipe with a clean cloth to remove any grease deposits.

Power wire brush to remove all scale, loose rust and old flaking coatings to achieve a minimum finish of St2 according to ISO 8501-1 or Swedish Standard SIS 0055900.

### SYSTEM COMPONENTS:

- |  |        |   |
|--|--------|---|
| <ul style="list-style-type: none"> <li>• Denso MP Primer</li> <li>• Denso Mastic</li> <li>• Denso Tape</li> </ul>          | } or { | <ul style="list-style-type: none"> <li>• Denso Hi Tack Primer</li> <li>• Denso Superlight Profiling Mastic</li> <li>• Denso Hi Tack Tape</li> </ul> |
| <ul style="list-style-type: none"> <li>• Denso Ultraseal Reinforcing Tape (RT)</li> <li>• Denso Acrylic Topcoat</li> </ul> |        |   |

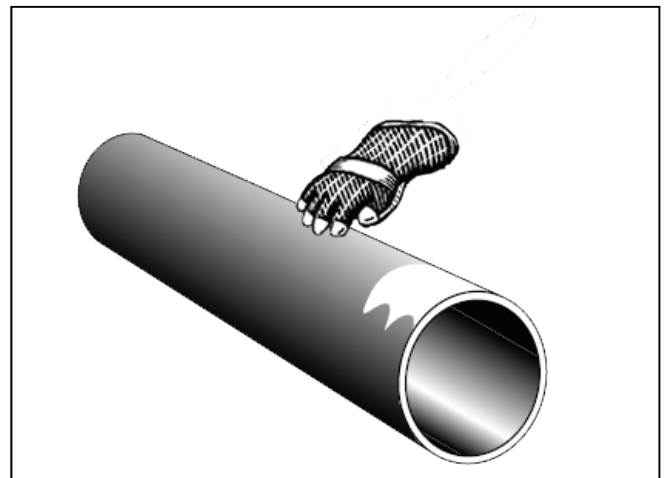
### APPLICATION:

#### 1. PRIMING and PROFILING

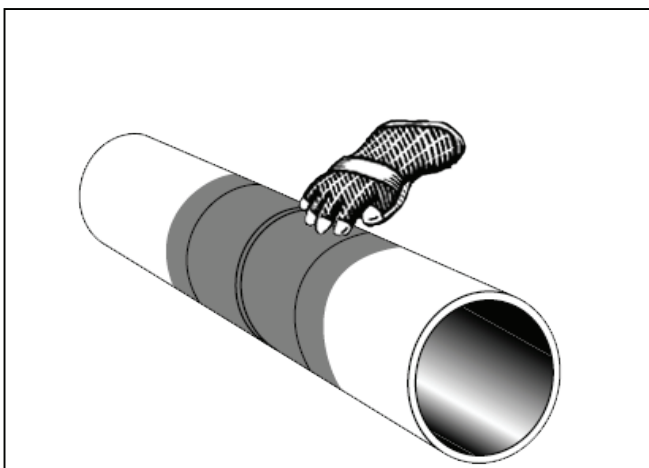
Brush or hand apply (with the use of gloves) an even coat of Primer over the entire area to be protected. Use the primer to fill any shallow or pitted imperfections in the substrate.

Coverage: 2-5m<sup>2</sup>/kg

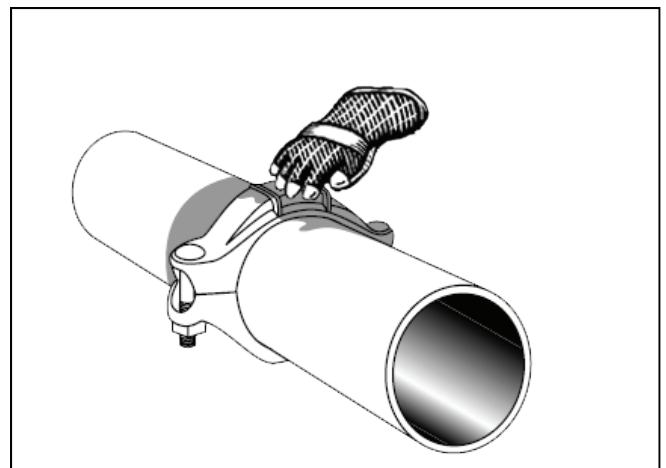
For large voids or irregular shapes Mastic is then used to prepare a profile suitable for tape wrapping.



**Fig 1.** Priming pipes, rods and cables: Apply Primer to entire area to be wrapped with tape.



**Fig 2.** Priming butt welded joints: Apply Denso Primer to entire area to be wrapped with tape.



**Fig 3.** Priming flanges and couplings: Apply Primer then profile irregular surfaces with Mastic to enable the area to be wrapped with tape.

## 2. TAPE APPLICATION

### a) Pipes and Rods:

Select as wide a width of Tape as practical, e.g. 100mm wide for 100mm diameter pipe. When applying tape ensure that the outer compound side of the tape is applied to the substrate. Maintain sufficient tension, without stretching the tape, to ensure that the tape conforms to the surface without gaps. Repeat this step, overlapping each turn by a minimum of 25mm or 55% to give double thickness. Start new roll by overlapping the ends by one tape width. Smooth down overlaps and mould into adjacent tape surface.

Note: Where longitudinal welds are included in the area to be wrapped, apply a 100mm wide strip of Tape longitudinally over the weld and press into the contours before wrapping.

Denso Ultraseal RT is then applied over the Tape in a similar fashion, overlapping each turn by a minimum 25mm or 55% to give double thickness. Start new roll by overlapping the ends by one tape width.

Finally Acrylic Topcoat is painted as an overcoat to the Ultraseal Reinforcing Tape to provide UV protection.

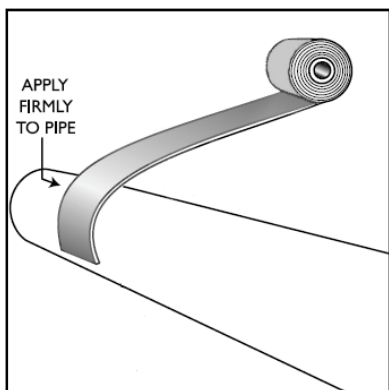


Fig 4. Start at the 9 o clock position.

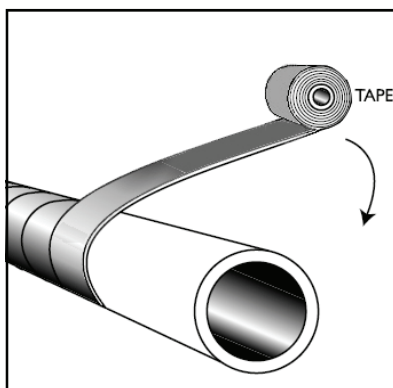


Fig 5. Ensure that the outer compound side of tape is to the substrate.

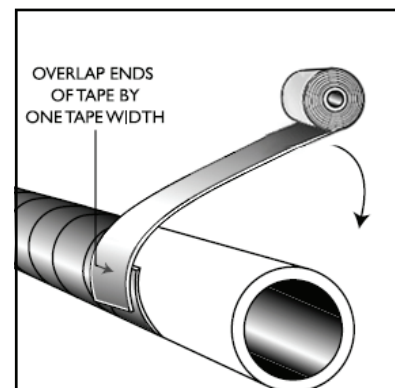


Fig 6. Starting a new roll of tape.

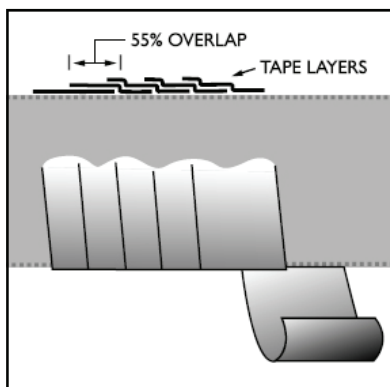


Fig 7. Overlapping each turn by 55% gives a double thickness.

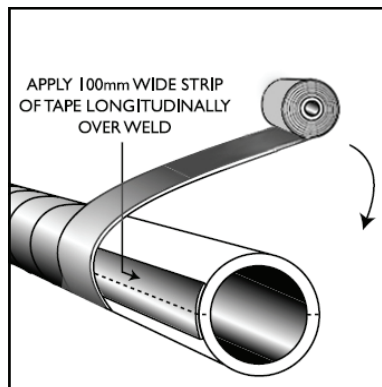


Fig 8. Wrapping a longitudinal weld.

### b) Butt Welded Joints:

Proceed as (a) but start and finish wrapping with a minimum of 75mm overlap on to the existing pipe coating either side of the joint area.

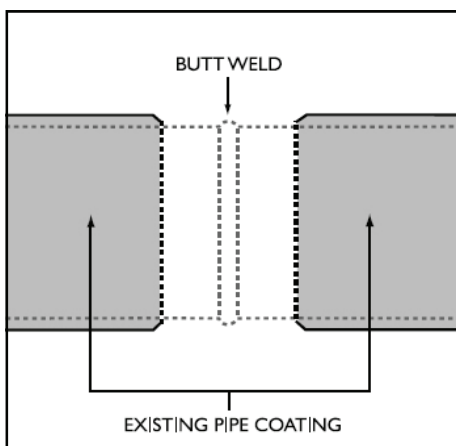
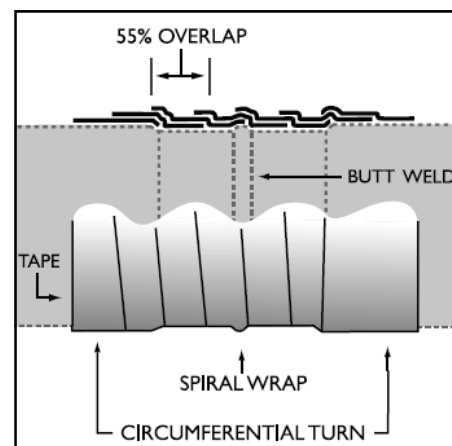


Fig 9. Butt weld and existing coating ready for over wrapping with tape. Note cutback of coating can be 75mm - 150mm either side of the weld except on FBE coated pipe.

- Fig 10. Note method of wrapping. ▶
1. Start with one circumferential turn onto factory coating.
  2. Then change to spiral wrap with 55% overlap over weld area.
  3. Finish with one circumferential turn over factory coating the opposite side of the weld. Overlap tape at least 75mm onto existing coating.



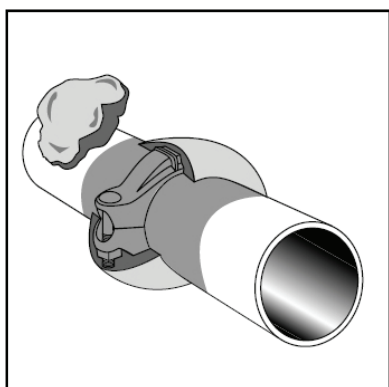
**c). Flanges, couplings:**

Apply Primer over entire surface to be wrapped. Profile the pipe joint with Mastic so that there will be no air gaps under the subsequent tape wrapping. Push the mastic firmly into all cavities and around all bolt heads building it up to form a profile suitable for wrapping without forming bridges or voids.

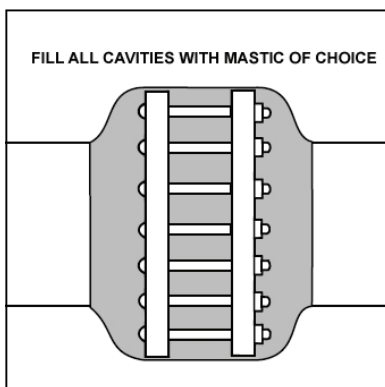
The Tape is then applied by dividing the joint into two halves. Start the tape, with the outside facing the pipe surface, on the centre of the crown of the joint and wrap away from the centre, towards the adjoining pipe, overlapping each turn by a minimum 25mm or preferably 55% to give a double wrap. Finish with at least one circumferential wrap onto the pipe to conclude the first half of the application. Start again on the crown of the joint overlapping initial wrap. Wrap towards the pipe on the opposite side of the joint overlapping tape as per first wrapping. Smooth finished wrap down well, particularly at the tape edges.

Denso Ultraseal RT is then applied over the Tape in a similar fashion, overlapping each turn by a minimum 25mm or 55% to give double thickness. Start new roll by overlapping the ends by one tape width.

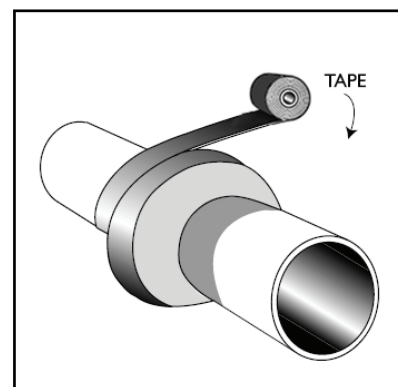
Finally Acrylic Topcoat is painted as an overcoat to the Ultraseal Reinforcing Tape to provide UV protection..



**Fig 11.** Profiling the joint with mastic.



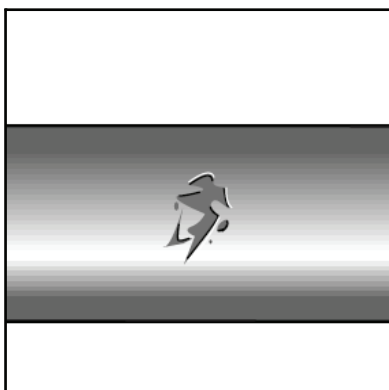
**Fig 12.** Make sure the mastic is pushed into all crevices and that it forms a smooth profile for wrapping.



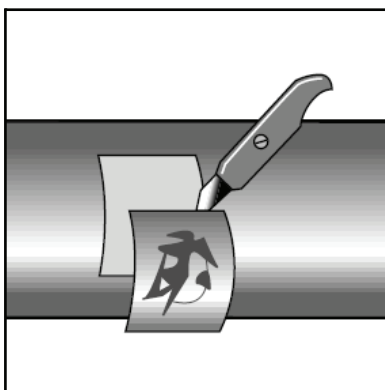
**Fig 13.** Wrap joint in two halves. Start on crown and work towards pipe then repeat from crown working towards pipe on opposite side of joint.

**d) Damaged Coatings:**

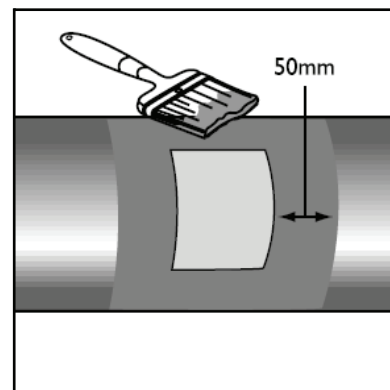
Cut away and remove loose coating from damaged area and smooth or chamfer edges. Clean area thoroughly then prime the exposed substrate or surface extending 50mm either side of the damage. Repair the damaged area with a patch of tape or mastic. Wrap the section of pipe as per section (b).



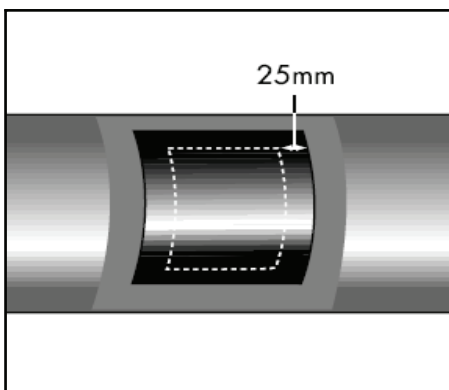
**Fig 14.** Damaged pipe coating.



**Fig 15.** Remove loose or damaged area then clean thoroughly.

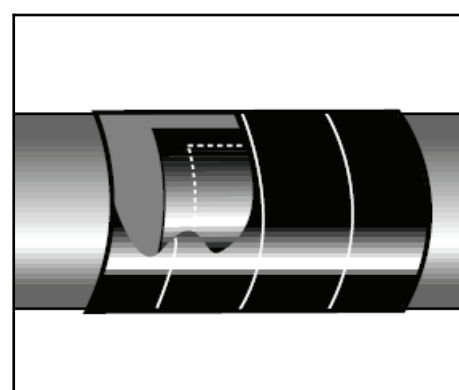


**Fig 16.** Smooth edges and prime area at least 50mm onto sound coating.



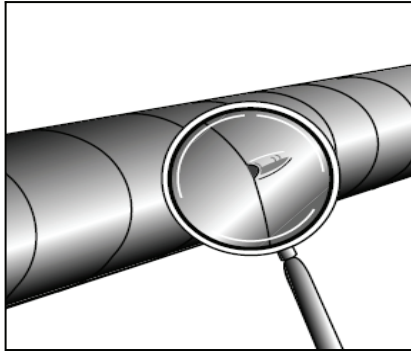
**Fig 17.** Repair damaged area with a patch of tape overlapping at least 25mm onto primed sound coating area before wrapping with tape as per section (b).

**Fig 18.** Overwrap repair as per section (b). ▶

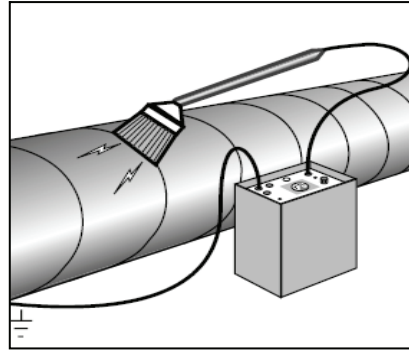


### 3. INSPECTION

Ensure that the entire surface is encased / covered with no gaps or air pockets. Holiday is conducted at 10kV maximum. Note: Holiday testing of petrolatum tapes is not recommended as the tapes are too soft and it is possible that holidays will be burnt through the tape during testing. It is preferable that testing be conducted once the Ultraseal Reinforcing Tape and Acrylic Topcoat have been applied.



**Fig 19.** Examine for gaps or air pockets (see repair procedure figs. 14 to 18).



**Fig 20.** Perform holiday test using a ring or brass brush (10kV for complete system.).

### 4. SAFETY DATA:

<b>Storage:</b>	Store right way up in original packaging. Store away from heat, direct sunlight and open flames.
<b>Transport:</b>	Avoid prolonged exposure to high temperatures during transit, preferably in an enclosed vehicle.
<b>Handling:</b>	Grease resistant gloves may be worn to reduce skin contact. Avoid contact with eyes.
<b>Action in case of fire:</b>	Extinguish with water fog, dry powder, carbon dioxide or chemical foam. Self-contained breathing apparatus may be needed for large fires.
<b>Skin Contact:</b>	Wash with warm water and mild soap. Pumiced heavy duty hand cleaner for stubborn stains.
<b>Swallowing:</b>	If feeling unwell, seek medical advice
<b>Inhalation:</b>	Not considered likely, except in fires avoid inhaling fumes.
<b>Spillage:</b>	Tapes and Denso MP Primer not hazardous. Pick up and collect material by hand. Acrylic Topcoat wear gloves and soak up with rags/sponges. Allow to dry before sending to landfill.
<b>Disposal:</b>	Incineration or landfill in accordance with local regulations.
<b>Other:</b>	For more information please refer to Denso safety data and technical data sheets. Available for all system components.



Approved Quality Management System  
AS/NZS ISO 9001:2008  
Lloyds Register – Certificate N° Mel 0927759



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