



125 YEARS OF SERVICE TO INDUSTRY

APPLICATION INSTRUCTIONS

Tank Boot Seal System

1. SCOPE:

The Denso Tank Boot Seal System consists of Denso primers, mastics, tapes and topcoat.

It is designed to prevent the moisture that settles into the area around the base of tanks from causing permanent corrosion damage to the integrity of the tank at or near its base.

2. USES:

The corrosion protection of tank bases by the prevention of moisture ingress to the underside of the tank base.

Tank bases generally sit on asphalt or concrete slabs. At or near the point of contact with the slab moisture can collect which may initiate the corrosion process.



▲ *Figure 1. Tank farm.*

3. EQUIPMENT LIST:

Power wire brush / scraper / blast cleaning equipment (optional)

Brushes, rollers, cleaning solvent

Utility knife

Overalls, gloves, cleaning cloth, hand cleaner, barrier cream.

Any PPEs deemed necessary by the material Safety Data Sheets and Job Safety Analysis conducted prior to the commencement of works.

4. MATERIALS LIST:

- Denso Primers: Primer D or Hi Tack Primer.
- Denso Mastics: A choice of Profiling, Densyl, or Denso Mastic. For profiling/filling irregular surfaces, gaps or voids.
- Petrolatum tapes: A choice Denso Tape, Densyl Tape, or Hi Tack Tape. To provide the corrosion protection.
- Denso Ultraseal Reinforcing Tape (RT), provides mechanical protection to the system..
- Denso Acrylic Topcoat, for long term UV radiation protection.

5. APPLICATION OF SYSTEM:

a) Surface Preparation:

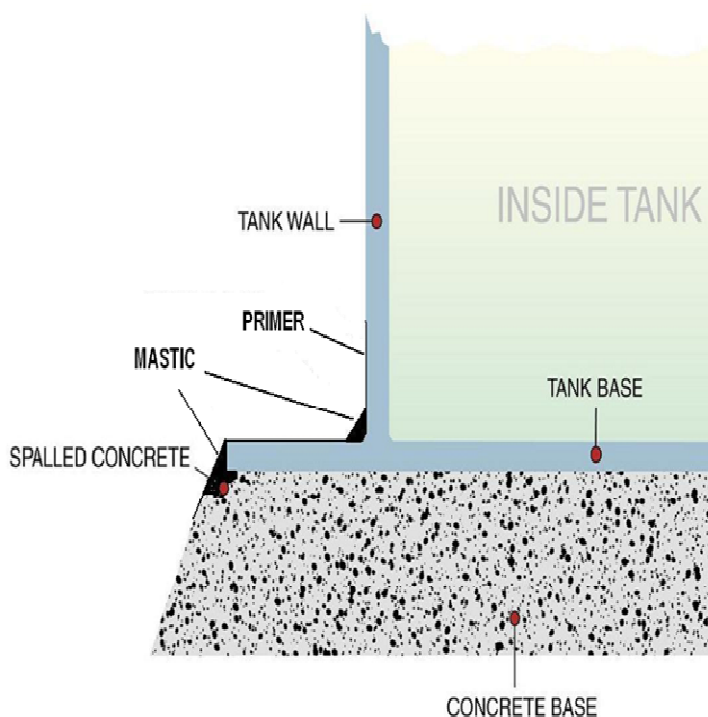
Methods can include the use of abrasive blast cleaning, pneumatically or hydraulically driven tools such as wire brushes, rotary scrapers and needle guns. Also hand tools such as wire brushes, scrapers, chipping hammers etc.

- Solvent wipe with a clean cloth to remove any grease deposits.
- Clean surfaces to be protected to remove all scale, loose rust and old flaking coatings. Areas of firmly adhering rust scale must be removed with chipping hammers or hand power tools.
- Remove corrosion deposits from the bottom of any deep pitting.
- Weld scars and protrusions of any kind must be cut away and the surfaces ground smooth to remove sharp edges and sudden changes of profile.
- Achieve a minimum finish to AS1627-4 Class 2 to a minimum distance of 150mm vertically up the wall of the tank and horizontally away from the tank base across the tank apron.

First Inspection:

Closely examine the surface area that has been prepared to ensure thoroughly clean substrates to AS1627-4 Class2, and no sharp or protruding objects. Surfaces must be dry and free from dirt or loose particles before continuing.

► **Diagram 1.** Tank base cross section. Primer and mastic in position.



5. APPLICATION OF SYSTEM (continued):

b) Priming:

Denso primers are applied to the substrates by roller or brush. Obtain an even coating and ensure that all voids, concaves, and holes are coated. Primer should be applied to a point at least 150mm up the wall of the tank and a minimum of 150mm away from the tank base on to the adjacent apron.

- *Areas of deep pitting:* Defined as locations where there is a danger of the tape 'bridging' the pits and leaving a void. These areas must be treated with a coating of primer and filled with mastic prior to tape application.
- *Weld Scars:* Apply primer over these areas. After tape application examine the area where scars occur. If there is any bridging cut tape with a sharp knife and press down to remove air pocket, or gently lift a small section of tape, apply mastic to fill bridge then mould tape back into position.
- *Vertical Welds:* Apply primer to the weld. Create a fillet of mastic which is then inserted either side of the weld. Sufficient mastic should be used to avoid bridging when the tape is applied.

Second Inspection:

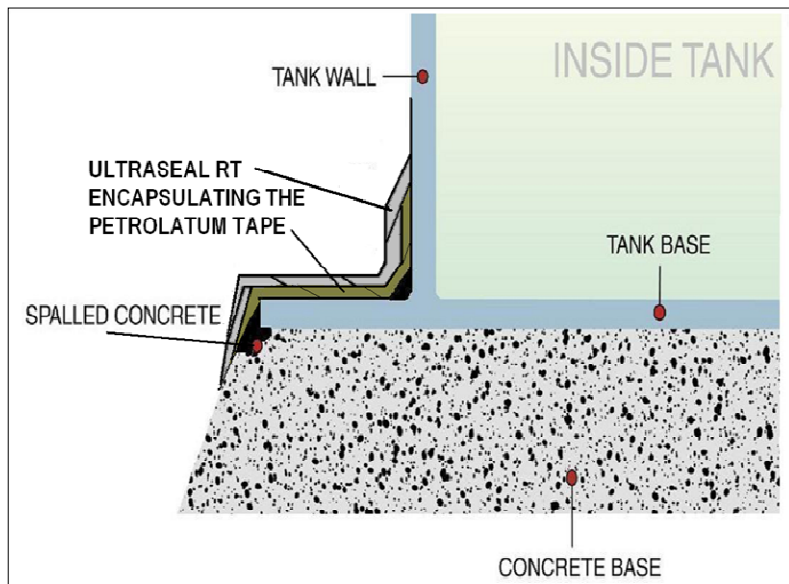
The primed substrates must be thoroughly inspected to ensure that all the surface area has been properly coated with the primer, including pitted voids, crevices and holes.

Figure 2. Priming the surfaces to be sealed. ►

c) Profiling:

Use mastic to fill all voids and depressions between the tank base plate and the concrete apron.

Mould the mastic into a round configuration and apply around the circumference of the tank. The same procedure is used for the



▲ Diagram 2. Tank base cross section with tapes in position.

- At the point where a roll of tape finishes an overlap equivalent to the width of the tape is applied when the next roll commences.
- Mould all overlaps by pressing and smoothing the tape and squeezing or pressing out any air pockets along the way.
- When the tank wall / angular plate junctions are reached ensure the tape conforms to the profiles, created with mastic.
- Proceed in the same fashion up the tank wall to a minimum 100mm from the base.

Fourth Inspection:

Inspect the wrapped surface area ensuring all air bubbles and wrinkles have been excluded and overlaps are sealed.

e) Ultraseal RT Application:

- Start on the protruding primer at the petrolatum tape's furthest point away from the tank commence applying the Ultraseal RT onto the petrolatum tape. The first layer of tape is applied circumferentially around the base with a minimum 12.5mm of tape width in contact with the concrete or asphalt substrate and primer.
- Apply a 25% overlap and work your way spirally inwards back to the tank wall. As before any roll ends should be overlapped by a full width of tape when commencing the next roll.
- Work your way up the tank wall covering all the inner tape with a 25% overlap along the way to the point where contact is made with the primer.
- Mould overlaps by pressing, smoothing or squeezing out any air pockets along the way.

Fifth Inspection:

Inspect the wrapped surface area ensuring all air bubbles and wrinkles have been excluded and overlaps are sealed.



transition from the tank base to the concrete surface. Smooth the mastic to create a run off effect or slope.

Third Inspection:

Ensure the mastic has been adequately moulded, smoothed over and tapered where necessary to improve the contour and facilitate tape application.

d) Petrolatum Tape Application:

It is important to apply the tape with the correct side facing the substrate. The outer side of the tape roll is to make intimate contact with the substrate.

The tank base is wrapped with tape from the bottom up creating a weather boarding effect.

- Apply tape starting at a minimum 100mm from the tank base, on the apron. Allow 50mm of primer to remain exposed.
- Continue circumferentially around the tank apron applying a 55% overlap to the previous layer of tape while moving steadily towards the tank.

5. APPLICATION OF SYSTEM (continued):

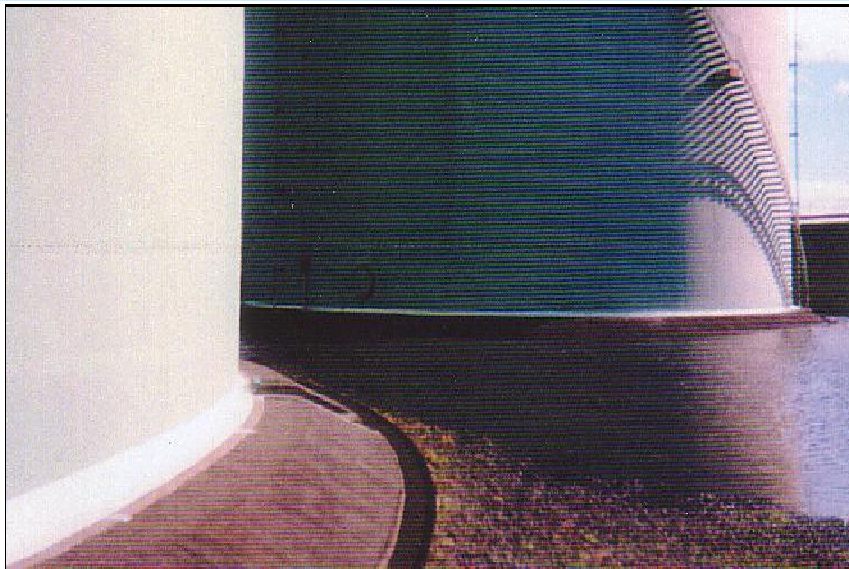
f) Acrylic Topcoat Application:

- Thoroughly stir the paint then apply liberally by brush, roller or spray starting at a point 5cm above the tapes on the tank wall.
- Paint the tape around the tank working your way down the wall, around the base, then on to the apron moving away from the tank until you reach a point 5cm past the edge of the tapes on to the concrete or asphalt.
- Allow the paint to dry for 18 ± 6 hours before applying a second coat.

Final Inspection:

On completion thoroughly inspect the work to ensure all surfaces are fully coated.

A final check should be made of all overlaps making sure they are sealed and no voids are present under the coating.



▲ Figure 3. Completed Tank Boot Seal System.

6. SAFETY DATA:

Storage:	Store system components correct way up in original packaging. Store away from heat, direct sunlight and open flames.
Transport:	Avoid prolonged exposure to high temperatures during transit, preferably in an enclosed vehicle.
Handling:	Grease resistant gloves may be worn to reduce skin contact. Avoid contact with eyes. Avoid inhaling any primer fumes.
Action in case of fire:	Extinguish with water fog, dry powder, carbon dioxide or chemical foam. Self-contained breathing apparatus may be needed for large fires.
Skin Contact:	Wash with warm water and mild soap. Use pumiced heavy duty hand cleaner for stubborn stains.
Swallowing:	For primer do not induce vomiting, seek medical assistance. For acrylic topcoat dilute with lots of water and induce vomiting, seek medical advice. For remaining components if feeling unwell seek medical advice
Inhalation:	For primer move to fresh air, if quick recovery does not occur take first aid measures and seek medical assistance. For remaining components not considered likely except in fires avoid inhaling fumes.
Spillage:	For primer contain spill. Soak up with oil absorbent. Avoid sources of ignition. Allow to dry if safe to do so before disposal. For acrylic topcoat contain spill. Soak up with water absorbent. Allow to dry before disposal. Tapes and Mastic not hazardous. Pick up and collect material by hand.
Disposal:	Incineration or landfill in accordance with local regulations.
Other:	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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