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## 1. **GENERAL**

### 1.1 **Scope**

1.1.1 This specification is used for the priming, caulking and wrapping with petrolatum corrosion prevention products of all of the following surfaces: metal piping, nuts, bolts, flanges, couplings, valves, dissimilar metals/materials and other surfaces as specified herein for below ground service and chambers.

### 1.2 **General Requirements**

1.2.1 Contractor shall comply with all written recommendations of the manufacturer regarding applications of the specified system. All parts of the system shall be sourced from the same manufacturer.

## 2. **PRODUCTS**

### 2.1 **Acceptable Suppliers:**

2.1.1 Denso North America or equivalent that is both ISO 9001:2008 (Quality Management) and ISO 14001:2004 (Environmental Management) compliant.

### 2.2 **Materials**

#### 2.2.1 Primers:

- .1 The Primer shall be comprised of saturated petroleum hydrocarbons (petrolatum) inert fillers and passivating agents.
- .2 The Primer will be an integral component of all petrolatum systems for the preparation of metal surfaces prior to wrapping. Primers will displace moisture, passivate surface oxides, fill surface imperfections and ensure intimate contact between Petrolatum Tapes.

#### 2.2.2 Mastics:

- .1 The Mastics shall be comprised of saturated petroleum hydrocarbons (petrolatum) inert fillers, reinforcing fibers and thermal extenders. Variations may contain beads of cellular polymer and flow control additives.
- .2 Mastics shall be cold applied self supporting Mastics for molding around irregular shaped fittings to provide a suitable profile for applying anti-corrosion tapes.
- .3 The physical specification values shall meet the values given on the data sheet for the type of Mastic required.
- .4 Petrolatum Tapes.
- .5 Petrolatum tapes shall have a character stable in composition and plasticity over a wide temperature range. The tape shall be non-hardening and non-cracking. The tape shall accommodate vibration and

extreme movement of substrate. Superficial oxidation renders surface less tacky. The tape is highly resistant to mineral acids and alkalis.

- .6 The physical specification values shall meet the values given on the data sheet for the type of Denso Petrolatum paste, tape or mastic required.

### 3. **EXECUTION**

#### 3.1 **General Surface Preparation**

##### 3.1.1 Requirements

- .1 Remove dirt, grease and oil including excessive moisture and frost in accordance with the requirements of SSPCSP-1, "Solvent Cleaning".
- .2 Remove weld spatter, sharp points and edges.
- .3 Remove loose rust, paint and foreign matter by hand and/or power tools cleaning in accordance with SSPC-SP-2, or SP-3, "Hand Tool Cleaning" or "Power Tool Cleaning" respectively.
- .4 High pressure water blasting may be used to prepare the surface.

#### 3.2 **Application**

- 3.2.1 Apply specified paste, primer, tape and exterior coating as per the manufacturers written instructions.

#### 3.3 **Application of Mastics**

- 3.3.1 To protect complex surfaces and configurations such as valve bodies, flanges, dresser couplings, etc., apply Mastic or Profiling Mastic by filling and packing to achieve a uniform contour to which tape can be applied without bridging or voids.

#### 3.4 **Application of Petrolatum Tape on Straight Line Pipe**

- 3.4.1 After primer has been applied to the surface, the tape shall be spirally wrapped on pipe, cable, conduit fittings etc., using a minimum 25mm overlap on all applications. Where additional protection is required, the overlap shall be increased to 55 per cent which will provide a double thickness of tape.
- 3.4.2 The tape may be applied longitudinally, i.e. "cigarette wrapped", (except Denso Hotline Tape) when the space is too restricted or confined to apply in the preferred spiral matter. Use a minimum 25mm overlap, and keep the overlap on the topside of the pipe to provide a weatherboard effect.
- 3.4.3 Hold end of tape firmly against the starting point and firmly press on the surface. Unroll the tape, keeping the roll close to the surface. Do not get a long lead of tape as it will tend to fold and gap on the surface being wrapped. The tape is best applied by rolling it around the pipe and giving it proper tension.

- 3.4.4 Apply sufficient tension to provide continuous adhesion, but do not stretch the tape. As application proceeds, press out all folds and air pockets that may occur.
- 3.4.5 Maintain a minimum 150mm overlap when overlapping one roll with the end of a new roll. Overlap must occur on the top half of the pipe.
- 3.4.6 At the completion of each roll, smooth the overlaps by hand in the direction of the spiral to ensure sealing of the overlap.
- 3.4.7 On all vertical applications begin at the bottom and proceed up thereby creating a “weatherboard” overlap.

### **3.5 Application of Tape on Flanges, Dresser Couplings, Valves Bodies, etc.**

- 3.5.1 After the entire surface has been covered in primer and bolts and nuts have received a filler of mastic, flanges can be wrapped either with a width of tape wide enough, that when wrapped circumferentially, enough tape will lap over the side to allow the installer to smooth it into the side of the flanges and several inches onto the pipe; or take several short pieces of tape and by applying them longitudinally along the axis of the pipe up over the flanges and down the other side, and overlapping each piece by a minimum of 25mm.

### **3.6 Underground Applications**

- 3.6.1 Prepare surface as described in Item 3.1 – General Surface Preparation.
- 3.6.2 Apply applicable primer as described in Item 3.2 – .Application of Primers.
- 3.6.3 Apply applicable Petrolatum Tape as required in Item 3.4 –Application of Petrolatum Tape on Straight Line Pipe.
- 3.6.4 Use Denso Utility Tape, Denso Glass Outerwrap, or Denso Poly-Wrap for an outerwrap when the following conditions apply:
  - .1 A barrier to prevent backfilling damage.
  - .2 To aid in the prevention of leaching of the petrolatum in hot, dry, and sandy soils.
  - .3 To maintain dielectric strength when the system includes cathodic protection.

### **3.7 Protective Outerwraps**

- 3.7.1 Denso Utility Tape and Denso Poly-Wrap is available as an overwrap for mechanical protection or as a general non-tack barrier.
- 3.7.2 30 to 100 mil Polyethylene can provide a durable covering for Petrolatum Tape. Jacketing shall be banded every 450mm to 600mm.

### **3.8 Field Inspection**

- 3.8.1 All coating will be subject to inspection by the Consultant and/or the manufacturers authorized representative.

**3.9 Defects to be Made Good**

- 3.9.1 If, in the final inspection, defects are found, the Contractor to repair the same or remove and replace with proper materials and workmanship, without extra compensation for the labour and materials required.

**END OF SECTION**