Protal™ 7300
Brush Application Specifications

1.0 Scope

1.1 This specification covers the external surface preparation and coating of wet or damp steel pipelines.

2.0 Material and Storage

2.1 Material shall be Denso Protal 7300 coating system as manufactured by Denso North America, 9710 Telge Road, Houston, TX 77095 (Tel) 281-821-3355 (Fax) 281-821-0304 or 90 Ironside Crescent Unit 12, Toronto, Ontario, Canada M1X1M3 (Tel) 416-291-3435 (Fax) 416-291-0898. E-mail: info@densona.com.

2.2 Material shall meet the physical properties of the attached product data sheet.

2.3 Storage: Material shall be stored in a dry place between 41˚F (5˚C)and 100˚F (38˚C). Care shall be taken to insure the material is stored up right (arrows on boxes facing up). *Note: If the material is kept cold, it will become very viscous.*

3.0 Equipment

3.1 For mixing, use strong wooden stir sticks or power drills with appropriate mixing paddle.

3.2 For application, use 4" (100 mm) wide brushes or Denso applicator pads for small diameter pipe and/or 1/4" (6.3 mm) nap rollers for large diameter applications.

3.3 Wet film thickness gauges.

4.0 Surface Preparation

4.1 Material for abrasive cleaning shall be the appropriate blend of abrasive to produce an angular surface profile of 2.5 - 5 mils (0.06 - 0.13 mm).

4.2 All surfaces to be coated shall be grit blasted to a near-white finish (SSPC SP-10, NACE No. 2 or Sa 2 1/2). Note: Near-white finish is interpreted to mean that all metal surfaces shall be blast cleaned to remove all dirt, mill scale, rust, corrosion products, oxides, paint and other foreign matter. Very light shadow, very light streaks or slight discolorations shall be acceptable; however, at least 95% of the surface shall have the uniform gray appearance of a white metal blast-cleaned surface as defined by Swedish Pictorial Surface Preparation Standard Sa 2 1/2 or SSPC VIS-1.

4.3 Edges of the existing coating shall be roughened by power brushing or by sweep blasting the coating for a distance of 1" (25 mm) minimum.

4.4 All contaminants shall be removed from the steel surface to be coated. Oil and grease should be removed in accordance with SSPC SP-1 using non-oily solvent cleaner (i.e., MEK or xylene).

4.5 The Contractor shall check the surface profile depth by using a suitable surface profile gauge (Press-O-Film Gauge or equal).

4.6 If rust formation occurs, the surface shall be re-blasted. If conditions result in a light flash rusting on the surface prior to coating, application can proceed as long as the pipe remains damp.

5.0 Application

5.1 The substrate temperature range for application of Protal 7300 is 32°F (0°C) to 150°F (65°C).

5.2 Mixing: Make sure the part A (Resin) and Part B (Hardener) components match in both material and size as specified on the containers. Mix the B component first, independent of the resin. Pour the contents into the part A (Resin) component. Mix until a uniform color is achieved making sure to scrape the bottom and sides of the container (approximately 2 minutes). No streaks shall be visible.

5.3 Protal 7300 shall be applied to the specified Dry Film Thickness (DFT) up to 60 mils (1,524 microns) using Denso applicator pad or brush. Water shall be displaced as the coating is applied. Wet film measurements shall be continuously performed to ensure close adherence to the thickness specification.

5.4 APPLICATION SHALL TAKE PLACE IMMEDIATELY AFTER MIXING. Apply product onto the surface and spread down and around the surface in bands beginning

from the leading edge of the material to as far under the pipe as can be reached. Overlap the bands and onto the existing coating a minimum of 1" (25 mm). Applicators shall use Denso Applicator Pad to smooth out any sags or rough edges, valleys or drips. Special attention shall be given to weld buttons and bottom surfaces.

5.5 The thickness of Protal shall be checked periodically by wet film gauge to achieve the minimum wet film thickness specified. After the Protal has cured to a tack-free condition, the owner's representative and/or contractor's inspector should measure the film thickness by magnetic gauge and notify the applicator of their acceptance.

5.6 Over-coating, when necessary, shall take place within 6 hours at 72°F (22°C). If second window has lapsed, the surface shall be roughed prior to application of the topcoat using 80 grit sand paper or by sweep blasting.

6.0 Inspection/Testing for Backfill

6.1 The finished coating shall be generally smooth and free of protuberances or holidays. All surfaces shall have the required minimum DFT. Inspection of hand application is best performed immediately after application.

6.2 For most applications, backfill can be accomplished when the coating reaches a Shore D of 80. Using a Shore D Durometer, measure the hardness on an area of the coating that measures a minimum 30 mils DFT. Several measurements should be taken at various locations circumferentially around the pipe to ensure sufficient cure.

6.3 An acceptable field test to check to see if the coating has a full chemical cure, a solvent such as Xylene, MEK or Toluene can be rubbed on to the coating. If the gloss/sheen is removed the coating is not fully cured.

6.4 Holiday detection shall be performed on all coated areas. Detection voltage should be based on specified nominal pipe coating thickness and calculated in accordance with the NACE SPO188 Standard.

6.5 The owner's representative, immediately upon completion of the work, shall make final inspection of the completed application. Notification of all defects must be made within a reasonable time frame from completion of the work to allow for all repairs within the allowed time frame for the project.

7.0 Repairs

7.1 For small pinhole repairs: Surfaces of repair up to 1/16 inch (2 mm) in diameter, roughen the surface of the parent coating, to remove gloss, around the holiday for at least 1 inch (25 mm). Use 80 - 120 grit sandpaper or light sweep blasting.

7.2 Medium sized repairs: Surfaces of repair areas up to 4 in^2 (25 cm^2) in size, shall be prepared by abrasive blasting, as specified in Section 11, or by power tool cleaning in accordance with SSPC- SP 11 to remove dirt, scale, rust, damaged coating and any other foreign material to a bare metal condition and retain or produce the surface profile required by Section 4.0.

7.3 Large repairs: Surfaces of repair areas exceeding 4 in^2 (25 cm^2) shall be repaired by abrasive blast cleaning as specified in Section 4.0.

7.4 The adjacent parent coating and any holidays or damaged coating adjacent to the cutback area shall be roughened for at least 1 inch (25 mm) around the repair and the edges shall be feathered.

7.5 After abrading, all dust shall be removed from the prepared areas using compressed air, a clean, dry bristle brush, a clean dry cloth or removed in accordance with SSPC-SP-1 using acetone, xylene or MEK.

8.0 Safety Precautions

8.1 Follow the guidelines detailed in the Safety Data Sheets (SDS).

8.2 The contractor shall provide safe and secure access to application site.

8.3 Keep containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

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