Protal 7900HT

Spray Application Specifications

1.0 Scope

1.1 This specification covers the external surface preparation and coating of pipeline applications such as weld joints, special pipe sections, fittings and fabrication.

2.0 Material and Storage

2.1 Material shall be Denso Protal 7900HT as manufactured by Denso North America, 9747 Whithorn Drive, 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 warm, dry place between 40°F to 100°F (4.4°C to 37.7°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 Equipment shall be a plural component airless or hydraulic spray unit capable of pumping at the correct ratio for the specified Protal coating (see product data sheet). Heated hoppers, manifolds, and hoses are recommended in most cases. A Graco mastic gun, used with a 19 thou to 27 thou tip size, is recommended.

3.2 A solvent such as Xylene, MEK, Toluene, or a combination of the three is recommended to clean the equipment.

3.3 Wet film thickness gauges.

3.4 Also can refer to the Protal 7200 / 7900HT Air Cartridge Gun Set-up Procedure for air gun application.

4.0 Surface Preparation

4.1 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., xylene, MEK, ethanol, etc.).

4.2 Material for abrasive cleaning shall be the appropriate blend of grit to produce an angular surface profile of 2.5 - 5 mils (0.063 - 0.125 mm).

4.3 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.*

4.4 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.

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

4.6 Metal areas that develop flash rust due to exposure to rain or moisture shall be given a sweep blast to return them to their originally blasted condition.

5.0 Application

5.1 The surface shall have no condensation, precipitation or any other forms of contamination on the blasted surface prior to coating.

5.2 The substrate temperature range for application of Protal 7900HT is 40°F (4°C) to 220°F (105°C). The substrate temperature must be a minimum of 5°F (3°C) above the dew point temperature before proceeding with the coating operation.

5.3 Using the prescribed equipment (Sect. 3.0), Protal 7900HT shall be applied using a wet on wet spray technique to the specified Dry Film Thickness (DFT). Protal 7900HT can be applied in a single coat from 25 to 60 mils (635 to 1,524 microns) WFT, depending on

temperature of the substrate.

5.4 The thickness of Protal should be checked continuously by wet film gauge to achieve the minimum/maximum film thickness specified. Notification to the applicator of any inadequately coated sections must be made immediately and repaired.

5.5 Over-coating, when necessary, shall take place within 4 hours at 80°F (27°C). If recoat window has lasped, 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 smooth and free of runs, sags and/or holidays. All surfaces shall have the required minimum/maximum DFT. In general, the surface of the coating shall be no rougher than the base or substrate material.

6.2 After the Protal 7900HT has cured to a hard cure 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.

6.3 For most applications, backfill can be accomplished when the coating reaches a Shore D of 70. The "thumb nail test" can also be used. The thumb nail test is defined by when one can no longer make a permanent indention in the coating using one's thumb nail.

6.4 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.

6.5 Spark testing shall be performed to ensure proper film thickness and for holiday inspection. The voltage used for testing weld joints and field applications shall be equal to that used for testing the mainline coating in the field or 125 volts/mil (4,920 V/mm).

6.6 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 Pinhole repairs may be repaired by using Protal Repair Cartridge. Areas shall be roughened a minimum 1 in. around holiday using Carborundum cloth or 80 grit sandpaper and wiped clean with a cloth or brush prior to patching.

7.2 Areas larger than 0.15 sq. in. (0.3 sq. cm.), but less than 1.0 sq. ft. (100 sq. cm.) shall be repaired using a Protal Repair Cartridge. The surface to be coated shall be clean and dry prior to applying the coating. Surfaces below 40°F (4°C) shall be pre-heated in accordance with Section 5.2. Areas requiring repair shall be prepared with a surface grinder or by grit blasting prior to application of the coating. All edges of the surrounding area should be feathered prior to performing the repair. Please note that areas larger than 1.0 sq. ft. (100 sq. cm.) may require grit blasting prior to repairing.

8.0 Safety Precautions

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

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

8.3 No open flames, smoking or welding will be allowed in the immediate vicinity during the spray application of Protal 7900HT liquid coatings.

8.4 Always refer to project specifications as they may supercede Denso specifications.

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