



Archco 453HTP Epoxy Spray Application Specifications

1.0 Scope

- 1.1 This specification covers the internal surface preparation and lining of pipes.

2.0 Material and Storage

- 2.1 Material shall be Denso Archco Pipe Lining system 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 of the material shall be in a warm dry place, between 40°F (4°C) to 95°F (35°C). The containers shall be stored up right.

3.0 Equipment

- 3.1 Equipment shall be a single or plural component airless or hydraulic spray unit capable of pumping at the correct ratio for the specified Archco coating (see product data sheet). For airless spray the unit shall be a recommended pump 70:1, minimum of 68:1 spray pump with a recommended hose length, 50 ft ½" (15.2 m) , 25ft 3/8th" (7.7 m) hose. with a 25ft ¼" (7.6 m) whip. The plural equipment shall include at the minimum heated hoppers, manifolds, and hoses. The Part A temperature should be between 100-120°F (38-49°C) and the Part B temperature should be between 90-110°F (32-43°C). A Graco mastic gun, used with a 25 thou to 31 thou (0.635 - 0.787 mm) tip size, is recommended. A good starting point is using an 826 tip 10" (250 mm) diameter pipes.
- 3.2 Archco 400E Thinner or Acetone is recommended to clean the equipment.
- 3.3 Wet film thickness gauges.

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 detergent, emulsion, or a fresh-water power wash.

- 4.2 Material for abrasive cleaning shall be the appropriate blend of grit to produce an angular surface profile of 3 - 5 mils (0.076 - 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 ISO 8505-1 Sa 2 1/2). *Note: Near-white finish is interpreted to mean that all metal surfaces shall be blasted clean to remove all dirt, mill scale, rust, corrosion products, oxides, paint and other foreign matter. Very light shadow, very light streaks or slight discoloration's 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 Blasted surfaces must be blown down to insure all loose debris is removed from blasted surfaces and anchor profile prior to application of coating. The Contractor shall check the surface profile depth by using a suitable surface profile gauge (Press-O-Film Gauge or equal).

- 4.5 After blasting, an approved chloride remover may be used to hold the blast until the coating application can be completed. Metal areas that develop flash rust due to exposure to moisture shall be given a sweep blast to return them to their original blasted condition prior to coating.

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 Archco 453HTP is 41°F (5°C) to 140°F (60°C). The substrate temperature must be a minimum of 5°F (3°C) above the dew point temperature before proceeding with the coating operation. Ambient temperature can be lower if the substrate is heated.
- 5.3 Each component (A and B) shall be thoroughly mixed using an air driven Jiffy mixer or equivalent prior to spraying. If using airless spray technique, add Part B to the Part A container and mix thoroughly until a uniform color is achieved. If a thinner viscosity is desired, add Archco 400E Thinner or MIBK to the mixture and continue to mix. It is recommended that no more than 5% by weight be added. Once mixed, the system is ready for spraying.
- 5.4 Using the prescribed equipment (Section 3.0), Archco 453HTP shall be applied using a wet-on-wet technique to the specified Dry Film Thickness (DFT). Archco 453HTP

can be applied in one to two coats to achieve a 20 to 40 mils (508 to 1016 microns) DFT with nothing over 60 mils (1524 microns) DFT unless approved by Denso.

- 5.5 The thickness of Archco 453HTP should be checked continuously by wet-film gauge to stay between the minimum and maximum film thicknesses specified. Notification to the applicator of any inadequately coated sections must be made immediately and repaired.
- 5.6 The pump should be flushed with solvent regularly due to high system reactivity.

6.0 Inspection

- 6.1 The finished coating shall be smooth and of uniform millage with no holidays. All surfaces shall have the required minimum/maximum DFT. All surfaces shall stay between the required minimum/maximum DFT unless approved by Denso.
- 6.2 After Archco 453HTP has cured to a hard cure condition (Shore D at 80 min.), 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 An acceptable field test to check whether the coating has reached a full chemical cure is to rub a clean cloth containing a solvent such as xylene, MEK or toluene on the coating. If the gloss/sheen is removed the coating is not fully cured.
- 6.4 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 100 volts/mil. (3,937 V/mm) based on the specified min. mil. thickness.
- 6.5 Denso and/or 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.
- 6.6 Recoating: If a second coat is required and the coating has reached a Shore D hardness of 70 or more, the surfaces shall be roughened by sweep blasting or abrade or scuff the surface with sand paper. If the coating is soft, no surface preparation is required.

7.0 Repairs

- 7.1 All holidays shall be repaired to the same degree of surface preparation and repaired lining thickness as originally specified by the application specification.
- 7.2 Areas designated for repair shall be roughened to remove the surface gloss a minimum of 1 in. (25 mm) around the holiday / pinhole using Carborundum cloth or 80 grit sandpaper and wiped clean with a Archco 400E Thinner or acetone-soaked cloth prior to patching. The roughened

area shall feather to a smooth transition of existing lining that incorporates the repair area and allows for at least ½ in. (12.5 mm) of roughened area all around the repair once completed. The repair material shall be brushed smoothly to fully fill the holiday and completely wet out the transition area to the existing lining.

- 7.3 If reducing areas of high millage, use 80 grit sandpaper to reduce the thickness until it has reached 60 mils or less in the areas of excess thickness. Use 150 grit wet / dry paper to polish area smooth. No recoating necessary.

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 Archco 453HTP Epoxy Pipe Lining.
- 8.4 Always refer to project specifications as they may supersede Denso specifications.



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