Powercrete®

Specification for the external coating of bare steel and/or girthwelds with R95

1.0 Scope

1.1 This specification details the requirements for coating the outside surface of bare steel pipe with R95, a new generation of protective coating material.

1.2 Contractor shall furnish all labor, supervision, materials, equipment and related hardware required for completing an acceptable coating.

1.3 Coating materials shall be plainly and permanently marked, stored, and applied in accordance with the manufacturer's specification as directed by the Company's authorized representative.

2.0 Definitions

2.1 Company – The acceptor of the finished R95 coated pipe, its employees, contracted inspector, or other authorized personnel.

2.2 Coating Applicator – The company responsible for the application of R95 coating over bare steel pipe.

2.3 Manufacturer – The supplier/manufacturer of the R95 material to be applied over the bare steel pipe.

3.0 Surface Preparation

3.1 The surface to be coated shall be cleaned of all coatings and free of all contaminates. Following cleaning, the surface of the steel shall be roughened or abraded with suitable hand or power tools, or particle-blasted (sand or other suitable material). The pipe surface shall not be burnished. Steel surface to be coated shall be cleaned to the grade of SSPC-SP-6 Commercial Blast minimum or better.

3.2 Before applying the R95 coating, the pipe shall be subject to inspection for appropriate surface preparation.

3.3 The surface of the existing coating that will be overlapped, if present, shall be tapered, cleaned, and abraded.

4.0 Coating Application

4.1 The pipe surface to be coated shall be dry, 5° F above dew point, with no surface moisture present.

4.2 The dry, clean surface shall be coated within 4 hours of abrasion

4.3 Spray Application

4.3.1 The R95 components shall be adequately mixed with no included air using shut off valve manifold and 4 x 1/8" mixers connected by "L" bolts or equivalent, with a short whip hose and a 1-M airless gun.

4.3.2 R95 shall be spray applied to the abraded, dried, cleaned surface, using adequate atomization.

4.3.3 R95 shall be sprayed over the entire bare metal surface to a thin layer of 4-6 mils for better penetration then shall be built up to the desired thickness.

4.4 Kit Application

4.4.1 The R95 components shall be adequately mixed with no included air. Mixing time should not exceed 5 minutes.

4.4.2 After mixing, R95 shall be applied to the abraded, dried, and cleaned surface immediately.

4.4.3 R95 should be applied by troweling liquid in the prepared surface using the furnished tools or other means approved by the manufacturer or Company's authorized representative.

4.4.4 Following application, the R95 shall be leveled (smoothed) and any air entrapment removed using toothed surface attached to trowel or equivalent. All runs and sags shall be leveled.

4.4.5 R95 shall be applied to a minimum thickness of 40 mils. Existing coating shall be overlapped at least 1 inch.

4.5 Coated surface shall not be touched for at least four (4) hours if ambient temperature is near or above 70° F (21° C), or five (5) hours if ambient temperature is near 60° F (16° C). If the curing time is reduced by applying an electric or gas-fired torch, the temperature of the coating shall not exceed 160° F (71° C) at any location.

4.6 The wet coating shall not be contaminated with particles such as blowing sand, backfill, insects or other foreign materials.

4.7 Under no circumstances shall the pipe be installed before the R95 coating has reached a minimum Type D Durometer (ASTM D2240) hardness reading of 75

5.0 Inspection

5.1 All work done under this specification shall be subject to inspection and acceptance by the Company's inspector.

5.2 The Coating Applicator's quality control inspector shall advise the Applicator's foreman when conditions exist which adversely affect the coating operation with respect to cleaning, application, or material performance, so that immediate corrective measures can be taken.

5.3 Holiday checks shall be made using a Hot Spark Detector. The total voltage used for holiday checks will be 125 volts per mil and holidays found shall be patched as per Section 6.3 of this specification. The patched holidays shall be retested.

5.4 Coating thickness checks shall be made at an ambient temperature with a magnetic pull-off film thickness gauge that has been calibrated within the previous 24 hours, or immediately if mishandled, using a U.S. Bureau of Standards certified coating calibration standard. The thickness of the calibration standard shall be at the upper and lower end of the specified thickness range. Thickness measurements shall be made in accordance with SSPC-PA2, Section 2. The thickness measurements shall be taken along the length of each joint of R95 coated pipe at the 12 o'clock and 6 o'clock positions.

5.5 Coating hardness checks shall be made at an ambient temperature with a Type D Durometer (ASTM D2240), lab calibrated within the previous sixty (60) days and verified daily, in good working condition and with no obvious damage. The checks shall be made at the 12 o'clock and 6 o'clock positions on the pipe.

5.6 To be acceptable, the coating shall have a minimum 40 mils dry film thickness and a Shore Durometer hardness of at least 75.

6.0 Repairs

6.1 All damage detected by visual and electrical inspection shall be repaired by the Applicator. Company approved coating mixtures shall be used for patching holidays and damaged coating.

6.2 Any areas requiring patching shall be cleaned of coating to the pipe surface by hand or power tools. Steel surface area should be dry, cleaned, and patched with R95.

6.3 Patches shall overlap the surrounding undamaged coating by a minimum of _ inch (19 mm).

6.4 Repairs shall be subject to reinspection at the discretion of the Company inspector.

6.5 Areas not meeting the hardness requirement shall be removed using a method that will not damage the pipe.

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