RD-6®COATING SYSTEM

APPLICATION SPECIFICATION

COATING SYSTEM FOR GIRTH WELDS AND RECONDITIONING

DESCRIPTION:

POLYGUARD RD-6® COATING SYSTEM is a non-shielding anti-corrosion system used on buried and submerged line pipe, for rehabilitation and new construction girth welds. RD-6 consists of a geotextile backed protective pipeline coating applied over a companion liquid adhesive along with an outerwrap applicable to the installation. *Application by machine permits the coating to be installed under higher tension.*

APPLICATION SPECIFICATION:

1. ***HANDLING & STORAGE OF MATERIALS****:*

1.1. System and accessory products should be handled and stored in such a manner as to prevent damage to the material and packaging.

1.2. Product must be stored in its original packaging, in a dry place, kept from contact with the ground, and protected from extreme weather at all times.

2. ***SURFACE PREPARATION****:*

2.1. Surface preparation of steel substrate

2.1.1. Solvent cleaning is recommended to provide a clean contaminant free surface (suggested solvents include MEK, Toluene, Acetone, isopropyl Alcohol). Use solvents that will not leave residual contaminants on the surfaces being cleaned. Do not use solvents that contain heavier hydrocarbons (e.g., mineral spirits, kerosene, diesel fuel).

2.1.2. Minimum surface preparation shall be wire-brushed. An abrasive blast may be specified by the pipeline owner. Loose scale, rust and other foreign matter must be removed.

2.1.3. The substrate shall be at least 5°F (3°C) above the dew point temperature before and during the application process. Preheating of the pipe may be required to meet these conditions.

2.1.4. Surface preparation contaminants must be removed prior to liquid adhesive application.

2.2. Surface preparation of adjacent anti-corrosion coatings (e.g., cutbacks, repairs)

2.2.1. The mainline, factory applied, or existing coating shall be prepared by abrading the surface prior to application of the 600 Liquid Adhesive.

2.2.2. Use 60-80 grit sandpaper until surface is abraded or roughened.

2.2.3. Surface preparation contaminants must be removed prior to liquid adhesive application per section 2.1.4 above.

3. ***LIQUID ADHESIVE APPLICATION:***

3.1. Preheating of the application area is recommended when pipe temperatures are below 70°F (21°C). Optimal surface temperature of the substrate during application is 70-100°F (21–38°C).

3.2. Do not thin liquid adhesive.

3.3. Stir or shake 600/601 liquid adhesive for 30-60 seconds before using.

3.4. Apply a thin, even coat of liquid adhesive with brush or roller to a clean and dry substrate.

3.5. It is recommended that the liquid adhesive extend 1-2 inches beyond the leading and trailing edges of the RD-6 Coating.
Note: The extension of the liquid adhesive beyond the RD-6 coating is solely to provide visual confirmation of proper application of the liquid adhesive for inspection purposes.

3.6. Allow the liquid adhesive to dry/slightly tacky state prior to application of RD-6.

4. ***RD-6 APPLICATION:***

4.1. It is recommended to apply RD-6 using a Polyguard-approved machine such as the Wrapster. Hand-application may be used when machine application is not practical. Tension must be used when applying RD-6 onto the primed surface.

4.2. Coating is spirally wrapped with compound side applied directly onto the dry/slightly tacky liquid adhesive.

4.3. Begin and end the application of the RD-6 at the 3:00 or 9:00 position, ending at the 9:00 or 3:00 position such that the leading and trailing ends are facing down.

4.3.1. The minimum overlap is 1”. A 50% overlap is recommended for areas such as girth welds, wet areas, or areas where a non-ideal backfill is present. Sufficient tension should be used to conform to the surface being coated and provide a smooth wrinkle-free application with no voids.

4.3.2. When a raised longitudinal or spiral weld seam is present, apply a 6” wide strip of *(152mm)* RD-6 over the mill weld prior to spiral wrapping to prevent bridging/tenting or voids along the weld seam. 606 Filler Tape can also be used for stripe coating.

4.3.3. Center the RD-6 or 606 filler tape over the weld. Taking care to remove all air pockets on either side of the weld bead during application.

4.3.4. The striping material is applied over the LIQUID ADHESIVE surface before the RD-6 is spiral-applied, no additional liquid adhesive is required on top of the 606 Filler tape or RD-6.

4.3.5. For step down areas such as from weld on sleeves, composite reinforcement material or thick coatings, enough 606 filler tape or RD-6 should be used to ensure that no bridging or voids will be left under the final application of the RD-6 coating.

5. ***SP-6 OUTERWRAP APPLICATION:***

5.1. SP-6 OUTERWRAP is recommended over the RD-6 for pipe diameters 4 inches or greater.
5.2. Begin and end the application of the SP-6 at the 3 or 9 o'clock position ending at the 9 or 3 o'clock position such that the leading and trailing ends are facing down. The SP-6 Outerwrap should extend past the RD-6 a minimum of 1 inch (25mm) onto the main line coating at each end.
5.3. SP-6 Outerwrap is spirally applied with a minimum 1-inch overlap.
5.4. Apply with enough tension to achieve a smooth surface while covering the entire applied section of RD-6 coating.
5.5. Wrap enough ½ inch-1 inch (13-25mm) wide fiber-reinforced packing tape around each end of the applied SP-6 Outerwrap to hold it in place during cradling and backfilling. When using cradles during pipe installation, wrap SP-6 from the trailing end to the leading end.

6. ***INSPECTION AND REPAIR:***

6.1. Inspection
- 6.1.1. The coated pipe should be inspected with a holiday detector before lowering-in.
- 6.1.2. Polyguard recommends setting the holiday detector at 4000 volts for a single layer application of RD-6 and at 8000 volts when applied with a 50% overlap.
- 6.1.3. If holiday detecting after the application of the SP-6 Outerwrap increasing the voltage by 2000 volts for each layer of the SP-6 Outerwrap is recommended.
- 6.1.4. All holidays and damaged or defective coating shall be repaired immediately.

6.2. Repair
- 6.2.1. If an unbonded outerwrap was used, remove outerwrap and make repair as in section 6.2.2 below.
- 6.2.2. When making repairs, surface preparation requirements will vary. If applying repair over existing RD-6 (i.e., a small pinhole) then no additional surface preparation is required, if the repair requires removal of existing coating, then surface preparation of exposed substrate and/or exposed parent coating may be required. For surface preparation refer to Section 2. Surface preparation.
- 6.2.3. Small or pinhole type holidays can be repaired in the RD-6 by applying liquid adhesive over the holiday area and let dry to touch,
  - 6.2.3.1. Starting with RD-6, at the 3 o'clock position on the coated pipe surface and while covering the repair area, a minimum of 1 inch (25 mm) on all sides of the repair, make a complete or cigarette wrap of 1-1/2 revolutions around the coated pipe surface, ending at the 9 o'clock position. This will make sure the laps on both sides are in a downward direction.
- 6.2.4. If outerwrap is being used apply a layer of unbonded outerwrap over the repair area and attach with fiber-reinforced packing tape.
- 6.2.5. For larger holidays or where coating is damaged that exposes pipe, remove damaged coating and smooth edges before repair is made.
  - 6.2.6. If a hole or large void area occurs, fill in the area with a patch of RD-6 or 606 Filler tape to make sure bridging over the void does not occur.
  - 6.2.6.1. Finish repair as in section 6.2.2 above.
- 6.2.7. If the damaged area is large enough that it requires a material patch larger than 6 inches *(152 mm)* x 12 inches *(305 mm)*, Fill in the area with a patch of RD-6 or 606 Filler tape to make sure bridging over the void does not occur, then spiral wrap the pipe with RD-6, to include the damaged area.
- 6.2.8. Apply an outerwrap as in above.

6.3. All coating repairs shall be reinspected as outlined in section 6.1 Inspection above.

7. ***INSTALLATION NOTES****:*

7.1. Care shall be taken in backfilling to avoid sharp rocks or other material in the backfill which could damage and/or penetrate the coating.
7.2. In areas of rough backfill, a suitable rock shield must be used to protect the coating from backfill damage.

PRECAUTIONS:

The liquid adhesive is an industrial coating and may be harmful or fatal if swallowed or enters airways. Under OHSA standard 29 CFR 1910.1200, this material is classified as a category 2 flammable liquid. Keep material away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking while applying this product. Solvents present in this product can cause serious eye irritation. In case of contact with eyes, flush with water for several minutes and contact physician.

Avoid prolonged contact with skin and breathing of vapor or spray mist from liquid adhesive. In confined areas, use explosion proof ventilation equipment. Wear all appropriate personal protective equipment.

This material is sold by ***Polyguard Products, Inc.*** only for the purposes described in this literature. Any other use of the products is the responsibility of the purchaser and ***Polyguard Products*** does not warrant nor will be responsible for any misuse of these products. ***Polyguard Products*** will replace material not meeting our published specifications within one year from date of sale.

SAFETY DATA SHEET:

All ***Polyguard Products*** Safety Data Sheets (SDS) and precautionary labels should be read and understood by all user supervisory personnel and employees before using. Purchaser is responsible for complying with all applicable federal, state, or local laws and regulations covering use, health, safety, or disposal of the product.

MAINTENANCE:

None required.

Technical Service:

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