Polyguard

Pipeline Products






RD-6® OS COATING

- **PRODUCT PROPERTIES**
- **APPLICATION SPECIFICATION – FOR OFFSHORE GIRTH WELDS**

U.S. PATENT NO. 4,983,449, U.S. PATENT NO. 5,120,381 and FOREIGN PATENTS

DESCRIPTION:

POLYGUARD RD-6® OS COATING SYSTEM consists of a geotextile backed protective pipeline coating applied over a companion liquid adhesive. Corrosion protection comes from a rubberized bitumen coating. Bonded to the outside surface of this coating is a strong, tightly woven, polypropylene geotextile, which provides fail/safe properties plus exceptional strength.

POLYGUARD 600 LIQUID ADHESIVE is fast drying, rubber based materials in a solvent solution.

PRODUCT PROPERTIES *RD-6® OS*:

PROPERTY		ASTM TEST METHOD	TYPICAL RESULTS *(Metric)*	TYPICAL RESULTS *(English)*
Geotextile Backing: Elongation % at break		D 4632	< 20%	< 20%
Total Coating System Thickness		D 1000	1.62 mm	0.06 inches
Tensile Strength of Coating System, Warp Direction		D 4632	34 kN/m	200 lbf/inch width
Tensile Strength of Coating System, PSI		D 4632	27.6 MPa	4000 PSI
Water Vapor Transmission Rate of Coating System		E 96 Procedure B	.006 g/h• m^2	.009 g/h• ft^2
Puncture Resistance of Coating System		E 154	1379 kPa	200 PSI
Burst Strength of Coating System		D 751	2413 kPa	350 PSI
Cathodic Disbondment	77°F (25°C), 30 days, 1.5v	G 8	< 5 mm	< 5 mm *(.197 in.)*
	150°F (66°C), 90 days, 3.0v	G 42	< 10 mm	< 10 mm *(.4 in.)*
Non Shielding properties of Coating System *(Does not shield cathodic protection currents)*		Internal ***Polyguard*** Click here for link	Pass (non-shielding)	Pass (non-shielding)
Adhesion to primed surface – Coating System		D 1000 Method A	3.5 kN/m	20 lbf/inch width
Infill Heat Resistance		Internal ***Polyguard***	149° C	300° F
Impact Resistance		G 14	2.6 N/m	23.0 inch lb.

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APPLICATION SPECIFICATIONS FOR OFFSHORE GIRTH WELDS:

1.0 Surface preparation

1.1 In the cut back area (exposed pipe steel at girth weld area) remove any visual coating, corrosion, dirt or debris with a wire brush or other company approved method.

1.2 Oil, grease or other hydrocarbon contamination shall be removed by washing with the appropriate and company approved safety solvent that does not leave a residue.

1.3 It is recommended the surface be blasted to SSPC SP-6 (NACE 3) commercial blast. If this is not feasible to blast then a power buff or hand wire brush may be used to remove all loose and foreign materials. If power tool cleaning is used, take care not to burnish or polish the pipe surface.

1.4 Abrade the coating approximately 6" from the coating cutback ends on the mainline coating using sanding discs or brush blasting. Take care not to cause significant damage to the base coating.

1.5 For three layer coating or coal tar coated pipe, feather or taper the cut back edge of the mainline coating to 45° or less angle to the pipe surface.

2.0 Liquid Adhesive Application

2.1 Using a dry, clean cloth or dry air remove any dust left from blasting or brushing before applying primer.

2.2 Apply a coat of ***Polyguard 600 Liquid Adhesive*** to the weld area and to extend up over the main line coating on both sides of the weld area, at least 2 inches past where the ***Polyguard RD-6® OS Wrap*** will start and end on the main line coating.

2.3 ***Liquid adhesive*** shall be applied with a clean brush or roller to obtain uniform and complete coverage of pipe surface making sure it is brushed out smooth and there are no drips.

2.4 ***Liquid adhesive*** shall be applied at a rate of 400 square feet per gallon and shall be dry or tacky/ dry to touch (does not stick to skin) prior to coating application.

3.0 *RD-6® OS* Application by Wrap Machine

3.1 The ***Polyguard RD-6® OS*** coating shall be applied in a cigarette wrap style with a ***Polyguard Products*** approved wrap machine on pipe after the liquid adhesive is applied.

3.2 ***RD-6® OS*** shall be applied with one width to cover a minimum of one inch over the girth weld, remaining exposed pipe on the opposite side of the weld and extending a minimum of 2 inches onto the primary coating.

3.3 Starting at the 3:00 o'clock position, make one and one half revolutions ending at the 9:00 o'clock position.

3.4 Repeat this step on the opposite side of the girth weld with one width to cover a minimum of 1 inch over the girth weld, remaining exposed pipe and extending a minimum of 2 inches onto the primary coating.

3.5 This process shall result in the girth weld bead being covered by two layers of the ***RD-6® OS*** and the ***RD-6® OS*** extending at least two inches over the primary coating.

3.6 Operator shall make all necessary adjustments to machine to accomplish a uniform, tightly adhered coating. Tightly adhered means the area where the ***RD-6® OS*** overlaps itself is completely sealed.

3.7 Care shall be taken that no wrinkles, puckers, voids, or breaks are left in the coating as a result of the application.

4.0 Inspection

4.1 ***Polyguard RD-6® OS*** shall be holiday detected with an adjustable electronic detector.

4.2 Do not exceed 4000 volts. Excessive voltage can stress the coating and cause burn through.

5.0 Repairs

5.1 All holidays and defects shall be repaired before the pipe is placed in the water from the lay barge.

5.2 Small or pinhole type holidays can be repaired by applying liquid adhesive over the holiday area and when dry to touch, patch of ***RD-6® OS*** shall be firmly pressed over the holiday. The patch and liquid adhesive should extend a minimum of 2" (50.8 mm) in all directions from the holiday. If the girth weld area is to be filled with foam or other in fill material, no further repair is needed.

5.3 If no infill material is to be used, circumferentially wrap the pipe and repair area with another wrap of the ***RD-6® OS***.

5.4 For larger holidays or where the coating is damaged that exposes pipe, remove the damaged coating and smooth the edges.

5.5 Finish the repair as in 5.2 above.

5.6 Use a many circumferentially wrapped pieces of ***RD-6® OS*** as is necessary to completely cover the patched area.

5.7 Re-inspect as in step 4.0.

PRECAUTIONS:

The liquid adhesive is an industrial coating and would be harmful or fatal if swallowed. It is marked as red label from the standpoint of flash point. Prohibit flames, sparks, welding and smoking during application. Solvents could be irritating to the eyes. In case of contact with eyes, flush with water and contact physician.

Avoid prolonged contact with skin and breathing of vapor or spray mist from liquid adhesive. In confined areas, use adequate forced ventilation, fresh air masks, explosion proof equipment, and clean clothing.

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.

HEALTH AND SAFETY:

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, and disposal of the product.

MAINTENANCE:

None required.

Technical Service:

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