



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

## COATING SYSTEM FOR GIRTH WELDS AND RECONDITIONING

### DESCRIPTION:

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

The coating is supplied in rolls for easy application by manual or power operated machines. The **RD-6™** is supplied with a silicone coated separator sheet to keep the layers from sticking to each other.

Proper tension on the roll of the RD-6 coating as it is applied to the cleaned and primed pipe surface is a major contributing factor to the successful performance of the coating system.

At minimum, the use of a manually operated wrapster is recommended for application. It helps control tension with its use.

In addition, depending upon the scope and size of the work, application by "squirrel cage" type machine, either powered or manually operated, is recommended. Tension control of the RD-6 roll and adjustment of overlap are advantages of this type machine. Also, these machines, if equipped to do so, are capable of applying a roll of RD-6 and a roll of SP-6 outerwrap, simultaneously. Please refer to the separate procedure for installation by squirrel cage machine.

**RD-6™** can also be applied manually, without machine. However, it is important to recognize that MUCH MORE TENSION can and should be used during its application than is normal for other types of coatings.

Use of **POLYGUARD SP6 OUTERWRAP** is strongly recommended over the **RD-6™ COATING** for diameters > 4". This inexpensive layer will further reduce the possibility of soil stress.

**POLYGUARD 600 LIQUID ADHESIVE** is fast drying, rubber based materials in a solvent solution. It is available in solvent systems that will conform to most local air pollution requirements.



*Application by machine permits the coating to be installed under higher tensions. This aids resistance to soil stress.*



*The use of **POLYGUARD SP6 OUTERWRAP** is also advised for resistance to soil stress.*

# Polyguard

This Information is based on our best knowledge, but POLYGUARD cannot guarantee the results to be obtained.

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Polyguard has been ISO 9000 certified since 1996. Current certifications are:  
 - American Natl. Standards Institute  
 - Dutch Council for Certification  
 - Deutscher Akkreditierungs Rat

## APPLICATION SPECIFICATIONS:

**HANDLING MATERIALS:** *RD-6™ COATING* and *LIQUID ADHESIVE* should be hauled and stored in such a manner as to prevent injury to the packages. No packages should be dropped or thrown from trucks. Packages shall not be handled with hooks. Containers and rolls should be stored in a dry place, kept from contact with earth, and protected from weather at all times. It is recommended that the coating and liquid adhesive be transported in warmed vehicles and stored in heated buildings in cold weather.

Although the coating can be applied at lower temperatures, to maximize the quality, it is recommended that the coating and liquid adhesives be maintained at a temperature of 45 deg. F (7 deg. C) or higher at time of application.

**SURFACE PREPARATION:** All metal surfaces shall be free of rust, moisture, weld splatter or foreign contaminants. When feasible and practical, surface should be blasted to a commercial finish, such as described in NACE 3 or SSPC- SP-6. Surfaces that have been blasted cleaned in a mill or shop prior to shipment to a field location shall be wire brushed by hand per SSPC-SP 2 or power-brushed per SSPC-SP 3 to remove corrosion product prior to applying the liquid adhesive or primer. Where mill coated pipe is involved, the *LIQUID ADHESIVE* and coating should be applied to the girth weld, starting on top of the mill coating, at least 2" back from the edges of the mill coating. The liquid adhesive should extend 1" out from the RD-6 Coating.

Neither liquid adhesive nor coating should be applied to pipe surfaces where there is the presence of visual moisture. **POLYGUARD RD-6™ COATING SYSTEMS** will not properly adhere to pipes with moisture. Condensation happens on a metal surface when the temperature of the pipe is at or below the dew point temperature. Relative humidity is the measure of how much moisture is in the air. Dew point is the combination of temperature and relative humidity where moisture condensates on a surface. The ASTM E 337, "Standard Method for Measuring Humidity with Psychrometer: is the recommended method for measuring dew point temperature. When condensation is a problem, the pipe surfaces should be heated to at least 5°F above the dew point temperature before the coating is applied. Condensation is usually not a problem unless the relative humidity is 85% or more.

**LIQUID ADHESIVE APPLICATION:** *POLYGUARD 600 LIQUID ADHESIVE* should be applied at an average rate of 400 ft<sup>2</sup> / gallon (10.0m<sup>2</sup>/liter). Stir before using. Apply liquid adhesive with brush or roller to clean and dry substrate. Do not thin liquid adhesive.

**APPLICATION:** *POLYGUARD RD-6™* can be spirally wrapped by hand or power operated machine. Coating is spirally wrapped with bitumen side next to the dry or tacky/dry liquid adhesive. As coating is unwound from its spindle, the separator sheet is rewound simultaneously onto the other spindle and discarded after roll is completely applied. Enough brake tension should be used to obtain good overlap confirmation and a smooth, tight, air pocket free condition on pipe surface. Coating overlap should be minimum 1" (25.4mm) unless otherwise specified. Where DSAW pipe is being coated, prior to coating, 6" (152.4mm) wide *RD-6™* material must be used for stripping purposes over the mill weld. The material is applied over the *LIQUID ADHESIVE* surface before the *RD-6™* coating is applied. Centering the middle of the product over the weld, the roll is unwound normally, removing the separator sheet as it is unwound. If the coated pipe in hot weather remains in either an open ditch or on skids for an extended period, overwrap coating with kraft paper or other suitable temporary material.

Use of *POLYGUARD SP6 OUTERWRAP* is strongly recommended over the *RD-6™* for diameters > 4". This inexpensive layer will further assist RD-6 and provide a major contribution to the mitigation of soil stress forces.

**LOWERING IN:** The coated pipe should be inspected before lowering-in with a holiday detector. The thickness of the *RD-6™* compound is nominal 40 mils with a nominal 10 mil mesh backing that will allow the current from the holiday detector to easily penetrate if the compound is damaged. For this reason Polyguard recommends setting the holiday detector at maximum of 4000 volts. Significant testing has proven that when the compound is not damaged, the voltage could be set at higher voltages, but doing so can penetrate thin spots that may be perfectly good coating otherwise.

**BACKFILLING:** Care shall be taken in backfilling to avoid sharp rocks or other material in the backfill which would damage and penetrate the coating. In areas of rough backfill, suitable rock shield shall be provided to protect the coating from backfill damage.

### **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.

### **MATERIAL SAFETY DATA:**

All Polyguard Products Material Safety Data Sheets (MSDS) 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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