CPR™ System
Application Guidelines

DESCRIPTION

The CPR system is a fluid-applied, elastomeric rubber membrane system for weatherproofing metal substrates. By combining multiple coats of CPR Coating with CPR Seam Sealer and metal seam reinforcement fabric, the CPR system cures to a durable, weatherproof, and fully-adhered elastomeric membrane. Once applied, the CPR system provides the basis for a sustainable roof system that is easily maintained. The long-term cost benefits offered by this technology include lower life-cycle costs and energy savings.

MATERIALS

The materials used in the CPR metal restoration system include:

1. Coating: CPR Coating
2. Sealer: CPR Seam Sealer BG, CPR Seam Sealer TG
3. Fabric Reinforcement: Grip Polyester™ Soft or UniBond™ ST
4. Cleaning Solution: Simple Green® Oxy Solve

APPLICATION EQUIPMENT

1. 3/8" (10 mm) shed resistant nap roller
2. Wet mil gauge
3. (Optional) Spray Equipment. See CPR System Spray Application Guidelines for more details

INSTALLATION

Installation of the CPR system is accomplished in the following steps: repair, preparation, priming, treatment of fasteners, application of CPR Seam Sealer, application of CPR Coating, and inspection.

Prior to installation, ensure that adhesion testing was conducted in accordance with Garland adhesion testing procedures to verify a minimum adhesion strength of four (4) pounds per linear inch (pli) for CPR to the applicable substrates. When calculating material requirements for a particular project, consideration must be given to applicator variance and the stretch-out factor for the particular metal roof profile. Any of the CPR coatings may be used interchangeably as base or top coating layers. Best practice is to use a different coating color for each subsequent layer of coating (e.g. gray & white).

Metal Restoration Application Guidelines

1. All necessary field and flashing repairs must be done according to good construction practices, including replacement of all metal that is deemed unsalvageable or unsafe.
2. All panel fasteners must be checked and any loose fasteners must be tightened or, if necessary, replaced with oversized fasteners with neoprene washers. Missing fasteners must be replaced.
3. Stitch-fasten side or end lap metal panel gaps opening more than 1/8" wide.
4. Repair gaps, holes and joints in the metal roof with CPR Seam Sealer BG or TG.
5. Completely remove existing seam coatings, mastics and sealants. All roof areas must promote positive drainage.
6. Ensure skylights, scuppers, gutters, penetrations and structures are firmly secured, watertight and in good working condition.
7. Where necessary, install water deflecting crickets behind rooftop mechanical units.

Preparation

1. Confirm local water run-off ordinances and restrictions prior to cleaning roof.
2. Carefully power wash all roof surfaces with greater than 2,000 psi pressure to remove debris, rust, scale, dirt, dust, chalking, peeling or flaking coatings, etc. Do not force water into the roof system or damage roof surfaces.
3. Wearing personal protective clothing and equipment, clean areas of algae, mildew or fungus with Simple Green Oxy Solve by scrubbing with a push broom scrub brush. Rinse at least twice to be sure all cleaning agents or contaminants are completely removed to prevent adhesion issues.
4. Rust must be removed using the most rigorous method suitable for each particular job to ensure substrate is smooth and free of loose rust. Jet water blasting, sand blasting, grit blasting and/or power wire brushing is effective.
5. For optimal metal surface preparation to enhance coating adhesion, grit blasting is recommended.
6. Wipe galvanized metal surfaces clean with acetone prior to application.
7. If the roof surface becomes contaminated with dirt, dust or other contaminants at any time during the application then cleaning measures must be taken to restore the surface to a suitable condition.
8. Ensure roof is dry prior to product application.

Application of CPR Metal Restoration System

Create a watertight seal on all fastener heads by applying a heavy dab of CPR Seam Sealer BG to the tops of all fastener heads.

Treatment of Metal Panel End Laps & Penetrations (Choose Method 1 or 2)

Method 1: Application of UniBond ST

1. Always begin with flashing seams, joints and details.
2. Verify that the surface is clean and properly prepared.
3. Round corner edges of Unibond ST with scissors.
4. Remove the clear release liner from the back in workable sections.
5. Center 6" wide UniBond ST over the middle of lap. For other details requiring reinforcement such as drains, penetrations and curbs, 12" wide UniBond ST is available.
6. Use care to install the tape uniformly. Do not stretch or cause air pockets, wrinkles or fishmouths.
7. Apply pressure to tape starting at the center and work toward outside edge with a steel roller to activate the bonding process.
8. Inspect the tape to ensure that it is properly installed. Verify edges are tightly fixed to surface. If any discrepancies are present, repair before the coating is applied.
9. Saturate the tape's polyester surface with CPR coating and allow to cure before applying field coating.

Method 2: Application of 3-course CPR coating

1. Always begin with flashing seams, joints and details
2. Determine where the first run of 6 in. (150 mm) wide Grip Polyester Soft reinforcement will be started and verify the surface is clean. For other details requiring reinforcement such as drains, penetrations or curbs 12" and 40" wide Grip Polyester Soft reinforcement is available.
3. Position Grip Polyester Soft to roll out, apply coating at 3.0 gal./100 sq. ft.(1.22 l/m²) extending 4 in. (100mm) on each side of lap to where the reinforcement is to be applied. Immediately roll reinforcement into the coating and completely saturate surface, ensuring full encapsulation of fabric without pinholes, voids or openings.
4. Allow to cure before applying field coating.

Treatment of Metal Panel Side Laps

On any uncrimped metal panel side laps, apply CPR Seam Sealer BG 8 in. (200 mm) wide over the center of the lap.

Metal Field Coating

1. Prior to field coating application, the local Garland Representative needs to complete an inspection of all treated seams and details.
2. Apply a base coating of CPR coating in a uniform manner at minimum application rate of 1.5 gal. /100 sq. ft. (0.61 l/m²) over the entire roof surface, including all flashings. Allow to cure thoroughly, but no more than 72 hours.
3. Apply a top coating of CPR coating in a perpendicular direction over base coat at 1.5 gal./100 sq. ft. (0.61 l/m²).

NOTE: During final application of the CPR Coating, special attention should be given to coating flashings and other critical areas to build adequate membrane thickness. Multiple coats may be necessary on verticals and steep metal roof slope to prevent sagging. In any event, all specified material must be applied and minimum membrane thickness achieved.

Inspection

Inspect entire roof area and touch-up deficient areas with additional CPR coating as necessary to ensure complete and uniform coverage. Special attention should be given to critical areas of roof, including roof penetrations, transitions, flashings, etc.

LIMITATIONS

These are general guidelines for application of the CPR system. The material requirements may vary depending on the specific job requirements. If unusual conditions exist, contact your local Garland Representative. Garland's fluid applied elastomeric roofing systems must be applied to structurally sound substrates and properly prepared surfaces. All surfaces must be clean and dry before application of coatings. Garland's roofing systems must not be applied over wet insulation or related materials. Failure of the substrate does not constitute failure of the Garland coating or system. Garland's systems are designed for use on well drained roofs. Garland's coatings should not be applied when rain or freezing temperatures are expected before coating is dry.

1. Restrict application of CPR products when rain or other conditions such as fog or dew are posiible within a 24 hour period.
2. Ensure ambient temperature is at least six degrees Fahrenheit or three degrees Celsius and rising above the dew point.
3. Surfaces must always be clean before application of product. Care must be taken to ensure that on-site manufacturing emissions or extended time intervals after original cleaning does not interfere with any stage of the coating applications. If either condition occurs, then cleaning may be required again.
4. Drying time is affected by numerous factors, including temperature, direct sunlight, relative humidity, air movement, coating thickness, etc...
5. Thinning of coating materials is not permitted.
6. Adequate coating thickness is essential to performance. A controllable area should be measured and the specified material applied. The minimum coverage rate must be achieved throughout the entire fluid-applied roofing assembly and can be verified using a wet mil gauge during application.
7. Solvent wipe coating with acetone if it is exposed over 72 hours prior to overcoating.
8. Deviations from these application guidelines and specific material requirements may seriously affect the fluid-applied roofing system performance and are strictly prohibited.
9. Applicator must comply with all applicable local, state and federal regulations if lead-based paint or other hazardous materials are encountered.
10. Roofing is hazardous work and fluid-applied membranes are very slippery when wet. Comply with fall protection rules and regulations.

COLD WEATHER RESTRICTIONS

Do not attempt application if ice, snow, moisture or dew is present. Restrict application when overnight temperature drops below 35°F (1.7°C). Ambient temperature must be 40°F (4.4°C) and rising through the day. Cooler temperatures will negatively impact the properties of the system. Contact your Garland Sales Representative for proper cold weather applications.

HOT WEATHER RESTRICTIONS

Do not attempt application if moisture or dew is present. Ambient temperature must be less than 95°F (35°C). Contact Garland Sales Representative for proper hot weather application.

STORAGE

CPR on the job site should be stored in a shaded ventilated area under a light-colored breathable reflective tarp. Do not store in direct sunlight. Storage temperature must range from 60-80°F (15°C to 26°C). Indoor ventilated storage is recommended when ambient temperature is below 60°F (15°C)or above 80°F (26°C).