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“WESTERN COOL ROOF SYSTEMS”

Sustainable - Energy Efficient

FLUID APPLIED ROOF COATING SYSTEM

SPECIFICATION NO. WCP-MTL1-4.5E

ELASTOMERIC METAL ROOF SEALING

METAL ROOF REFURBISHING – ACRYLIC REFLECTIVE SURFACE

PART 1 - GENERAL

1.01 Description

- A. This specification is for the refurbishing of metal roofs. It is an elastomeric, water based, fluid applied system. When properly installed this system will make the metal roof surface water tight with a weather resistant attractive surface and can provide significant energy savings through the installation of a highly reflective surface coating. The products used in this system are of the highest quality and will remain permanently elastomeric. They will not become dry and brittle with age or UV degradation. This coating system meets the requirements of **California Title 24**.

This specified assembly meets the following criteria:

- 1) U.L. Class A
- 2) Factory Mutual Class 1
- 3) California Title 24
- 4) LEED (USGBC)
- 5) Energy Star®

1.02 Delivery Storage and Handling

- A. Deliver products, materials and accessories in manufacturer’s original containers with labels intact and legible. Comply with manufacturer’s current published technical bulletins and MSD sheets for storage, handling and use.
- B. Store materials in dry protected areas. Keep lids on containers securely closed when not in use.
- C. Store materials at a minimum of 45° F prior to use. Protect materials from freezing.

1.03 Environmental Requirements

- A. Temperature during application shall be a minimum of 55° F and rising. Do not apply these materials when temperatures are expected to fall below freezing before they can completely dry.
- B. Do not apply these materials when inclement weather (rain, snow, freeze) is expected within 48 hours. These materials must be allowed to completely dry and cure before being exposed to wet weather. Refer to technical bulletins for specific recommendations for each product.

1.04 Protection and Coordination

- A. Owner will occupy the premises during the entire period of the roof refurbishing. Applicator will cooperate with owner during refurbishing operations to minimize conflict and facilitate continued use of property.
- B. Applicator will coordinate scheduling of work with owner in order to protect occupants, contents and surrounding property during refurbishing operations.

PART 2 - PRODUCTS

2.01 Roofing Membrane System

- A. Approved system manufacturer: **Western Colloid**
- B. Approved system: Metal Roof Specification No. **WCP-MTL1-4.5E**
The latest publication of this specification shall be enforced. Refer to the latest publication of this specification via the manufacturer's web site or by contacting the manufacturer.
- C. Warranty: The contractor shall warrant for a minimum of 5 years, from the date of completion, that the roofing system is free of defective materials and workmanship. Repairs that become necessary because of defective materials and/or workmanship while this roofing is under warranty shall be performed by the contractor. The contractor is responsible for inspection of the installed system 1 to 6 months prior to 2 years from the date of completion. Contractor shall report any deficiencies to the manufacturer and make any repairs necessary. Any additional warranties shall be provided by the contractor to the owner.

2.02 Roofing Materials

- A. Preparatory Materials:
 - 1. Surface cleaner. Use industrial cleaner such as TSP (Tri Sodium Phosphate) or low foaming industrial detergent.
 - 2. Metal Primer. When specified use **Western Colloid #900 Metal Bonding Primer** for enhanced adhesion to metal substrates including Kynar prefinished panels. For use on approved surfaces only.
 - 3. Rust Primer. Use **Western Colloid #900R Rust Primer** when rust is present. (or approved corrosion primer for type of metal substrate being treated)
 - 4. Accessories. Screws, metal flashings, ect. as required.
- B. Seam Sealing and Flashing Materials:
 - 1. **Western Colloid - Elastic Cement #800**
 - a) A water based permanently elastomeric flashing, sealing and repairing compound. Designed to be used with Western Colloid Stitchbonded Polyester Fabric to form a permanent, high strength, flexible seal at deck and wall transitions as well as edge, curb, pipe, skylight, panel end, side lap and seams. May be used vertical as well as horizontal.
 - 2. **Western Colloid - Polyester Fabric Reinforcement**
 - a) A stitchbonded polyester reinforcing fabric. To be used with **Elastic Cement #800** to form flexible, high strength flashings and watertight seals. Available in various widths.
- C. Protective - Reflective Surface Coating:
 - 1. **Western Colloid - ElastaHyde (#720 ARC, #790 AFC)**
 - a) #720 ARC and #790 AFC meets and exceeds ASTM D6083//6083M-18 for 100% acrylic roof coating. A premium, elastomeric acrylic, white reflective coating. ElastaHyde is manufactured from premium resins, pigments and components producing an acrylic coating of the highest quality. ElastaHyde is a durable coating that will resist rigorous weather conditions while protecting roof surfaces and contributing to substantial energy savings. As an ENERGY STAR[®] Partner, Western Colloid has determined that ElastaHyde #720 ARC and #790 AFC meets the ENERGY STAR[®] guidelines for energy efficiency (white only). Manufactured by Western Colloid. Standard color is white. Other colors are available. Note: Energy savings are reduced when colors other than white are used.

PART 3 - EXECUTION

3.01 Substrate Preparation

- A. Inspect metal roofing for voids or gaps of ¼ inch or greater. Repair or close any gaps using self tapping screws to bring sides flush. Repair any voids using appropriate sheet metal and attach with self tapping screws.
- B. Inspect metal roof for loose or missing fasteners. Replace all missing fasteners. Tighten any loose fasteners. Remove and replace all stripped, severely corroded or damaged fasteners. All fasteners being replaced should be replaced with a larger diameter fastener to insure tight grip. Any missing, damaged or weathered washers shall be replaced with new butyl rubber or acceptable washers.

- C. Remove all loose, flaking or peeling coatings with stiff broom, wire brush or scraper. Remove any old repairing compounds that are loose, cracked or split or have excessively heavy build-up.
- D. Clean metal roof surface using broom or brush and acceptable detergent. A pressure washer may be used. Rinse with clean water and let dry.
- E. Treat all rusted or oxidized areas with Western Colloid 900R Rust Primer or acceptable primer. Apply at a rate of ½ gallon per 100 sq.ft. max. Remove any loose scale in heavily oxidized areas prior to application of the primer. Apply primer in a light uniform application with no pooling of material.
- F. Most aged and cleaned metal surfaces do not require priming. If existing surface is Kynar prefinished metal then prime entire surface using Western Colloid 900 Metal Bonding Primer at a rate of ¼ to ½ gallon per 100 sq.ft.. Apply primer in a light uniform application with no pooling of material. Remove any excessive amounts of primer. Allow primer to dry a minimum of 24 hours before surface coating can be applied.

3.02 Seams and Flashings

- A. Seal all exposed fasteners with **Elastic Cement**. Using small brush, finger or bulk caulking gun, completely cover each fastener head and completely bond to metal deck around head.
- B. Seal all metal roof seams using **Elastic Cement** and **Polyester Fabric** in a “three course” method, applying at a total rate of 10 square feet per gallon:
First brush a coat of **Elastic Cement** approximately 5 to 6 inches wide and 1/8 inch thick. Into the wet **Elastic Cement** embed a 4 inch wide Polyester Fabric. Smooth fabric into wet **Elastic Cement** using brush to insure full contact with **Elastic Cement** with no voids or wrinkles. Immediately follow with another coat of **Elastic Cement** approximately 1/16 in thick. Use 6 or 12 inch wide polyester where necessary to bridge wider or irregular seams. Where old sealing compound remains, always make the new seal with **Elastic Cement** at least 2 inches wider than the old. Apply **Elastic Cement** in a maximum thickness 3/16 inch in one application. Heavier applications shall be applied in multiple coats.
- C. Seal all roof jacks, pipes, flashings, metal edges, skylight panels and air conditioning ducts using same “three course” method as described in section B above. It may be necessary to cut custom widths or shapes or to use multiple widths of polyester fabric to fit some flashing details.
- D. Do not allow the fabric to bridge or tent over fastener heads leaving a void. Where polyester fabric rides over fastener heads it may be necessary to clip or cut the fabric so as to fit around the fastener head. Make a ½ inch straight or “X” cut in the fabric at the location of the fastener head with scissors or razor and smooth the fabric around the fastener head with brush or finger.
- E. Allow to dry then inspect for any voids, severe wrinkles or “fishmouths”. Repair any such irregularities with additional application of **Elastic Cement** using polyester fabric if necessary.

3.03 Surface Protective Coating

- A. Apply the **ElastaHyde** elastomeric reflective coating at a total rate of 4.5 gallons per 100 Sq.ft. to the entire roof surface including flashings, pipes, curbs and any additional areas sealed with **Elastic Cement**:
Using roller, brush or airless spray, apply the **ElastaHyde** in three uniform coats with each coat to be approximately 1/3 of the total application rate to achieve a total dry thickness of 36 mils (average) after cure. For best results spray apply the **ElastaHyde** in a “cross hatch” manner (each coat is applied at a right angle to the previous). Allow each coat to dry for 24 hours before the application of the next coat. Do not allow material to pool during application. Remove or brush out any areas of excess material before drying.
- B. For additional energy savings apply **ElastaHyde** to all exposed air conditioning ducts.
- C. If spray applying, protect all surrounding areas from overspray.
- D. After **ElastaHyde** has completely dried, inspect roof for any voids and touch up as necessary.

3.04 Job Completion and Clean Up

- A. Clean Up shall start immediately upon job completion. All roof and surrounding areas shall be cleaned of any roofing related debris and trash. All open containers shall be tightly resealed. All surplus materials shall be removed from jobsite or stored per owners request. Clean any spills or spots caused by roofing application off building, walls and surrounding areas.

END OF SPECIFICATION

***** MATERIAL REQUIREMENTS** (Approximate, when applied per specification No. WCP-MTL1-4.5E.)

***This is guide intended to aid in the estimation of material requirements for this specification. The applicator has ultimate responsibility for material quantities.

1) #800 ELASTIC CEMENT:

Square Feet per Gallon	=	10 sq. ft. (aprox.)
Lineal Feet per Gallon @ 5" width	=	25 lin. ft. (aprox.)
Lineal Feet per Gallon @ 6" width	=	20 lin. ft. (aprox.)

To estimate number of gallons required; multiply length of seam in feet times number of seams....then divide by 25 (or 20 for 6" seam). Remember to add for center seam and edge metal if necessary. Add 1 gallon for every 5 roof jacks or pipe flashings.

2) ELASTAHYDE:

Square Feet per Gallon	=	22 sq. ft. (aprox.)
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To estimate number of gallons required; figure total square feet of roof area (width times length) of each roof areathen divide by 22. Remember to add at least 15% to the total area for corrugated type metal roofs. Other metal profiles may require additional percentages.

3) POLYESTER FABRIC:

Estimate total number of lineal feet as described in section 1 above.