

# Concrete Roof Coating System

Section 07 55 56

## PART 1 – GENERAL

### 1.1 Description

- A. Work included: all labor, materials, equipment and accessories to furnish and install fluid applied Rapid Roof® III, Rapid Roof® HV & Benchmark® coatings over existing concrete roof deck found on grain and feed storage facilities.
- B. Related work specified elsewhere:
  - 1. Sheet metal work
  - 2. Prefabricated roof specialties
  - 3. Roof accessories

### 1.2 Quality Assurance

- A. Certification of materials: (Applicable for manufacturer's material warranty.) Upon completion of roofing system and inspection shall be made by the applicator to ascertain that the roofing system has been installed according to manufacturer's published specifications and details.
- B. Certification of materials: Conklin Company Inc. shall furnish, upon request written, notarized certification that the material furnished meets the physical properties set forth in this specification.
- C. Requirements of regulatory agencies: furnish and install all roofing materials required to meet regulatory specifications and approved building codes. If changes are required to drawings or specification in order to meet requirements of regulatory agencies specified, or to provide guarantee specified, cost of such changes shall be included. Any changes to drawings or specifications shall be approved by the architect before work commences.

### 1.3 Submittals

- A. Product data: shall include manufacturer's product specifications and installation instructions.
- B. Certified test: Submit copies of certified test reports that indicate compliance with the specified minimum physical properties and performance requirements.

### 1.4 Product Delivery, Storage and Handling

- A. Delivery of materials:
  - 1. Membrane materials shall be delivered to the job site in Conklin Company's original, unopened containers bearing manufacturer's original label.
  - 2. Related miscellaneous items shall be delivered to job site in new condition, and where applicable, properly labeled.
- B. Storage of materials:

1. Store materials in accordance with manufacturer's recommendations
2. Store acrylic latex materials at between 40°F and 100°F
- C. Handling and protection of materials:
  1. Meet requirements of manufacturer's recommendations for handling and protection of materials during installation.
  2. Handle materials so that they are not contaminated by foreign materials.
- D. Damaged materials: contaminated or damaged materials shall not be used in the installation and shall be removed from site immediately upon discovery.
- E. **SAFETY & FIRST AID**  
See product Safety Data Sheets or product container label to review safety information provided.

### **1.5 Job Conditions**

- A. Environmental requirements:
  1. General requirements:
    - A. Application of coatings shall not proceed unless environmental conditions are suitable as prescribed by the manufacturer of the material being supplied. Applicator shall be held responsible for contacting manufacturers of applied materials and verifying manufacturer's requirements for environmental conditions.
  2. Application temperature requirements:
    - A. Ambient: application shall not proceed when ambient temperature is less than 40°F and rising or greater than 100°F.
    - B. Surface: application shall not proceed when surface temperature is less than 40°F and rising or greater than 120°F.
    - C. Do not apply at temperatures below 40°F, when temperatures may drop below 40°F within 24 hours, or when the temperature is not at least 5°F above the dew point. Do not apply during inclement weather, when precipitation appears imminent, or when freezing may occur before the membrane is fully cured.
- B. Protection of unrelated work:
  1. Take all measures necessary to protect unrelated work and surfaces to avoid overspray from coatings.

## **Part 2 – Products**

### **2.1 Fluid Applied Elastomeric Latex Membrane**

- A. Acceptable manufacturer: Conklin Company Inc., Shakopee, Minn., "Rapid Roof III" "Rapid Roof HV" & "Benchmark"
- B. Description: a seamless membrane system consisting of Rapid Roof III, Rapid Roof HV or Benchmark fluid applied acrylic latex base coat and fluid applied acrylic latex top coat.
- C. Physical and performance requirements for elastomeric acrylic latex coating system: Rapid Roof III, Rapid Roof HV and Benchmark consisting of an acrylic latex base coat and top coat, shall meet ASTM D6083.

### **2.1 Miscellaneous Materials**

- A. Caulking: White, bronze or gray Kwik Kaulk® acrylic caulking compound or Conklin 360-S urethane sealant as approved by membrane manufacturer.
- B. Primer: Prime Time® as furnished by membrane manufacturer.

- C. Joint tape: fabric reinforcement tape as furnished by membrane manufacturer.
- D. Roofing granules: No 11 screen size, ceramic coated, color as selected by architect/owner. (optional)

## **Part 3 – Execution**

### **3.1 Inspection**

- A. General requirements: inspect roof surface to receive work specified to ensure that the following conditions exist.  
**LIGHT WEIGHT CONCRETE IS NOT AN ACCEPTABLE SUBSTRATE FOR CONKLIN ROOFING SYSTEMS**
  - 1. Roof surface shall be clean, dry, and structurally sound, stable and well secured.
  - 2. Roof surface shall be free of ponding water. A roof surface which has 36 or more square feet of water in any area, one-fourth inch deep or more, 48 hours after a rain, shall be considered unacceptable. Small “bird baths” cannot account for more than 5 percent of the entire roof surface.
  - 3. Roof surfaces which are chalky, friable, waxy or oily are not acceptable to receive membrane.
- B. Determine moisture content of substrate, insulation and deck. A moisture content of 10 percent by weight or greater, above the normal moisture content of existing materials, indicates a potential problem and work shall not proceed until cause of high moisture content is verified and condition is corrected.
- C. All moisture testing MUST be in compliance with ASTM F2170 relative humidity testing.
- D. Inspect condition of flashing details adjacent to protrusions, curbs, walls, drains and roof edge to ensure that details are acceptable and will maintain a weather tight installation.
- E. Inspection of concrete deck
  - 1. Surface must be high density, troweled smooth and fully cured.
  - 2. In most cases concrete is considered cured after 28 days, but consulting the concrete contractor or designer is recommended for an actual curing period.
  - 3. If the concrete is a low temperature formula, it is recommended to extend the waiting time for coatings.
  - 4. Concrete can cure in 28 days (no longer green), but according to the NRCA and many experts in the field, moisture can migrate anywhere from 90 days to 360 days after installation. Rewetting requires additional ASTM F2170 relative humidity testing.

### **3.2 Preparation**

- A. All cracks exceeding one-sixteenth inch wide shall be either grouted or struck smooth or caulked.
- B. Concrete surfaces shall be cleaned of all oil, grease and dirt. Just prior to application, remove all dust, dirt and other contaminants by brushing, vacuuming or power blowing.
- C. Repair spalled concrete.
- D. Acid etch efflorescing concrete.
- E. Install four inch cant strips at vertical surfaces if none exist.
- F. Replace existing deteriorated cant strips.
- G. Joints and cracks shall be filled with Kwik Kaulk and covered with joint tape.

After caulk has dried, apply Rapid Roof III, Rapid Roof HV or Benchmark base coat at a rate of 1.5 gallons per square to an area at least four inches on either side of caulking. Embed a four-inch- wide strip of polyester tape into Rapid Roof III, Rapid Roof HV or Benchmark base coat material. Center tape over joint or crack. Apply a second coating of acrylic latex base coat at a rate of .5 gallon per square.

H. Prime concrete with Prime Time® at a rate of one gallon per square (optional).

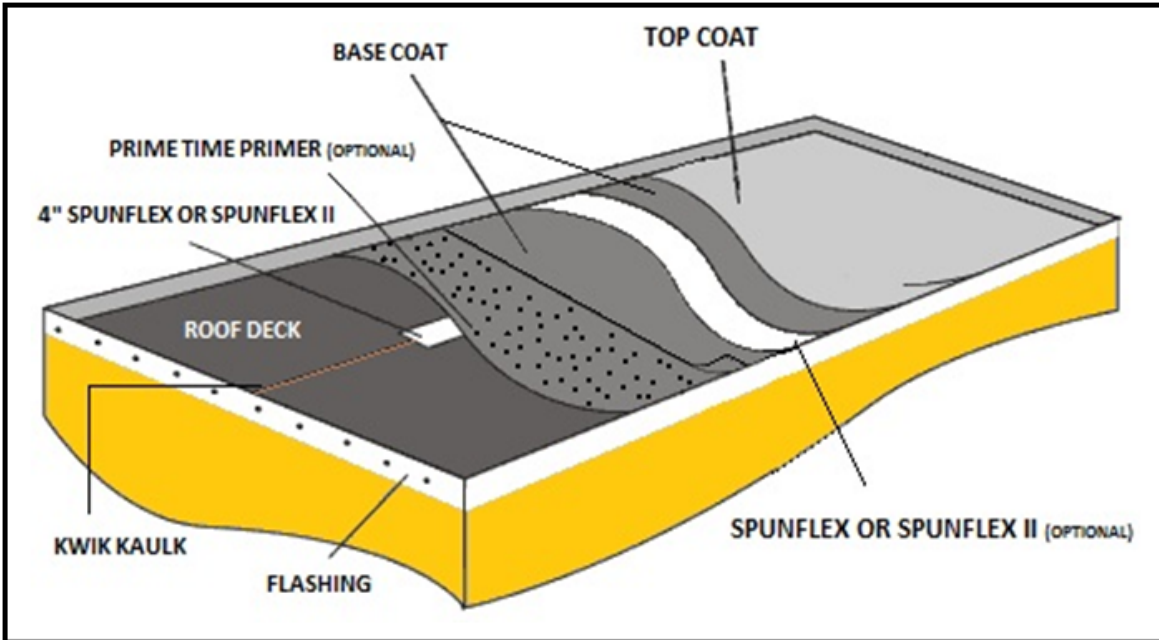
### 3.3 Application


- A. Application method: both membrane base coat and top coat shall be applied by airless spray or 3/4 inch to 1 1/4 inch nap roller.
- B. The use of Prime Time primer is optional.
- C. Application procedure.
  - 1. Develop a systematic method for application of coating to surface.
  - 2. Apply Rapid Roof III, Rapid Roof HV or Benchmark base coat a rate of 1.9 gallons per square, back roll base coat after application by airless sprayer.
  - 3. After the base coat applications have dried completely, apply a coat of Rapid Roof III, Rapid Roof HV or Benchmark top coat at a rate of 1.9\* gallons per square.
  - 4. Total rate: the total application rate with base coat, plus top coat shall equal a minimum of 27 dry mils at 3.8 gallons per square using Rapid Roof III, Rapid Roof HV or Benchmark base and top coats.

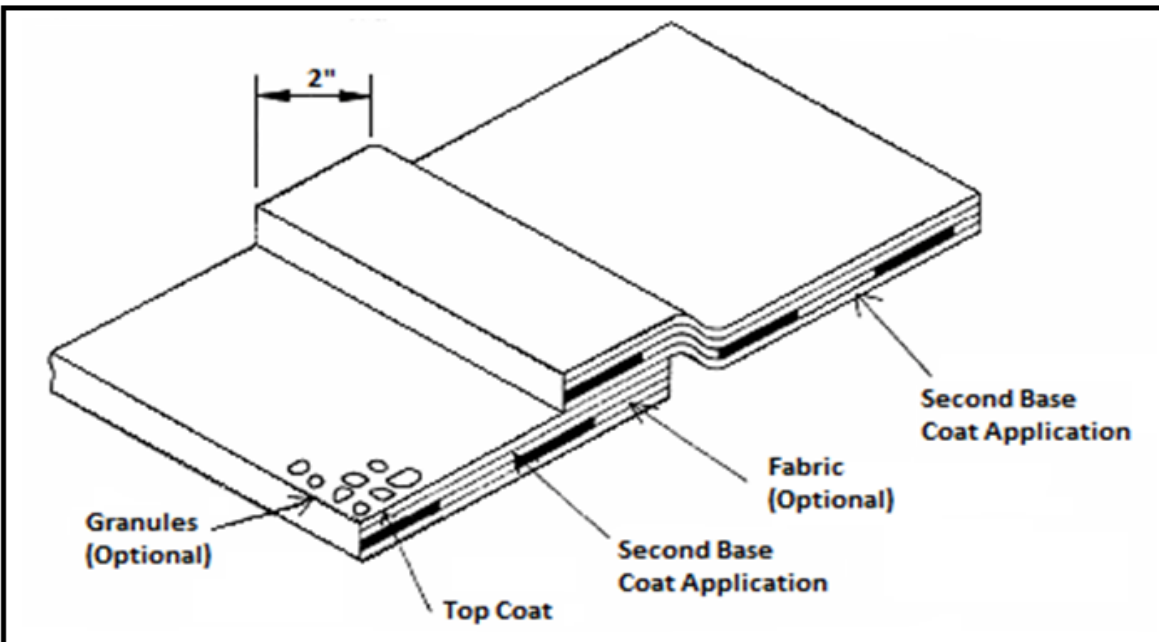
\*To achieve minimum requirements, the application rates listed include 15 percent for application loss and 10 percent to compensate for surface texture.




END OF SECTION  
0003232017



	<b>Concrete Coating Detail</b>		ISSUE / REVISION Date:	Detail Number.  <b>CNC - 2</b>
	Concrete Coating System	Acceptable Products Rapid Roof HV Rapid Roof III, Benchmark	3/14/2017	
			NOT TO SCALE	



	<b>Concrete Coating Detail</b>		ISSUE / REVISION Date:	Detail Number.  <b>CNC - 4-1</b>
	Concrete Coating System	Acceptable Products Rapid Roof HV Rapid Roof III, Benchmark	3/23/2017	
			NOT TO SCALE	