

SIKA SPECIFICATION NOTE: This guide specification is provided in CSI Format for use by design professionals for individual construction projects. Modify the text based on your project requirements, and delete products not required. Questions? Call 800-933-SIKA.

- A. SIKA SPECIFICATION NOTE: This guide specification includes test methods, materials and installation procedures for Sikalastic-515 AC RoofCoat Cold Fluid-Applied Acrylic Roof Coating System. Sikalastic-515 AC is a fully bonded, elastomeric waterproofing coating designed for use over most common construction surfaces including structural concrete, metal, modified bitumen and single ply roofing membranes. Sikalastic-515 AC is installed partially reinforced.

SECTION 07 56 00

FLUID-APPLIED ROOF COATING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide a cold-fluid-applied Acrylic roofing system on structural concrete, metal, modified bitumen and single ply membranes.
1. Work includes substrate preparation.
 2. Work includes bridging and sealing air leakage and water intrusion pathways and gaps including connections of the walls to the roof air barrier, and penetrations of the building envelope including piping, conduit, ducts and similar items.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
1. Section 03 30 00 – CAST-IN-PLACE CONCRETE.
 2. Section 06 16 00 – SHEATHING.
 3. Section 07 60 00 – FLASHING AND SHEET METAL.
 4. Section 07 92 13 – ELASTOMERIC JOINT SEALANTS
 5. Section 21 14 25 – ROOF DRAINS.

1.3 PERFORMANCE REQUIREMENTS

- A. The cold fluid applied Acrylic roof coating system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the exterior incidental water. The coating system is expected to remain exposed and shall accommodate movements of building materials as required with accessory sealant materials at such locations such as, changes in substrate, perimeter conditions and penetrations.
- B. Installed roof coating system shall not permit the passage of water.
- C. Manufacturer shall provide all primary roofing/waterproofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

1.4 SUBMITTALS

- A. Submittals: Comply with project requirements for submittals as specified in Division 01.
- B. Product Data: For each product.
- C. Shop Drawings: Manufacturer's standard details and shop drawings for the specified system.
- D. Installer's Authorization: Installer shall provide written documentation from the manufacturer of their authorization to install the system, and eligibility to obtain the warranty specified in this section.
- E. Manufacturer' Certification: Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.
- F. VOC Certification: Manufacturer's certification that all roofing/waterproofing system products meet current Volatile Organic Compound (VOC) regulations as established by the State in which they are being installed; and stating total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, etc.).

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
 - 1. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor when necessary in the application of the products and site review of the assembly.
- B. Installer's Qualifications: The Contractor shall demonstrate qualifications to perform the Work of this Section.
- C. Source Limitations: All components listed in this section shall be provided by a single manufacturer or approved by the primary roofing/waterproofing manufacturer.
- D. Materials Compatibility: All materials included in the roofing assembly, as well as associated materials adhered to/applied beneath the roofing/waterproofing membrane shall have been tested and verified to be compatible. Include written testing documentation and test reports if requested by Architect.
- E. Applicable Regulations: Comply with local code and requirements of authorities having jurisdiction. Do not exceed VOC regulations as established by the State in which they are being installed; including total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, and similar items).
- F. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.6 PRE-INSTALLATION CONFERENCE

- A. Prior to scheduled commencement of the roofing installation and associated work, conduct a meeting at the project site with the installer, architect/consultant, owner, manufacturer's representative and any other persons directly involved with the performance of the Work. The

Installer shall record conference discussions and to include decisions and agreements reached (or disagreements) and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver all roofing/waterproofing materials to the site in original containers, with factory seals intact.
- B. Store all pail goods in their original undamaged containers in a clean, dry location within their specified temperature range.
- C. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.
- D. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each work day. Do not remove any protective tarpaulins until immediately before the material will be installed.
- E. Materials shall be stored above 55°F (12.6°C) a minimum of 24 hours prior to application

1.8 PROJECT CONDITIONS

- A. Weather: Proceed with roofing/waterproofing only when existing and forecasted weather conditions permit. Membrane application shall not be proceeded when precipitation is imminent. Ambient temperatures shall be above 41°F (5°C) when applying the roofing/waterproofing system.
- B. All surfaces to receive the roofing/waterproofing membrane shall be free from visible water, dew, frost, snow and ice. Application of roofing/waterproofing membrane shall be conducted in well ventilated areas.
- C. Roofing Coating:
 - 1. Roofing coating is not intended to be exposed or in contact with a constant temperature below -15°F (-26°C) or above 176°F (80°C).
 - 2. Specified roofing/waterproofing membrane is non-flammable and VOC compliant. Consult container, packaging labels and Safety Data Sheets (SDS) for specific safety information.
 - 3. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the waterproof membrane assembly performance prior to warranty issuance.
- D. Contractor shall ensure adequate protection during installation of the roof coating system.

1.9 WARRANTY

- A. Warranty: Provide manufacturer's standard warranty (Material, or Material & Labor). Materials warranty shall be for a minimum of one year starting at the date of Substantial Completion. System warranty shall be for the following duration in accordance with specified system.
 - 1. Warranty Length: 10 years
 - 2. Warranty Length: 15 years
 - 3. Warranty Length: 20 years (Metal Roof Only)

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Basis-of-Design Manufacturer: Sika Corporation, 201 Polito Avenue, Lyndhurst NJ 07071. Toll Free 800-933-SIKA (7452), www.sikausa.com. No substitutions without prior written approval by the Architect.

2.2 ROOF COATING SYSTEM

- A. Fluid-Applied Coating System, 10 Year Warranty:

- | | |
|---------------|---|
| 1. Base Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |
| 2. Top Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |

- B. Fluid-Applied Coating System, 15 Year Warranty:

- | | |
|-----------------------|---|
| 1. Base Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |
| 2. Intermediate Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |
| 3. Top Coat: | Sikalastic-515 AC: 16 mils wet (1.0 gal/100 SF) |

- C. Fluid-Applied Coating System, 20 Year Warranty (Metal Roof Only):

- | | |
|-----------------------|---|
| 1. Base Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |
| 2. Intermediate Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |
| 3. Top Coat: | Sikalastic-515 AC: 24 mils wet (1.5 gal/100 SF) |

2.3 COATINGS

- A. Roof Coating shall be Sikalastic-515 AC by Sika Corp, a single component, cold, fluid applied, Acrylic roof coating in accordance with ASTM D6083.

- B. Liquid Property Requirements at 75 °F (24 °C) and 50 % R.H.

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|---------------------|-------------|------|
| 1. Solids by Volume | ASTM D2697: | >52% |
| 2. Solids by Weight | ASTM D1644: | >69% |

- C. Film Physical Property Requirements:

- | | | |
|---|-------------|--|
| 1. Tensile Strength | ASTM D2370: | 250 ± 50 psi |
| 2. Elongation at break | ASTM D412: | 180 ± 50% (initial)
100 ± 20% (after accel. weathering) |
| 3. Tear Strength | ASTM D624 | 90 pli |
| 4. Low Temperature Bend | ASTM D522 | Pass 1/2" @ -15°F |
| 5. Permeability to Water Vapor | ASTM D1653 | 25 perms |
| 6. Water Absorption | ASTM D471 | 9% water swelling |
| 7. Behavior after Artificial Weathering | ASTM D4798 | No cracking/checking after 1000 hr |
| 8. Microbiological Resistance | ASTM G21 | 0, no growth |

2.4 LOCALIZED REINFORCEMENT

- A. Localized reinforcement of the roofing/waterproofing membrane system shall be:

1. **Sika Flexitape Heavy** - by Sika Corp, a nylon mesh specifically designed for local reinforcement of the roofing/waterproofing membrane at structural cracks, expansion joints and transitions between dissimilar materials.
2. **Sika Joint Tape SA** - Self-adhering polymeric rubberized tape with plastic release liner on underside and woven polyester facer on top side. Enhances the strength and durability of Sikalastic® roofing and waterproofing membranes at joints and angle changes.

2.5 FILLET BEAD AND PENETRATION SEALANT

- A. Sealant for fillet bead applications and membrane penetrations shall be Sikaflex-11 FC by Sika Corp., a one-part polyurethane sealant suitable for fillet bead transition compound to be applied prior to the installation of the membrane system at changes in substrate direction, sealing reglet terminations, cracks in the substrate and penetrations of the roof /waterproofing system.

2.6 PRIMERS

- A. Modified bitumen sheets with an added asphalt bleed blocker: Sikalastic-501 Primer
- B. Acrylic elastomeric coatings: Sikalastic-501 Primer
- C. Polyurethane elastomeric coatings Sikalastic-501 Primer OR Sikalastic-502 Primer
- D. Metal (manually cleaned), water-based epoxy with an added rust inhibitor*: Sikalastic-501 Primer OR Solvent-based epoxy Sikalastic-502 Primer
- E. Concrete, masonry & wood wall transitions: Sikalastic-502 Primer
- F. PVC, TPO, FP, Hypalon**: Sikalastic-503 Primer
- G. EPDM***: Sikalastic-504 Primer

*Abrade metal surfaces where appropriate

**Some surfaces may be manufactured with a lacquer finish, contact Sika if pull/adhesion test yields less than required pli.

***Use Sikalastic-504 Rinseable Primer to clean the substrate (wash this primer off and allow the substrate to dry). Then complete a pull/adhesion test.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify Architect in writing of any discrepancies. Commencement of the Work in an area shall mean Installer's acceptance of the substrate.
- B. Surfaces shall be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants. Existing membranes to be coated shall be in good condition without significant damage. Fill voids, gaps and spalled areas in substrate to provide an even plane. Strike masonry joints full flush.

3.2 SURFACE PREPARATION

- A. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains, valleys, eaves, scuppers or gutters. Verify that all roof openings or penetrations through the roof are secured back to solid blocking. Ensure all preparatory work is complete prior to applying membrane.
- B. All surfaces shall be blown clean using an air compressor to remove any remaining loose debris.
- C. All cracks and voids greater than 0.040 inches shall be routed and caulked with a Polyurethane sealant. Allow to cure per roof /waterproofing membrane manufacturer's technical data sheets prior to over-coating with the specified roof /waterproofing membrane system.
- D. At all inside corners, gaps or voids at the juncture of the deck and penetrations apply a minimum 3/4 inch fillet bead of Polyurethane sealant and allow to cure per roof /waterproofing membrane manufacturer's technical data sheets prior to installing the roof /waterproofing membrane system.
- E. At all moving cracks, moving joints between dissimilar materials, and similar conditions, create a minimum 1 inch wide bond break utilizing bond breaker tape, centered over the crack or joint.
- F. Membrane terminations shall be established prior to project start-up and documented in shop drawings. Terminations shall occur in raked-out mortar joints, saw cut terminations or under installed counter-flashing materials.
- G. Use tape lines to achieve a straight edge detail.

3.3 SUBSTRATE PREPARATION

- A. Acceptable substrates include concrete, concrete block, most Bituminous, EPDM, PVC and TPO single ply membranes and metal.
- B. Bituminous Substrates
 - 1. Asphalt, bituminous coatings, granulated or smooth SBS cap sheets
 - 2. Surface evaluation and field adhesion is recommended. The presence of volatiles may cause discoloration of Sikalastic-515 AC if not properly primed.
- C. Metal Decking:
 - 1. Metal profile decks shall be sound and secured to purlins, bar joists, etc. If required, a 1/2" thick thermal barrier shall be installed and secured over all metal profile decks in accordance with wind uplift requirements.
 - 2. Tighten and/or replace all existing fasteners. Install crickets and complete all needed sheet metal repairs
- D. Metal Surfaces:
 - 1. Aluminum, galvanized, cast iron, copper, lead, brass, stainless steel, zinc.
 - 2. Surface evaluation and field adhesion is recommended.
 - 3. Exposed drain bowls, pipes, and other metal surfaces shall be cleaned by power tool cleaning (SSPC SP-3) to remove corrosion deposits back to a clean, bright metal followed by a solvent wipe prior to application of the specified primer.
- E. Existing Membrane/Roofing

1. Ensure that the existing membrane is sufficiently adhered to the substrate and that there is no trapped moisture via an infrared scan.
2. For EPDM, primer is typically preceded by a thorough rinse/wash and is typically applied by scrubbing into a substrate with a 3M Pad.
3. New PVC membranes may require a solvent wipe before priming, check with sheet manufacturer.

F. Pressure wash the roof to remove all dust, dirt and debris from the surface.

3.4 PRIMING

1. Prior to coating any surface, be sure the coating will adhere by performing an adhesion test (ASTM D-903). Coating may be applied by brush, roller, or airless spray equipment. Do not apply when temperatures are below 41 °F (5 °C) or when precipitation is in the forecast within 24 hours.
2. Mix and apply specified primer for specified surfaces by brush or roller at the application rate shown on the technical data sheet. Porous, rough or absorbent surfaces will decrease coverage rates.
3. Allow to cure and dry in accordance with manufacturer's technical data sheets.

3.5 MEMBRANE REINFORCEMENT

A. Reinforcement of Cracks, Metal Joints and Base/Curb Flashing Transitions:

1. For all locations where the specified coating system is to be applied directly to the substrate surface, provide reinforcement of cracks, joints, seams, and transitions of dissimilar material prior to applying the specified coating system
2. For all horizontal-to-vertical transitions, provide a ¾" x ¾" Sikaflex® polyurethane sealant cant.
3. Apply a minimum of a 3 inch wide strip of Sika Joint Tape SA OR Sikalastic-515 FG reinforced with Sika Flexitape Heavy. Back roll reinforcement to fully embed Sika Flexitape Heavy into the wet liquid Acrylic membrane. Add more liquid membrane as needed to fully embed the reinforcement.
4. Always start with details Sika Joint Tape SA OR Sikalastic-515 FG reinforced with Sika Flexitape Heavy. Round projections, machine legs, signposts, guide wire straps, inside and outside, corners, gutters, parapet walls, penetrations and similar areas should be flashed. Repair any damaged metal and caulk and seal watertight all screws, seams, transitions, terminations, penetrations, skylights, joints, pipes, voids, protrusions and any area where water could enter through the roof.
5. On metal roofs with standing seams, apply Sikalastic-515 FG with Sika Flexitape heavy sealing them completely.
6. Ensure reinforcement is not in tension during embedment.

3.6 COLD FLUID APPLIED FIELD COATING APPLICATION

1. Apply Sikalastic-515 AC according to the rates listed in Section 2.2 for the agreed upon system length. Coating may be applied by brush, roller, or airless spray equipment. Do not apply when temperatures are below 41 °F (5 °C) or when precipitation is in the forecast within 24 hours.
2. Allow detail coats to cure before applying base coat.
3. Allow base coat to cure before applying top coat.
4. If any coat is left exposed for an extended period of time, make sure all surfaces are clean before adding additional coats
5. Protection: After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75° F and 50% R.H., or until completely cured. In areas where

the roof is subject to foot traffic, it is recommended to apply walkway pads for added protection and slip resistance. Make certain that all walking pads are appropriately and adequately secured.

3.7 PARAPET AND WALL FLASHINGS

- A. Clean, prepare and prime flashing substrate surfaces ready to receive membrane flashing applications.
- B. All parapet, wall, and curb flashings shall be provided with a sealant cant bead of Sikaflex-11 FC and all cold joints reinforced with either Sika Joint Tape SA OR Sikalastic-515 FG reinforced with Sika Flexitape Heavy (allowed to cure) prior to base coat application.
- C. Terminate roofing/waterproofing membrane system at raked-out mortar joints, termination saw cut joint, or under installed counter-flashing materials. Then, seal all termination joints with Sikaflex-11 FC and a top coat of Sikalastic-515 AC OR Sikasil WS-295 Silicone Sealant.
- D. Install metal counter flashings in accordance with details.

3.8 DRIP EDGES AND OTHER METAL FLANGED FLASHING

- A. Clean, prepare and prime metal flange surfaces ready to receive membrane flashing applications.
- B. Metal flanges are typically encapsulated between two or three coating layers. The full specified system (see Section 2.2) is applied beneath the metal flange and a top coat applied over the metal flange embedded in Sika Flexitape Heavy.

3.9 ROOF DRAINS

- A. Clean, prepare and prime surfaces ready to receive membrane applications. Block drain bowl opening to avoid roofing/waterproofing material from entering the drainage system.
- B. Remove strainer baskets and clamping rings from the drain bowl assembly. Temporarily replace the bolts back into assembly to avoid miss-alignment of connections after membrane applications are completed.
- C. Extend the liquid coating material and membrane reinforcement directly into the throat of the prepared drain.
- D. Remove drain blocks and allow the roofing/waterproofing system to fully cure dry prior to re-connecting the drain bowl assembly.

3.10 ROOF PENETRATIONS

- A. Clean, prepare and prime surfaces ready to receive membrane flashing applications. Ensure that penetrations are secured to prevent movement.
- B. Apply Sika® Joint Tape SA or Sikalastic-515 FG reinforced with Sika Flexitape Heavy around all roof penetrations.

3.11 APPLICATION OF PENETRATION SEALANT

- A. Seal reglet-based membrane terminations, heads of exposed mechanical fasteners, around penetrations, duct work, electrical and other apparatus extending through the

roofing/waterproofing membrane with specified penetration sealant, typically Sikaflex-11 FC if not exposed to UV light; Sikaflex-1a or Sikasil WS-295 if the sealant will be left exposed.

3.12 ROOF PROTECTION

- A. Protect roofing/waterproofing Work from other trades until completion.
- B. Stage materials in such a manner that avoids foot traffic over completed roof areas.
- C. Provide temporary walkways and platforms to protect completed Work from traffic and point loading during the application process.
- D. Provide temporary membrane tie-ins and water-stops at the end of each workday and remove prior to commencement of Work the following day.

3.13 CLEAN-UP

- A. Work areas are to be kept clean, clear and free of debris at all times.
- B. Do not allow trash, waste, and/or debris to collect on the roof deck area. Trash, waste, and/or debris shall be removed from the roof daily.
- C. All tools and unused materials shall be collected at the end of each workday and stored properly off of the finished roof surface and protected from exposure to the elements.
- D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.
- E. Properly clean the finished roof surface after completion, and make sure the drains and gutters are not clogged.
- F. Clean and restore all damaged surfaces to their original condition

END OF SECTION

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