



DESIGN GUIDELINE

FLUID-APPLIED WATERPROOFING

(TO RESTORE SINGLE PLY MEMBRANES/TPO/PVC, HYPALON)

PART 1 — GENERAL

1.01 DESCRIPTION

- A. The scope of this design guideline is to describe the installation of the ALDOCOAT Polyurethane and Silicone reflective roof coating system to waterproof and restore existing single ply membranes (TPO, PVC, Hypalon). These design guidelines provide product descriptions, application methods and site conditions required for installation. Actual site and environmental conditions may vary at time of installation.

- B. Related work

The scope of work includes but is not limited to the pressure washing and cleaning of the substrate, attention to all seams, flashings and penetrations, and elastomeric coating application over the entire field of the roof system.

1.02 SUBMITTALS

- A. Provide all product technical data and safety data sheets with all product descriptions and limitations.
- B. Provide project specific procedures by addendum.
- C. Provide product samples of coating system over substrate to be restored (optional).

1.03 QUALITY ASSURANCE

- A. Roof coating material shall be obtained from Aldo Coatings and contractor shall meet the criteria to be an ALDOCOAT Approved Applicator and provide all local licenses and permits for the project to begin.
- B. Any deviation from this design guideline must have prior written approval from Aldo Coatings
- C. Applicator shall comply foremost with these specifications. Secondly, upon all matters where these specifications are silent, applicator shall proceed only with Aldo's recommendations and instructions.
- D. No lesser quality, weight or degree of application to any extent than at least the minimum of such required by this specification's section is acceptable.
- E. Provide a copy of the approved Aldo Coatings, Notice of Award/Warranty Application, submitted by the Approved Applicator.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING



- A. Deliver all products, clearly labeled, to project site in manufacturer's undamaged and unopened containers. Strictly comply with manufacturer's published instructions for handling and storage.
- B. Store all materials at temperatures between 50° and 90° F (12° and 32° C). Keep all containers dry and in protected areas. Keep materials covered and out of direct sunlight at all times.
- C. Keep all containers away from open flame or sparks. Store in such a manner as to avoid puncturing of all pails and drums.

1.05 PROJECT SITE CONDITIONS

- A. Contractor shall be responsible for examining site conditions prior to application of all materials. Contractor shall immediately report any unsatisfactory conditions to Aldo Coatings and not begin any work until conditions have been addressed.
- B. No coating products or accessories are to be applied over wet substrate or insulation. All wet roofing materials are to be removed and replaced.
- C. All rooftop HVAC units, vents or blowers are to be set so that no fumes enter the building. HVAC condensate water is not to be dispensed on roof surface; condensate pipes are to run into rooftop drains or directly into roof perimeter gutters.
- D. When ambient air temperatures exceed 95°, do not continue with application. Coatings should be applied during cooler time frames, such as morning hours. Darker coating colors may blister under extreme substrate heat conditions.
- E. Commencement of work implies all site conditions have been met.

PART 2 — PRODUCTS

2.01 MANUFACTURER

- A. Aldo Coatings
1320 Litton Drive
Salisbury, NC 28147
(800) 474-6019
www.aldocoatings.com

2.02 COATING MATERIALS

- A. ALDOCOAT 384 Polyurethane Aluminum
Viscosity: 3000 ± 1000
Elongation: 350% ± 50
Volume solids: 68%
Tensile Strength: 1000 psi ± 50

- B. ALDOCOAT 395 Silicone (white finish coat)
Viscosity: 6000 psi ± 1000

Elongation: 318%
Volume solids: 67%
Tensile strength: 500 psi

2.03 ACCESSORY ITEMS

A. ALDOSEAL 385 Polyurethane Sealant

Viscosity: 30,000 cps \pm 10,000
Volume solids: 80%
Tensile strength: 1000 psi
Hardness: 69 Shore A

B. ALDOFABRIC 272 Roofing Fabric.

Weight: 3 oz. per square yard
Tensile strength: 45 psi
Fluid Absorption: excellent

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Surface preparation is the sole responsibility of the contractor and shall include all the requirements of Aldo Coatings, to maximize product adhesion to roof substrate.

3.02 SURFACE/SUBSTRATE PREPERATION

- A. The following steps should be strictly adhered to for insuring maximum life of the system:
1. Inspection of the entire surface: Inspect the entire area to be coated for structural integrity, delamination, punctures, tears or open seams. Tears or openings less than 2" or less are to be repaired with ALDOCOAT 384 and ALDOFABRIC 272.
 2. Moisture Survey: A comprehensive moisture survey is to be conducted to locate and identify areas of trapped moisture and saturated insulation beneath the surface.
 3. Pressure washing: Pressure wash substrate to remove all dirt, dust, debris, algae growth, and remains of previous paint and/or coatings that may impede the coating process. Pressure washer to have a minimum working pressure of 2,500 psi. Extra cleaning may be necessary using Tri-sodium phosphate. Allow cleaner to stand for 10-15 minutes before washing. Care should be taken not to damage existing roof or exasperate leak situations during pressure washing activities.
 4. Adhesion test areas: If there is any question as to the adhesion of coating product over suspect areas, such as those that may contain oil residue or those that have been previously coated with a silicone product, an adhesion test kit is required to insure proper adhesion. Contact Aldo Coatings, for test kit and instructions.

3.03 MEMBRANE AREAS/PREPARATION FOR COATING

- A. Seams: All must be sealed to prevent water penetration.
1. All seams to be thoroughly inspected for openings.
 2. For openings less than ½", apply ALDOSEAL 385 Polyurethane Sealant at a rate of 24 wet mils using a brush. Sealant to be brushed to fill In gap completely.
 3. For openings greater than ½", apply a foundation coat of ALDOCOAT 384 Polyurethane Coating over the area and 8" on either side of the seam at a rate of 20 wet mils. Immediately lay ALDOFABRIC 272 6" Roofing Fabric into wet coating extending the mesh a minimum of 6" beyond the blister cut area. Fabric should be embedded without wrinkles or buckles of any size.
 4. Immediately apply a saturation coat additional ALDOCOAT 384 Polyurethane coating at a rate of 20 wet mils (1.25 gallons per 100 square feet) over roofing fabric reinforcement to saturate. Feather edges to create smooth transition to area outside of repair.
 5. Allow such repair areas to cure properly (24 hours) before proceeding with base coat.
- B. Parapet Walls
1. All joints are to be sealed with ALDOSEAL 385 Polyurethane Sealant at a rate of 50 wet mils.
 2. Areas of openings may require ALDOCOAT 384 and ALDOFABRIC 272 6" to seal. Refer to seam repair section above for application. Application rates may be adjusted on verticals to 16 wet mils or less of ALDOCOAT 384 to avoid running or sagging.
 3. Coat the entire wall area with a base coat of ALDOCOAT 384 Polyurethane and a finish coat of ALDOCOAT 395 Silicone to achieve a DFT of 20 mils. Coating is to be applied in two or three coats per product to avoid running or sagging on a vertical surface.
- C. Penetrations and Curb Flashings
1. All areas of water penetration around base of mechanicals are to be sealed with ALDOSEAL 385 Polyurethane Sealant. Material is to be applied at a rate of 50 wet mils in a manner that does not impede any water flow around units.
 2. All roof round projections, sign posts, machine legs and wire guideposts are to be flashed with ALDOSEAL 385 Polyurethane Sealant, extending sealant the 6" above the roof surface.
 3. All vent pipes must be totally sealed at the point of roof penetration with ALDOSEAL 385 Polyurethane Sealant. Apply at a rate of 50 wet mils.
 4. Curb flashings and cricket details shall be flashed with ALDOSEAL 385 Polyurethane Sealant. Material is to be applied on all curbs and crickets at the rate of 50 wet mils and in such a manner as to not impede any water flow.
 5. Any areas of roof penetrations and curb flashings with openings in membrane of greater than ½" to be sealed with the same method as described the seam repair section above.

6.

C. Fasteners

1. Examine system for fasteners and plates that may have backed out. Remove and replace fastener in accordance with membrane manufacturer's recommendations and industry best practices. Seal old fastener hole with ALDOSEAL 385 Polyurethane Sealant and coat area with ALDOCOAT 384 Polyurethane Coating. New fastener to be inserted at least 4" from the original fastener location.

D. Ponding Water

As per NRCA guidelines, efforts should be made to eliminate all areas of all ponding water on the roof system. Larger areas of ponding should be inspected for insulation damage or saturation. These areas are to be replaced prior to coating.

3.04 SYSTEM APPLICATION

A. Coating Application

1. Base Coat: Apply ALDOCOAT 384 Polyurethane (silver/gray) at a rate of 1.50 gallons per 100 square feet (24 wet mils) for the 20 year warranty requirements. Allow a minimum of 24 hours drying time. Inspect surface for holidays, flaws or defects and correct all such conditions prior to proceeding to topcoat application.
2. Intermediate Coat: Apply ALDOCOAT 384 Polyurethane (silver/gray) at a rate of 1.25 gallons per 100 square feet (20 wet mils) for the 20 year warranty requirements. Allow a minimum of 24 hours drying time. Inspect for holidays, flaws, or defects and correct all such conditions prior to proceeding to topcoat application.
3. Finish Coat: Apply ALDOCOAT 395 Silicone (white) at a rate of 1.75 gallons per 100 square feet (28 wet mils) for the 20 year warranty requirements. Allow a minimum of 24 hours for drying time and inspect for holidays, flaws or defects and correct such conditions before notification of job completion.
4. It is the responsibility for the contractor to estimate his total usage for the project accounting for specific project factors (substrate texture, rooftop units, etc.) relying on his experience applying reflective roof coatings.

B. Final Inspection

1. Allow a minimum of 48 hours for inspection by an authorized representative of coating manufacturer. All warranty documentation, including a minimum of 6 digital photos of before, during and after application are to be submitted prior to final inspection.

3.05 FIELD QUALITY ASSURANCE

- A. Complete all coating manufacturer daily coating log reports to record proper application rates and as required in the warranty application package.

- B. The use of wet mil gauges to verify coating thickness is required during application.
- C. If spray applied, special care should be taken by the contractor to protect adjoining areas from overspray. Wind screens may be employed to limit the wind drifting of the coating.

3.06 PROTECTION and LIMITATIONS

A. Building

- 1. All building surfaces are to be covered and protected against overspray or any other damage.

B. Surrounding Area

- 1. All adjacent parking areas to project site are to be roped off a minimum of 75 feet from spray area. All vehicles are to be moved and parked beyond this area.
- 2. Special care is to be taken not to spray during windy conditions. The applicator is solely responsible to monitor such weather conditions to insure no damage from overspray.

C. Foot Traffic/Walkways

- 1. All high traffic areas and around mechanical units should have walkways installed. After finish has coat has properly cured, apply an additional coat of ALDOCOAT 395 at a rate of 20 wet mils (1.25 gallons per 100 square feet). While coating is still wet, broadcast 3M roofing granules (or coating manufacturer approved aggregate) at a rate of 35 lbs. per 100 square feet.

D. Limitations

- 1. Products are not to be applied during inclement weather or when rainfall is imminent.
- 2. No thinning of material is permitted.
- 3. Regular cleaning of roof surface consistent with industry best practices will assist to maintain finish coat solar reflectivity index.

3.07 SITE CLEAN UP

A. Responsibility

- 1. Complete site cleanup is the sole responsibility of the contractor.

B. Removal

- 1. All pails, containers, equipment, protective coverings and all other items brought on site by the contractor must be removed from the site and disposed of properly and in accordance with all federal, state and local regulations.
- 2. All work areas must be left in an undamaged condition and acceptable to building owner or facility manager.