



DESIGN GUIDELINE

FLUID-APPLIED WATERPROOFING

(TO RESTORE SMOOTH MODIFIED BITUMEN/BUR ROOF SYSTEMS)

PART 1 — GENERAL

1.01 DESCRIPTION

A. The scope of this design guideline is to describe the installation of the ALDOCOAT Silicone HB reflective roof coating system to waterproof and restore existing smooth modified bitumen and BUR roof systems. 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, priming 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 additional and 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 Products Company, Inc. and contractor shall meet the criteria to be an ALDOCOAT Approved Applicator.

B. Any deviation from this design guideline must have prior written approval from Aldo Products Company, Inc.

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 Products Company, Inc., 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 Products Company, Inc. 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 existing 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 Products Company, Inc.
1320 Litton Drive
Salisbury, NC 28147
(800) 474-6019
www.aldoproducts.com

2.02 COATING MATERIALS

- A. ALDOCOAT 397 Silicone HB
Viscosity: 6500 ± 2500 cps
Elongation: 249% ± 50
Volume solids: 96%
Tensile Strength: 325 psi ± 50

2.03 ACCESSORY ITEMS

- A. ALDOSEAL 399 Silicone Sealant (Flashing Grade)
Viscosity: 150,000 cps \pm 10,000
Volume solids: 95%
Tensile strength: 300 psi
Hardness: 55 Shore A

- B. ALDOFABRIC 272 Roofing Fabric.
Weight: 3 oz. per square yard
Tensile strength: 45 psi
Fluid Absorption: excellent

- C. ALDOCOAT 708 Acrylic Primer
Viscosity: 650 cps
Volume solids: 38%
Color: Black or Gray

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Surface preparation is the sole responsibility of the contractor and shall include all the requirements of Aldo Products Company, Inc., 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 and loose layers of membrane and/or existing coating.
 - 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, loose granules, 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 over areas with residual asphalt. 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 Products Company, Inc., for test kit and instructions.

3.03 REPAIR AREAS

- A. Blisters: All must be opened using an X cut, folding back the cut section.
1. All wet areas and wet felt material must be thoroughly dried out prior to resealing.
 2. The repair area is to be primed with ALDOCOAT 708 Acrylic Primer at a rate of 16 wet mils (1 gallon per 100 square feet).
 3. Apply ALDOCOAT 397 Silicone HB at a rate of 12-16 wet mils per 100 square feet of surface area around the cut areas and lay the flap of the blister flat into the wet sealant. Screws can be used to ensure area is adhered to substrate.
 4. Apply a foundation coat of ALDOCOAT 397 Silicone HB over the entire repair and 12" beyond blister cut area at a rate of 16 wet mils (1 gallon per 100 square feet.)
 5. Lay ALDOFABRIC 272 Roofing Fabric into wet coating extending the mesh a minimum of 6" beyond the blister cut area.
 6. Immediately apply a saturation coat additional ALDOCOAT 397 Silicone HB at a rate of 16 wet mils (1 gallon per 100 square feet) over roofing fabric reinforcement to saturate. Feather edges to create smooth transition to area outside of repair.
 7. Allow such repair areas to cure properly (24 hours) before proceeding with finish coat.
- B. Parapet Walls
1. All joints are to be sealed with ALDOSEAL 399 Silicone Sealant.
 2. Coat the entire wall area with ALDOCOAT 397 Silicone HB to achieve a DFT of 20 mils. Coating is to be applied in two or three coats 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 399 Silicone Sealant. Material is to be applied at a rate of 30 wet mils and 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 399 Silicone Sealant at a of 30 wet mils, extending sealant the 12" above the roof surface.
 3. All vent pipes must be completely sealed at the point of roof penetrations with ALDOSEAL 399 Silicone sealant. Apply at a rate of 30 wet mils.
 4. Curb flashings and cricket details shall be flashed with ALDOSEAL 399 Silicone Sealant. Material is to be applied on all curbs and crickets in such a manner as to not impede any water flow.
- D. Surface Cracks/"Alligatoring":
1. Surface Cracks and Splits: Address and seal all surface cracks of ¼" or smaller with ALDOSEAL 399 to create a smooth surface. Do not apply greater than 30 wet mils. For

all cracks greater than ¼", address and seal with ALDOFABRIC 272 Roofing Fabric. Apply ALDOCOAT 397 at the rate of 16 wet mils, embed fabric and saturate with a second pass of ALDOCOAT 397 at the rate of 16 wet mils.

E. Seams

All seams are to be sealed prior to coating application using ALDOSEAL 399 Silicone Sealant at a rate of 30 wet mils extending at least 3" on either side of either seam.

3.04 SYSTEM APPLICATION

A. Primer Application

1. Primer Coat: apply ALDOPRIME 708 Acrylic Primer at a rate of 1.0 gallons per 100 square feet (16 wet mils) to the entire field of the roof. Allow 2 hours before proceeding with coating application. Do not wait more than 48 hours after priming to proceed.

B. Coating Application

1. Base Coat: Apply ALDOCOAT 397 Silicone HB at a rate of 1.0 gallons per 100 square feet (16 wet mils). Allow 24 hours drying time. Inspect surface for holidays, flaws or defects and correct all such conditions prior to proceeding to topcoat application. Apply additional coating where needed to correct any such flaws.
2. Finish Coat: Apply ALDOCOAT 397 Silicone HB at a rate of 1.0 gallon per 100 square feet (16 wet mils). Allow 24 hours drying time. Inspect surface for holidays, flaws or defects and correct all such conditions.
3. A second finish coat of ALDOCOAT 397 Silicone HB can be applied at a rate of 1.0 gallon per square for a 10 year warranty requirement.
4. The base and finish coat may be applied in one pass at a rate of 2 gallons per square only with the approval of Aldo Products Company, Inc.
5. An optional additional coat of 1.0 gallon per square can be applied to achieve a dry mil thickness of 45 mils for 15 year warranty.
6. It is the responsibility of the contractor to estimate his total material usage for the project accounting for specific project factors (substrate texture, rooftop units, etc.) relying on his experience for applying reflective roof coatings.

C. 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 photos of before, during and after application are to be submitted to representative at this time.

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

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. See section 3.05.

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 397 at a rate of 1.0 gallons per square. While coating is still wet, broadcast 3M roofing granules (or coating manufacturer approved aggregate) at a rate of 35 lbs. per 100 square feet.

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.