

SECTION 07 56 00
APOC GUIDE SPECIFICATION
SMOOTH AND GRANULE SURFACE ROOF RESTORATION
AM1-BU-583-585 2.5 19

PART I – GENERAL

1.01 RELATED DOCUMENTS

- A. Requirements of Division 1 General Requirements and manufacturers guide specifications.
- B. Related sections – Sheet metal, Carpentry, Insulation and Demolition

1.02 DESCRIPTION

- A. Restoration of existing smooth surface built-up or granule surfaced modified bitumen roof membrane using a high solids, silicone roof coating and polyester reinforcement embedded in a bleed blocking base layer.
- B. System provides a durable waterproof membrane over existing roof surfaces that have retained structural integrity but have become weathered and deteriorated.

1.03 SUBMITTALS

- A. Sample of polyester material.
- B. Applicator approval letter from the manufacturer
- C. Product literature and flashing details
- D. Manufacturer's warranty as required

1.04 QUALITY CONTROL

- A. Comply with manufacturer's installation instructions and manufacturer's published specifications for all phases of work including substrate preparation, application of materials and protection of adjacent surfaces.
- B. All substrates must be peel tested for adhesion strength and those results provided to APOC for analysis.
- C. Insulated roofs must have an infra-red scan and wet areas marked and removed.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Package labels must be clearly visible on pallets
- B. Store all roll goods in a dry, protected environment
- C. Store coatings and mastics at recommended temperatures appropriate for time of year materials are being installed. Product must be stored at temperatures as stated on the product label. Polyester must be kept dry.

1.06 PROJECT CONDITIONS

- A. Roof surface must be dry with no precipitation in the forecast for the next 8 hours.
- B. Contractor must follow local, state and federal codes and safety requirements

1.07 WARRANTY

- A. Warranty issued shall be for coating application only. This warranty does not cover the existing roof, structural deck or any labor associated with this project.
- B. Warranties will be issued for completed projects on entire building.
- C. For M&L Warranties, Intent to Install (form #22), job site photographs and specifications must be submitted to APOC via Fax to (813) 342-3823 a minimum of 5 working days prior to the start of the roofing project. Installing contractor MUST be an APOC Approved Contractor. Material and Labor Warranties may be available after project inspection and review of submitted reports.
- D. No APOC field representative has the authority to change the requirements for submissions or Approved Contractor Status if Material and Labor warranties are required.

PART II – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. APOC Roofing Systems

2.02 MATERIALS

- A. Roof Restoration System: AM1-BU-583-585 2.5 19
- B. Material quantities:
 - APOC #583 Armor Base or #583 XL 4 gals per sq

APOC #482F polyester	1 ply
APOC #585 Armor Flex	2.5 gals per sq

- C. APOC #11 granules
- D. APOC #483 polyester for flashing reinforcement
- E. APOC #482F polyester for field application
- F. APOC #581 Armor Flash silicone sealant for flashing and details
- G. APOC INCREDIBLE Fleece Top tape for flashing and details
- H. APOC #5800 Invincible silicone sealant
- I. APOC #585 Armor Flex White Silicone Roof Coating applied at the total rate of 2.5 gallons per square in one coat.

Weight	10.7 lbs/gallon
Reflectivity	.87
Solids by weight	96 + or - 2%
Solids by volume	96 + or - 2%
Elongation	210%
Tensile Strength	450 psi
Permeability	5 perms
Cure time (50% Relative Humidity, 70°F)	2-8 hours (approx)
Ambient air application temp	40°F - 110°F

PART III – EXECUTION

3.01 INSPECTION

- A. Evaluate condition of existing smooth BUR or Mod Bit membrane system. Perform total inspection of all roof areas.
- B. Nondestructive testing (Infra-red photography and onsite inspection) shall be performed and verified with actual roof cores. A roof plan shall be made to show all wet areas, which require replacement of wet insulation and damaged membrane.
- C. Deck replacement – as the restoration progresses deteriorated deck shall be removed and replaced with like kind and quality material.
- D. All roofs must maintain positive drainage. Ponding water is defined by the NRCA as “water that remains more than 48 hours after precipitation has stopped.” Drainage can sometimes be improved by adding drains, changing the slope of the structural deck or removing existing insulation and roof membrane and reinstalling a tapered insulation and new roof membrane.

3.02 WEATHER CONDITIONS & TEMPERATURE REQUIREMENTS

- A. When installing the silicone coating, roof surface must be dry with no precipitation in the forecast for the next 8 hours. Start calculation of 8-hour dry time after all work is completed. Conditions with a relative humidity lower than 55% will require additional drying time. Low humidity, low temperatures, cloud cover and calm air will all slow the curing process. High humidity, high temperatures, direct sun and wind will speed the curing process. Installation of APOC #583 requires no precipitation in the forecast for the next 24 hours. Low humidity, high temperatures, direct sun and wind will speed the curing process.
- B. Extra caution is needed when applying material in windy conditions. Never apply material with excessive wind. Contractor should constantly monitor wind direction to prevent coating of cars and adjacent surfaces. If winds become excessive, application should stop. APOC #585 silicone and APOC #583 Armor Base can be applied by roller, brush or spray application. Use APOC #583 XL Speed Cure for applications requiring less than 48 hour cure time. Also use #583 XL if either the application temperature is under 60 degrees F or the humidity is greater than 50%.

3.03 SURFACE PREPARATION & REPAIRS

- A. Surface shall be swept clean of all debris and power washed before making repairs. Surface must be completely dry before applying repair products or coatings.
- B. Splits and blisters in membrane: Install a 5 course application of APOC #483 polyester and APOC #583 Armor Base. Apply a minimum of 1/8" thick, per ply, per layer.
- C. Wrinkles, ridges & fishmouths in membrane: Install a 3 course application of APOC #483 polyester and APOC #583 Armor Base. Apply a minimum of 1/8" thick, per ply, per layer.
- D. Abandoned pipes and vent stacks should be removed and holes filled in and roofed with like decking, insulation and membrane.
- E. Deteriorated pipe and vent flashing should be replaced with new 24-gauge galvanized flashings or appropriate metal flashing boots.
- F. Existing pipes and vents shall be cleaned and 5 coursed with APOC #581 silicone patch using a wrap and target reinforcement of APOC #483 polyester or APOC Incredible Fleece Top tape. 60 lbs of APOC #11 ceramic granules may be embedded into a surface coat of APOC #585 coating or #581 silicone patch to match the color of adjacent structures and coatings. 5 course

application MUST be installed AFTER application of #583 Armor Base.

- G. Curbs, base flashing, and wall flashing up to 12" high (Including Skylights, HVAC, fan, evaporator, equipment and pipe support curbs): Install a 3 course application of APOC #483 polyester in 4 gallons per square of APOC #583 Armor Base and allow to completely cure. Polyester (min. 6" width) shall extend a minimum of 2" past the cant or corner. Brush in the polyester to assure no voids, wrinkles or fishmouths.
- H. Metal edge: Re-secure loose metal, clean and allow to completely dry. Apply six inch wide APOC Incredible Fleece Top tape and coat with APOC #583 Armor Base.
- I. Scuppers: Clean, let dry and install a 3 course application of 6" APOC #483 polyester reinforcement and APOC #581 Armor Flash Silicone Sealant. Three course application MUST be installed AFTER application of #583 Armor Base.
- J. Josam Type Cast Iron Drains: Remove flashing ring, clean 4'X4' area and allow to completely dry. Apply and roll in a layer of APOC Incredible Fleece Top tape over the joint at the drain bowl. Extend tape a minimum of 1" on to the cast iron drain bowl and 3" on to the existing membrane. Embed a 2'X2' piece of APOC #483 Polyester Reinforcement in a 4 gallon application of APOC #583 Armor Base and extend past drain ring down into the drain bowl. Reinstall flashing ring after application of field system is complete. Work with owner's rep to arrange for water testing of drains and drain pipes.
- K. Pitch pans: clean all exposed metal inside and out, fill and trowel to create a slight slope with APOC #581 Armor Flash silicone patch or APOC 5800 silicone sealant. New or replacement pitch pans may be filled with quick drying concrete grout to two inches from the top, then fill with APOC #581 silicone patch or APOC #5800 silicone sealant.
- L. Wood blocking: remove and replace existing wood blocking with redwood or pressure treated 2X4 lumber for small pipes and 4X4 blocking for small HVAC units. Install blocks in APOC #581 Armor Flash or #5800 silicone patch on top of 1/2" Dek-Top Walkway Pads. Install new restoration membrane before installing roof walkway pads. For large horizontal gas lines and electrical conduit (2" diameter and larger), satellite dishes over 3' in diameter and HVAC units over 200 lbs. consult a structural engineer to design appropriate support system. Flash new steel supports with APOC #581 Armor Flash silicone patch and APOC #483 polyester reinforcement using a wrap and target method to assure a 5 course reinforcement at the base of the penetration.

- M. Valleys and Waterways: Embed one ply of APOC #482F polyester in a 3-4 gal/sq application of APOC #583 Armor Base and allow to fully cure.
- N. Gutters: Re-secure gutter joints, clean and prime joints using APOC Incredible primer. Seal joints by applying APOC Incredible Fleece Top Tape. Coat tape and seal tape edges with APOC #581 Armor-Flash silicone patch or APOC #5800 silicone sealant. Deteriorated sections of metal gutter must be replaced. Rotted concealed wood gutters must be repaired and relined with a multi ply modified bitumen membrane. Water test gutters after all repairs have been completed.
- O. Metal Counter Flashing: Raise or remove existing metal counter flashing. Install specified base flashing. Reinstall metal so that base flashing is counter flashed. On masonry walls, rake out the reglet joint and re-caulk with an APOC approved non staining sealant. On structural concrete, reseal between metal and concrete wall using APOC #5800 silicone or other APOC approved sealant. On curbed HVAC units, reinstall metal counter flashing and seal between the unit and the counter flashing metal with a self-adhering, compressible foam tape.
- P. Expansion Joints and Control Joints: use curb flashing repair methods on the joint curbs only. Do not coat expansion or control joints with curb flashing materials. If existing expansion joint materials are repairable use materials and methods recommended by the original manufacturer of the joint. Replace the joint if deteriorated with a new expansion joint system, which will counter flash the APOC base flashing.

3.04 MEMBRANE APPLICATION

- A. Protection and start-up procedures
 1. Prior to application, post notices a minimum of 48 hours around building and parking lots. Protect adjacent surfaces where product is not to be applied using masking tape, plastic / paper sheets, stretch wrap, tarps or plywood, whichever is appropriate.
 2. Owner should be notified of start times so that fresh air intakes may be sealed off and or HVAC units shut down.
 3. Contractor must remove drain screens and seal the drainpipe to prevent plugging of drain during the coating operation. Unplug drains and reinstall screens after application operation has been completed.
- B. Base Coat: Apply APOC #583 Amor Base or #583 XL Speed Cure at the rate of 4 gallons per square and embed 1 ply of #482F polyester immediately into coating. Side laps are

minimum 4 inches and end laps are minimum 6 inches. Broom in polyester to eliminate wrinkles and voids.

- C. Finish Coat: After #583 Armor Base has cured (a minimum of 48 hours), apply APOC #585 Armor Flex silicone roof coating at the rate of 2.5 gallons per square in one coat. Armor Flex silicone coating is best installed with a squeegee and backrolling.
- D. Skim Coat with granules (Optional): Wait a minimum of 4 hours depending on drying conditions and then apply a skim coat of APOC #585 Armor Flex silicone roof coating at the rate of 1.0 gallons per square and broadcast APOC #11 ceramic granules at the minimum rate of 40 lbs per square.
- E. Skid resistant surface (Optional): Let the APOC #585 Armor Flex silicone roof coating cure till walkable. Mix 3-5 lbs of crushed walnut shells into a 5 gal pail of coating and stir till uniform. Apply using a roller at a minimum rate of 1 gallon per square. Skid resistance can be increased or decreased by adding varying amounts of crushed walnut shells. For source of crushed shells contact:

Composition Materials Co., Inc.
249 Pepes Farm Road
Milford, CT
203-874-6500

Note: NEVER apply to wet or damp or rusted surfaces. Surfaces should be completely cleaned before application. Low humidity may extend curing periods. All repairs must use compatible products.

3.05 JOB SITE CLEAN UP

- A. Remove masking and protection
- B. Notify owner application is complete so HVAC vents can be opened and units restarted.
- C. Remove all roofing related trash and debris from jobsite.
- D. Dispose of containers in accordance with local regulations.

Note: APOC does not practice Engineering or Architecture. Any review of the buildings construction or inspection of roof plans or inspection of the building's structural roof deck by APOC representatives shall not constitute any warranty by APOC of such plans, specifications or construction. Any roof inspections are solely for the benefit of APOC. APOC is not responsible for the failure of previously applied coatings.