

300 SERIES SPECIFICATIONS

APP Cap Sheet Membrane + Ply Sheet Membrane, Heat Applied + Base Sheet Membrane, Mechanically Attached or Fully Adhered New or Reroofing

- 1 Cap Sheet: Heat Applied
- 2 Ply Sheet: Heat Applied
- 3 Base Sheet: Mechanically Attached or Fully Adhered
- 4 Roof Deck: Approved/Accepted Substrate



PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Modified Bituminous Membrane Self-Adhered Roofing.
- B. Modified Bituminous Membrane Torch Applied Roofing.
- C. Modified Bituminous Membrane Hot Mopped Applied Roofing.

1.2 REFERENCES

- A. ASTM D41 – Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D312 – Standard Specification for Asphalt used in Roofing.
- C. ASTM D1970 – Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection.
- D. ASTM D6164 – Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- E. ASTM D6222 – Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- F. ASTM D6757 – Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing.
- G. NRCA – The NRCA Roofing and Waterproofing Manual. National Roofing Contractors Association (NRCA) – Roofing and Waterproofing Manual.

1.3 CODE AND TEST REQUIREMENTS

- A. As required by Authority having jurisdiction, Product Approvals, other Project Documents and Project Conditions.

1.4 SUBMITTALS

- A. Submit product literature and material samples as required by Architect/Engineer of Record and other project documents.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum three years documented experience and approved as a Registered Applicator by the Modified Bituminous Membrane Roofing manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4" above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50°F (10°C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Adhesive storage shall be between the range of above 40°F (4°C) and below 80°F (27°C). Area of storage shall be constructed for flammable storage.

1.7 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Polyglass U.S.A., Inc.
 1111 W. Newport Center Dr., Deerfield Beach, FL 33442. ASD.
 Toll Free: 800-222-9782. Phone: 954-246-8643.
 Web Site: www.polyglass.us
 Email: technical@polyglass.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

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2.2 TORCH APPLIED ROOF SYSTEM

- A.** Spec # 300 W APP TOR: Torch applied, three ply Polyglass reinforced modified bituminous roofing system for installation over a new or accepted, prepared existing roof substrate. Base sheet mechanically fastened.
1. Cap Sheet: Polybond G, Polyflex G, Polyflex G FR with granular surface.
 2. Mid Ply: Polyflex with top sanded surface.
 3. Mid Ply: Polybond with top sanded surface.
 4. Base Sheet/Mechanically Fastened: Base ply Elastobase SBS with top and bottom provided with either sand/sand, sand/poly, poly/sand or polyolefin/polyolefin surfaces.
 5. Base Sheet: Polyglass G2 Base.
 6. Base Sheet: Polyglass Base or Elastobase
 7. Base Sheet: Elastoflex SA V Plus or Elastoflex SA V, self-adhered
 8. Asphalt Primer: Meeting ASTM D41.
 9. Flashing: Polyglass Flashing.
- 10.** Cover Board (Optional): DensDeck, SecuRock or any Polyglass approved board. Boards may require primer.
- B.** Spec # 300 WI APP TOR: Torch applied, three ply Polyglass reinforced modified bituminous roofing system for installation over insulation on a new or accepted, prepared existing roof substrate.
1. Base sheet mechanically fastened.
 2. Cap Sheet: Polybond G, Polyflex G, Polyflex G FR with granular surface.
 3. Mid Ply: Polyflex with top sanded surface.
 4. Mid Ply: Polybond with top sanded surface.
 5. Base Sheet/Mechanically Fastened: Base ply Elastobase SBS with top and bottom provided with either sand/sand, sand/poly, poly/sand or polyolefin/polyolefin surfaces.
 6. Base Sheet: Polyglass G2 Base.
 7. Base Sheet: Polyglass Base or Elastobase
 8. Base Sheet: Elastoflex SA V Plus or Elastoflex SA V, self-adhered
 9. Asphalt Primer: Meeting ASTM D41.
 10. Flashing: Polyglass Flashing.
 11. Cover Board (Optional): DensDeck, SecuRock or any Polyglass approved board. Boards may require primer.

2.3 MODIFIED BITUMINOUS ROOFING MEMBRANE

- A.** Membranes with Conventional Technology:
APP (Atactic Polypropylene) Membranes:
1. Product Name: Polyflex HP
 2. Product Name: Polyflex HP G
 3. Product Name: Polyflex
 4. Product Name: Polyflex G
 5. Product Name: Polyflex G FR
 6. Product Name: Polybond
 7. Product Name: Polybond G

2.4 FLASHING MEMBRANE

- A.** Metal Flashing conditions: Provide minimum 9" wide base/interply stripping sheets.
- B.** Roof to Wall Flashings: Use a minimum of 1 ply of base/interply as reinforcement and cap sheet for all flashing systems.

2.5 SURFACE COATINGS

- A.** Surface Coatings (Optional): Any Polyglass acrylic or silicone liquid applied solution. PG 700, PolyBrite 70, PolyBrite 90, PolyBrite 95

2.6 FASTENERS

- A.** Fasteners and Plates: Provide FM Approved fasteners and plates and other devices as required to suit the system specified.
- B.** Wood: Roofing nails of galvanized or stainless steel, of length to penetrate the wood by at least 3/4" (19 mm) on flashings and parapet walls.
- C.** Masonry: Nail-in expansion type device with zinc body, plated steel nail, and mushroom head or approved equal and of length to embed into the masonry a minimum of 1" (25 mm).
- D.** Insulation: Mechanical fasteners for securing of insulation to decking shall be approved by the insulation manufacturer for the system specified and shall be FM Approved and be in compliance with Appendix "E" of FM 4470 for corrosion resistance.

2.7 PRIMER

- A.** Asphalt Primer: PG 100 Asphalt Primer or asphalt primer conforming to ASTM D41.
- B.** Water-Based Primer: Polyglass WB-3000

2.8 ASPHALT

- A.** Asphalt shall be certified in full compliance with the requirements of Type III or IV asphalt listed in Table 1, ASTM D312. Each container, or bulk, shipping ticket shall indicate the equiviscous temperature (EVT), the finished blowing temperature (FBT), and the flash point.

PART 3 EXECUTION

3.1 PREPARATION

- A.** General: Clean surfaces thoroughly prior to installation.
1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 2. Fill substrate surface voids that are greater than 1/4" wide with an acceptable fill material.
 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
 4. Wherever necessary, all surfaces to receive roofing materials shall be power broomed and vacuumed to remove debris and loose matter prior to starting work.
 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lb. per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B.** Re-Roofing Applications:
1. Remove existing roof flashings from curbs and parapet walls down to the surface of the roof. Remove existing flashings at roof drains and roof penetrations.

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2. Remove all wet, deteriorated, blistered or delaminated roofing membrane or insulation and fill in any low spots occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
3. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
4. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
5. Re-roofing over coal tar pitch requires a mechanically attached recovery board or insulation and a base sheet prior to the application of Polyglass roofing system.
6. Existing roof surfaces shall be primed as necessary with asphalt primer meeting ASTM D41 and allowed to dry prior to installing the Polyglass roofing system.

3.2 INSTALLATION

- A.** Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B.** General: Do not installing modified bitumen membranes at temperatures lower than 40–45°F wherever practicable. Where work is unavoidable at such temperatures the following precautions be taken:
 1. Take extra care during cold weather installation at ambient temperatures of 40–45°F or below and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. This applies to both material seam welds and adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 2. In addition, unrolling of cold materials, under very low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40°F at the time of application. Should the membrane roll become stiff or difficult to install, it should be replaced with a new roll from the heated storage area.
- C.** Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water.
- D.** Base and Ply Sheet Installation:
 1. Install in a manner approved for the specific product, e.g. fully adhered as self-adhered or with asphalt adhesive, torch applied or mechanically attached.
 2. Base or Inter-ply side laps are to be 3" minimum and usually delineated by a "lay line" for mopped, torch or mechanically attached application. End laps are typically 6" in all cases.

- E.** Self-Adhered Application: Base or ply sheet shall be installed per Polyglass specifications and installation guidelines appropriate for the specific substrate type and thickness.
- F.** Torch Application: The use of shielded "Dragon-wagons", or moveable, flame-resistant wind shields are recommended to keep all surfaces and materials at a suitably warm temperature during torch application.
- G.** Mop Application: Asphalt handling equipment should be insulated in order to minimize the drop in asphalt temperature.
 1. Asphalt must be at least 400°F with a target temperature of 425°F or 20°F above the EVT (equiviscous temperature), whichever is higher, at the point of application.
 2. If minimum asphalt temperature of 400°F cannot be maintained at the point of application, work should be discontinued.
 3. Do not overheat asphalt to compensate for cold weather conditions.
 4. Mopping should not progress more than 4 feet in front of the roll at any time.
- H.** Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
 1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
 3. Nailer lengths should be spaced with a minimum ½" gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1–49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- I.** Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Metal work be installed in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- J.** Flashing: Install using Polyglass flashing sheets and minimum 6" wide Polyglass stripping sheets. Install stripping sheet with a minimum of 3" in both the horizontal and vertical surfaces. Install flashing sheets with a minimum of 6" on the horizontal surface and extended a minimum of 12" above the finished roof surface.
- K.** Surface Coatings: Apply roof coatings in strict conformance with the specific manufacturer's recommended procedures.

3.3 PROTECTION

- A.** Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B.** Protect exposed surfaces of finished walls with tarps to prevent damage.
- C.** Plywood for traffic ways required for material movement over existing roofs shall be not less than ¾" (16 mm) thick.
- D.** In addition to the plywood listed above, an underlayment of minimum ½" (13 mm) recover board is required on new roofing.