

SECTION 073010

Roofing Underlayment

Grace Ice & Water Shield®

Grace Ice & Water Shield designed for severe climate applications. (Excludes applications in the Desert Southwest US and high altitude climates or when copper, zinc or Cor-Ten roof coverings are used.)

PART 1 — GENERAL

1.1 SUMMARY

- A. This Section specifies a self-adhering sheet membrane used as underlayment for sloped roofs.
 - 1. Severe climate application, Grace Ice & Water Shield®.
- B. Related Sections: Refer to the following specification sections for coordination:
 - 1. Section 061000 - Rough Carpentry.
 - 2. Section 073113 - Asphalt Shingles.
 - 3. Section 073116 - Metal Shingles.
 - 4. Section 073119 - Mineral-Fiber Cement Shingles.
 - 5. Section 073126 - Slate Shingles.
 - 6. Section 073129 - Wood Shingles and Shakes.
 - 7. Section 073200 - Roof Tiles.
 - 8. Section 076100 - Sheet Metal Roofing.
- C. Referenced Standards: Comply with the requirements of the following standards published by ASTM International to the extent referenced in this section.
 - 1. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.
 - 2. ASTM D461 - Standard Test Methods for Felt.
 - 3. ASTM D 903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
 - 4. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - 5. ASTM D3767 - Standard Practice for Rubber—Measurement of Dimensions.
 - 6. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - 7. ASTM G90 – EMMAqua test.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with requirements of authorities having jurisdiction and applicable codes at the location of the project.
- B. Manufacturer: Minimum 10 years experience producing roofing underlayment.
- C. Installer: Minimum 2 years experience with installation of similar underlayment.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials and products in unopened factory labeled packages. Protect from damage.
- B. Cover materials and store in dry condition between temperatures of 40 and 90 degrees F (5 and 32 degrees C). Use within one year of date of manufacture. Do not store at elevated temperatures as that will reduce the shelf life of the product.

PART 2 — PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: GCP Applied Technologies, Inc, 62 Whittemore Avenue, Cambridge, MA 02140, Toll Free 866-333-3726, www.gcpat.com.

2.2 MATERIALS

- A. Self-Adhering Sheet Membrane Roof Underlayment: Provide Grace Ice and Water Shield by GCP Applied Technologies, Inc. with the following characteristics:
 - 1. Material: Cold applied, self adhering membrane composed of a high strength polyethylene film coated on one side with a layer of rubberized asphalt adhesive and interwound with a disposable release sheet. An embossed, slip resistant surface is provided on the polyethylene.
 - 2. Color: Gray-black.
 - 3. Membrane Thickness: 40 mil (1.02 mm) ASTM D3767 procedure A (Section 9.1).
 - 4. Tensile Strength, Membrane: 250 psi (1720 kN/m²) ASTM D412 (Die C modified).
 - 5. Elongation, Membrane: 250% ASTM D412 (Die C modified).
 - 6. Low Temperature Flexibility: Unaffected @ -20°F (-29°C) ASTM D1970.

7. Adhesion to Plywood: 3.0 lbs/in. width (525 N/m) ASTM D903.
8. Permeance (Max): 0.05 Perms (2.9 ng/m²s Pa) ASTM E96.
9. Material Weight Installed (Max): 0.3 lb/ft² (1.3 kg/m²) ASTM D461.
10. Primer: Water-based Perm-A-Barrier WB Primer by GCP Applied Technologies, Inc.
11. Code and Standards Compliance: Grace Ice and Water Shield meets the following:
 - a. Underwriters Laboratories Inc. Class A fire classification under fiber-glass shingles and Class C under organic felt shingles (per ASTM E108/UL 790).
 - b. Underwriters Laboratories Inc. Classified Sheathing Material Fire Resistance Classification with Roof Designs: P225, P227, P230, P237, P259, P508, P510, P512, P514, P701, P711, P717, P722, P723, P732, P734, P736, P742, P803, P814, P818, P824
 - c. ICC ESR-1677 approval according to AC-48 Acceptance Criteria for Self-Adhered underlayments used as Ice Barriers.
 - d. Miami-Dade County Code Report NOA 12-1115.02.
 - e. Canadian Construction Materials Centre (CCMC) 13670-L
 - f. City of Los Angeles RR 25330
 - g. Florida State Approval Report No. FL289-R3

PART 3 — EXECUTION

3.1 EXAMINATION

- A. Prior to start of installation, inspect existing conditions to ensure surfaces are suitable for installation of roofing underlayment. Verify flashing has been installed. Starting work indicates installers acceptance of existing conditions.

3.2 INSTALLATION

- A. Installation: Install roofing underlayment on sloped surfaces at locations indicated on the Drawings, but not less than at hips, ridges, eaves, valleys, sidewalls and chimneys, and surfaces over interior space within 36 inches (914 mm) from the inside face of the exterior wall. Strictly comply with manufacturer's installation instructions including but not limited to the following:
 1. Schedule installation such that underlayment is covered by roofing within the published exposure limit of the underlayment.
 2. Do not install underlayment on wet or frozen substrates.
 3. Install when surface temperature of substrate is a minimum of 40 degrees F (5 degrees C) and rising.
 4. Remove dust, dirt, loose materials and protrusions from deck surface.
 5. Install membrane on clean, dry, continuous structural deck. Fill voids and damaged or unsupported areas prior to installation.
 6. Prime concrete and masonry surfaces using specified primer at a rate of 500-600 square feet per gallon (12-15 sqm/L). Priming is not required for other suitable clean and dry surfaces.
 7. Install membrane such that all laps shed water. Work from the low point to the high point of the roof at all times. Apply the membrane in valleys before the membrane is applied to the eaves. Following placement along the eaves, continue application of the membrane up the roof. Membrane may be installed either vertically or horizontally after the first horizontal course.
 8. Side laps minimum 3-1/2 inches (89 mm) and end laps minimum 6 inches (152 mm) following lap lines marked on underlayment.
 9. Patch penetrations and damage using manufacturer's recommended methods.

3.3 CLEANING AND PROTECTION

- A. Protection: Protect from damage during construction operations and installation of roofing materials. Promptly repair any damaged or deteriorated surfaces.
- B. Repair minor damage to eliminate all evidence of repair. Remove and replace work which cannot be satisfactorily repaired in the opinion of the Architect.
- C. Provide temporary protection to ensure work being without damage or deterioration at time of final acceptance. Remove protective film and reclean as necessary immediately before final acceptance.

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We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

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