GRACE ULTRA™

Butyl underlayment designed for extreme temperature roof assemblies

Product Description

GRACE ULTRA™ butyl roofing underlayment is composed of two waterproofing materials—an aggressive 100% butyl rubber adhesive backed by a layer of high density cross laminated polyethylene film. The product is 30 mils (0.76 mm) thick making it easy to handle and apply. The unique, advanced adhesive formulation offers premium adhesion to the roof deck, high quality laps, superior seal around roofing fasteners, and unrivaled high temperature stability. The adhesive is backed by a protective plastic release liner that protects its adhesive quality. The release liner is easily removed allowing the adhesive to be bonded tightly to the roof deck. The membrane comes in a 198 ft^2 (18.4 m^2) roll, and measures 34 in. (864 mm) wide.

Features & Benefits

- Heat resistance—The butyl adhesive is specially formulated to withstand temperatures up to 300°F .
- Seals around fasteners — The butyl adhesive layer in GRACE ULTRA™ membrane seals around roofing fasteners, resisting leakage caused by water back-up behind ice dams, and from wind-driven rain.
- Strong adhesion to the roof deck—The 100% butyl adhesive bonds firmly to the roof deck.
- High Quality Laps — The membrane forms watertight overlaps without special treatment.
- Better Chemical Compatibility — Compatible with low slope roofing materials such as EPDM and TPO.
- Plastic release — Plastic is easy to remove and easy to dispose of.
- Application Expertise — GRACE ULTRA™ comes from the makers of Grace Ice & Water Shield® , and is backed by a team of local technical support personnel to ensure every application goes smoothly.

Guidelines for Use

GRACE ULTRA™ membrane is designed to withstand the highest in-service temperatures for extended periods of time. It can be used as a sloped roof underlayment to help protect against leakage from water that builds up behind ice dams, or from wind-driven rain in applications.

High Temperature Applications

GRACE ULTRA™ membrane is the appropriate product for all applications where superior heat resistance is needed. In addition, GRACE ULTRA™ underlayment is the appropriate product for use under certain types of metal roofs (those employing copper, zinc, or Cor-Ten®panels). These metal roofs tend to readily conduct heat to the underlayment making them more likely to expose the membrane to extreme temperatures. Many factors including climate, elevation, roof slope, color, roof covering material, ventilation, and insulated roof decks affect membrane service temperature requirements. It is up to the contractor and specifier to decide what level of performance is required based on the guidelines provided.

Wind-Driven Rain

Sloped roofs are not waterproof. They protect structures by shedding rain water. Storm-driven winds can cause sloped roof coverings to lift. Rain can be easily driven under the roof covering directly to the unprotected deck where it causes leaks and damage to the interior of the structure. GRACE ULTRA™ membrane applied beneath the sloped roof covering helps prevent wind-driven rain from entering the structure. For wind-driven rain protection, full coverage with GRACE ULTRA™ underlayment is recommended. Since GRACE ULTRA™ underlayment is a vapor barrier, the roof construction must allow for proper ventilation in full roof coverage applications.

Ice Dams

For ice dam protection, GRACE ULTRA™ membrane should be adhered at the edge of the roof deck by the eaves. The membrane should be applied to a point on the roof deck above the highest expected ice dam. Several variables influence the height of ice dams and the membrane coverage required. Local building codes should be consulted for specific requirements. Variables influencing the height of ice dams include climate (particularly the annual snowfall), slope, overhang, valleys, how well the structure is insulated and ventilated, and exposure (sun vs. shade). In addition to placement along the eaves, GRACE ULTRA™ membrane can be used to help prevent roof leaks in danger zones such as valleys, at the rake edges, and around chimneys and skylights

Installation Procedure

Surface Preparation

Install GRACE ULTRA™ membrane directly on a clean, dry, continuous structural deck. Some suitable deck materials include plywood, wood composition, wood plank, metal, concrete, or gypsum sheathing. For all other substrates, contact your local GCP Applied Technologies sales representative. Remove dust, dirt, loose nails, and old roofing materials. Protrusions from the deck area must be removed. Decks shall have no voids, damaged, or unsupported areas. Repair deck areas before installing the membrane. (Refer to Tech Letter #5, *Chemical Compatibility*, when installing over wood plank decks.)

Prime concrete, masonry surfaces and DensGlass Gold®with Perm-A-Barrier®WB Primer. Prime wood composition and gypsum sheathing with Perm-A-Barrier®WB Primer if adhesion is found to be marginal (refer to Technical Letter 12, *Use on Oriented Strand Board (OSB) Roof Sheathing*). Apply Perm-A-Barrier®WB Primer at a rate of 250–350 ft^2/gal (6–8 m^2/L). Priming is not required for other suitable surfaces provided that they are clean and dry.

Membrane Installation

Apply GRACE ULTRA™ membrane in fair weather when the air, roof deck, and membrane are at temperatures of 40 °F (5 °C) or higher. Apply roof covering material at temperatures of 40 °F (5 °C) or higher.

Cut the membrane into 10–15 ft (3–5 m) lengths and reroll loosely. Tack/secure the end of the roll with a nail. Peel back 1–2 ft (300–600 mm) of release liner, align the membrane, and continue to peel the release liner from the membrane. Press the membrane in place with heavy hand pressure. Side laps must be a minimum of 3.5 in. (90 mm) and end laps a minimum of 6 in. (150 mm). For valley and ridge application, peel the release liner, center the sheet over the valley or ridge, drape, and press it in place. Work from the center of the valley or ridge outward in each direction and start at the low point and work up the roof.

Alternatively, starting with a full roll of membrane, unroll a 3–6 ft (1–2 m) piece of membrane leaving the release liner in place. Align the membrane and roll in the intended direction of membrane application. Carefully cut the release liner on top of the roll in the cross direction being careful not to cut the membrane. Peel back about 6 in. (150 mm) of the release liner in the opposite direction of the intended membrane application exposing the black adhesive. Hold the release liner with one hand and pull the roll along the deck with the release liner, leaving the applied membrane behind. Use the other hand to apply pressure on the top of the roll. Stop frequently to press the membrane in place with heavy hand pressure. When finished with the roll go back to the beginning, reroll and pull the remaining release paper from the material, finishing the installation.

Consistent with good roofing practice, install the membrane such that all laps shed water. Always work from the low point to the high point of the roof. 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. The membrane may be installed either vertically or horizontally.

Use smooth shank, electroplated galvanized nails for fastening shingles. Hand nailing generally provides a better seal than power activated nailing. If nailing of the membrane is necessary on steep slopes during hot or extreme cold weather, backnail and cover the nails by overlapping with the next sheet.

Extend the membrane on the roof deck above the highest expected level of water back-up from ice dams and above the highest expected level of snow and ice on the wall sheathing on vertical side walls (dormers) and vertical front walls for ice dam protection. Consider a double layer of membrane in critical areas, such as along the eaves or in valleys and in climates where severe ice dams are anticipated. Apply the membrane to the entire roof deck for wind-driven rain protection. Apply a new layer of GRACE ULTRA™ underlayment directly over the old GCP self-adhered underlayment (except for GCP Granular Underlayments) in retrofit applications following the standard membrane application procedure.

Precautions & Limitations

- Slippery when wet or covered by frost.
- Consistent with good roofing practice, always wear fall protection when working on a roof deck.
- Release liners are slippery. Remove from work area immediately after membrane application.
- Do not leave permanently exposed to sunlight. Maximum recommended exposure is 120 days.
- Place metal drip edges or wood starter shingles over the membrane.
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- Do not fold over the roof edge unless the edge is protected by a drip edge, gutter, or other flashing material.
- Do not install on the chamfered edges of wood plank.
- Do not install directly on old roof coverings.
- Check with the manufacturer of the metal roofing system for any special requirements when used under metal roofing. Maintain an air space between the membrane and roof coverings that are especially moisture sensitive (such as zinc) as per the metal suppliers requirements.
- Provide proper roof insulation and ventilation to help reduce ice dams and to minimize condensation. GRACE ULTRA™ underlayment is a vapor barrier.

- Repair holes, fishmouths, tears, and damage to membrane with a round patch of membrane extending past the damaged area 6 in. (150 mm) in all directions. If fasteners are removed leaving holes in the membrane, they must be patched. The membrane may not self-seal open fastener penetrations.
- Do not install fasteners through the membrane over unsupported areas of the structural deck, such as over the joints between adjacent structural panels.
- Due to its slight rubber-like odor, do not apply where the membrane is exposed to interior living space.
- Compatible with EPDMs and TPO low slope membranes (refer to Technical Letter 5, *Chemical Compatibility*). Use for tie-ins between EPDM or TPO membranes and other GCP self-adhered underlayments.
- Not compatible with polysulfides, flexible PVC, or high concentrations of resin (pitch) that may be found in some wood plank decks. For more information, refer to Technical Letter 5.

Standard Compliance

GRACE ULTRA™ meets the following standards:

- ICC ESR-1677 approval according to AC-48 Acceptance Criteria for Self-Adhered underlayments used as Ice Barriers
- Underwriters Laboratories, Inc. R13399 Class A fire classification under fiberglass shingles and Class C under organic felt shingles
- Underwriters Laboratories, Inc. Classified Sheathing Material Fire Resistance Classification Design Numbers P225, P227, P230, P237, P259, P508, P510, P512, P514, P701, P711, P717, P722, P723, P732, P734, P742, P824

Product Data

Roll length	65 ft (19.8 m)
Roll width	36 in. (914 mm)
Roll size	198 ft^2 (18.1 m^2)
Packaging	Corrugated cartons
Roll weight	42 lbs (19.0 kg)
Rolls per pallet	25

Performance Properties

PROPERTY	VALUE	TEST METHOD
Color	Gray-black	
Thickness, membrane	30 mil (0.76 mm)	ASTM D3767 method A
Tensile strength, membrane	250 psi (1720 kN/m^2)	ASTM D412 (Die C modified)
Elongation, membrane	250%	ASTM D412 (Die C modified)
Low temperature flexibility	Unaffected @ -20°F (-29°C)	ASTM D1970
Adhesion to plywood	3.0 lbs/in. width (525 N/m)	ASTM D903

Permeance (max)	0.05 Perms (2.9 ng/m^{2}s Pa)	ASTM E96
Material weight installed (max)	0.22 lb/ft^2 (1.1 kg/m^2)	ASTM D461
Adhesive	100% Butyl Rubber Adhesive - Contains no asphalt	

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ca.gcpat.com/solutions/products/grace-ice-water-shield-roofing-underlayment/grace-ultra