



PRODUCT DATA SHEET

FAMOGREEN RET CU P4

Revised 01/

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Famogreen RET CU P4 is a high-grade polymeric bitumen sheet with plasto-elastic properties. It is modified with age stabilizing amorphous polyalphaolefin (APAO). This patented membrane incorporates a root barrier, water retention system, drainage layer and waterproofing system all in one. This membrane provides the most lightweight and easily installed green roof system in the industry. Its advanced technology provides superior performance qualities in extensive green roofing systems.

General Specifications: High-grade polymeric bitumen with plasto-elastic properties, modified with age stabilizing amorphous polyalphaolefin (APAO).
Inlay: Special root protector, non-woven polyester with copper film
Bottom Side: Meltable polyethylene film
Top Side: Hydrogel under a special non-woven polyester fleece

Roll Length:	7.5 m (24 ft 6 in)
Roll Width:	1.0 m (3 ft 3 in)
Roll Weight:	41.3 kg (91 lb)
Normal Thickness:	4.2 mm (168 mil)*
	*Hydrogel increases thickness
Quantity/pallet:	25 rolls/pallet
	187.5 m ² (2,018 ft ²)

Technical Data:

Thickness: 4.2 mm (168 mil)*
*Hydrogel increases thickness

Inlay: Special root resistant polyester with copper film, having a unit weight of 350 g/m²(10.3 oz/yd²).



Tensile Strength:	MD: >800 N/5cm (90 lbf/in) XMD: >600 N/5cm (67 lbf/in)
Elongation:	MD: >35% XMD: >35%
Low Temperature Flex:	<-20°C (-4°F)
Heat Stability:	>150°C (302°F)
Water Storage Capacity:	>3 ltr/m ² (>.8 gal/yd ²)
Transmissivity of Drainage Layer:	>17.5 gal/min/ft.
Asbestos Content, %:	Zero

Scope of Applications:

Top layer of a root-resistant sealing system for green roofs with extensive or intensive vegetation cover.

Suitable for all roof slopes up to vertical installation.

Notes:

1. United States Patent 5,981,030 dated November 9, 1999
2. Produced under quality management DIN EN ISO 9001
3. Manufactured optionally according to the FaReGum-method

Installation:

Surface Preparation: The surface over which the sheet is to be installed must be firm, dry, smooth, and compatible with the membrane and application method; free of debris and loose material. All surfaces must be installed in accordance with Building Logics specifications.

Application: Apply solvent free Primer to all metal, concrete, and other porous surfaces and allow to dry prior to installation of the roofing membrane and flashing. Never torch directly to combustible materials.

Required underlayments for the Building Logics Envirotech System are the following: two plies of Type IV or VI glass plies, one ply of G2 Glass Base. A total of three plies is required, except directly over concrete, where a total of two layers of heat-welded membranes are acceptable.

Roofing shall commence at the lowest point of the roof (running rolls perpendicular to the slope) with laps installed so that water flows over, rather than against, the lap. On inclines exceeding



1" per foot, the membrane may be installed with side laps running parallel to the direction of roof slope (strapping method).

At walls and vertical surfaces, the roofing membrane field sheet shall extend over the full width of the cant strip and a minimum of 4" onto the vertical surfaces. The membrane is adhered to the vertical surface, but should remain unattached to the face of the cant strip to maximize elongation characteristics of the material and eliminate the need to apply heat directly to the cant material. The base ply should always extend over the cant by 2".

Side laps shall be 4" and end laps a minimum of 6". End laps must be staggered a minimum of 3 feet or if run together, must be capped with a full width of roof membrane. Membranes do not include selvage lines, so back lining must be used to control lap widths.

Set the membrane and unroll to position. Align the membrane to have a 4" side laps and 6" end laps. Stand on the membrane and re-roll one half. Apply the propane torch to the exposed outer surface of the re-rolled portion until the compound reaches the correct application temperature. The membrane will develop a slight sheen when the correct temperature is reached. All polyethylene sheets used as a release agent must be melted (but not disappear totally, as that would result in over heating).

Slowly heat and unroll the membrane, taking care to retain the proper alignment by back lining the substrate, and heat-weld the membrane to the substrate. A small 3/8" to 1/2" bead or bleedout of molten (not running liquid) bitumen is desirable and must be done to create a proper lap. Material will wrinkle when overheated and have a washboard appearance

When this section of the membrane is heat-welded, re-roll the unbonded section and heat-weld. As you unroll the membrane, torch evenly and thoroughly in a box shaped motion across the surface of the roll and about a foot down the lower sheet side lap or selvage. (Note: if roll runs out of line, try changing torching method to install the field membrane first, then seal laps as a separate operation). When using a multi-burner wagon, be sure on torch head is positioned to heat the lower sheet selvage edge.

When applying rolls and creating side and end laps, both membrane surfaces at the overlap section must be heated to assure good bonding and adhesion. At first, the weight of the roll itself will press the bitumen down in place. By the end of the roll, you'll have to press it down yourself.

Check all seam laps after the full roll has been applied. Finish trowelling is not required when the proper compound flow out has been achieved.



When proper flow out has not been achieved, heat the upper and lower surface of the lap and trowel to create a 1/2" rounded fillet. A piece of membrane may be used by heating fillet over the lap and troweling softened material to 1/2" rounded fillet.

T-Joints: To prevent bridging of the top ply at T-joints, the bottom ply of all end laps should be cut on a 45° angle.

SAFETY PRECAUTIONS:

ENVIROTECH - Torch Applied or Heat Welded Membranes:

Safety provisions, as with any form of roofing, are necessary. It is the applicator's responsibility to ensure safety at all times. Since Building Logics' Envirotech membranes are applied using an open flame from a propane torch, the contractor must exercise care and observe appropriate fire safety precautions. Special care must be taken in areas around any combustible material, gas lines for HVAC units, or in the presence of solvent-based products.

Basic Safety Measures:

1. Each work area should have a fire extinguisher within 20' of torch activity.
2. Always check and secure all fittings, hoses and torch heads, before and while using torch equipment. Torches must have a handle trigger and a valve to regulate the intensity of the flame.
3. Match propane tank to rate of flow to prevent tank freezing (frosting). Do not heat tanks to melt frost.
4. Do not use torch equipment that is leaking gas.
5. Propane tanks should be secured in an upright position and placed at least 10 feet from the open flame.
6. Never leave a lighted torch unattended.
7. Torches produce temperatures in excess of 2000°F. Avoid contact for any length of time with metals, particularly lead, or anything else that high heat will adversely affect.
8. Do not use flame directly around open penetrations.
9. Never torch directly to unprotected combustible materials.
10. When the position of the torch flame cannot be observed by the applicator (i.e., under HVAC systems), backheat and flop membranes.



11. The contractor should walk the roof at the end of each day's work, as a minimum 1 hour fire watch, to check for smoldering fires.
12. Never bypass triggers or regulators on torching equipment.
13. Workmen, other than torch operator, should be no closer than three feet from the open flame. Use protective gloves at all times.
14. Personnel and property safety are considered the responsibility of the torch user. Follow all federal, state and local safety codes.
15. Torch units should always be carefully set into support leg position with torch heads at an upward angle when not in use. Failure to properly care for a torch when not in use can result in damage to the torch and can cause a malfunction.
16. Never send flames where the result cannot be seen.
17. Do not torch directly to wood or wood fiber; use a base sheet.

PRECAUTIONS:

1. Read MSDS and label before use.
2. Do not apply with hot-applied bitumens or cold-applied adhesive.
3. Do not torch directly to isocyanurate, styrene, fiberglass, phenolic, fiberboard or foam glass insulations, or any combustible material.
4. Do not apply directly to previously coated surfaces or existing mineral surface roofs. The use of a mechanically attached insulation or base sheet separator is required.
5. Protect all components of roof system assemblies from discharges such as petroleum products, grease, oil (petroleum and vegetable) and constant contact with water in excess of 140°F.
6. When ambient temperatures are below 40°F, roof system materials should be kept in a warm area (i.e., 60°F or higher) and brought to the roof no more than one hour prior to the application.
7. Do not apply directly to the following surfaces unless they are primed with solvent free asphaltic primer:
 - a. Gypsum; 2) Stucco; 3) Textured Masonry; 4) Any Metal
8. Flashing membranes shall be cut, properly heated, and flopped (torch and flop) into place. Where angles occur, the torch and flop method may create a void at the angle change unless carefully smoothed in with a gloved hand.
9. Copper flanges may be weathered or coated with an anti-tarnish lacquer which will impair adhesion. Clean with acetone and clean rags. Prime with solvent free asphaltic primer before applying flashing membrane.
10. Do not use mastic behind roof system membranes.
11. Do not apply flashing membranes directly to fresh mopping asphalt, as poor adhesion will result.



12. T-joints must be carefully inspected after the installation. All suspect T-joints must be notched and resecured with a hand-held propane torch.
13. For industrial/commercial use only. Keep out of reach of children.

EQUIPMENT:

1. 5" to 7" beveled trowel with rounded tip
2. Roofing utility knife with sharp hooked blade.
3. Propane torch assembly - hand-held or multi-burner
4. Fire extinguishers.

COVERAGE RATES:

For estimating purposes, when installing with a 4" side lap and 6" end lap, actual coverage per roll is 95% of available coverage.

Example: 100 square foot project divided by 0.95 = 105 square feet of product required.

DETAILS:

See available detail drawings.