FOAMULAR® DURAPINK®
Extruded Polystyrene (XPS) Rigid Foam Insulation

Product Data Sheet

Energy-Saving[1], Moisture-Resistant XPS Insulation

XPS Recovery Roofing Insulation

ASTM C578 Type IV, 25 psi minimum

Description

DURAPINK® Roofing Recovery Board is an extruded polystyrene (XPS) roofing product designed for use with single-ply membranes, including black EPDM[2] and other dark-colored single-ply membranes. DURAPINK® roofing recovery board works without overlay protection, ballast or pavers. DURAPINK® roofing recovery board saves the trouble and expense of removing the old roof, and adds insulation and moisture protection to the new one, providing new economy and durability for worn out commercial roofs.

Roofing recovery is an increasingly popular means of reroofing for aged and trouble-plagued roofs. The decision to recover a roof is based on two compelling reasons: The cost involved in tearing off the old roof, and the cost of disposing of the discarded debris—both of which can be significant. When you recover, both costs are avoided.

Key Features

- Excellent long-term stable insulation performance of R-5 per inch[3]
- Exceptional moisture resistance, long-term durability
- Recommended for use directly under black EPDM membranes, without the need for protection.
- Limited lifetime warranty[4]—maintains 90% of R-value and covers all ASTM C578 properties
- GREENGUARD Gold Certified
- The only XPS foam with certified recycled content—certified by SCS Global Services to contain a minimum 20% recycled content
- Will not corrode, rot or support mold growth
- Zero ozone depletion potential with 70% less global warming potential than our previous formula
- Reusable and remnants from manufacturing are recycled back into new XPS Foam Insulation
- Lightweight, durable rigid foam panels are easy to handle and install
- Easy to saw, cut or score

Technical Information

- DURAPINK® roofing recovery board is to be installed over existing roofs only and not over new insulation.
- When installed beneath dark-colored, mechanically attached membranes, some vertical displacement may be noticeable, especially during the high heat of mid-day. Such behavior is normal thermal expansion and contraction of the material. The movement will not affect the integrity of the recover roofing membrane or attachment systems.
- Recovery roofing is often done over uneven substrates. Humps, sharp edges or ridges in the existing membrane should be cut out if possible before covering with DURAPINK® roofing recovery board. If this is not possible, DURAPINK® roofing recovery board can be placed, but may crack over uneven surfaces when walked on.
- Examine the existing roof for areas of wet insulation and/or wet or deteriorated decking. Remove and replace wet or deteriorated material as necessary.
- All roofs to be recovered should be evaluated for the presence of an existing vapor retarder. Research by the Oakridge National Laboratory (ORNL) suggests that some wet roof systems containing permeable materials can be dried to the interior of a building if no internal vapor retarder is present.

1 Savings vary. Find out why in the seller's fact sheet on R-values. Higher R-values mean greater insulating power.

2 EPDM—Ethylene Propylene Diene Monomer roofing is a type of thermoset membrane roof material

3 R means the resistance to heat flow; the higher the R-value, the greater the insulating power.

4 See actual warranty for complete details, limitations and requirements.

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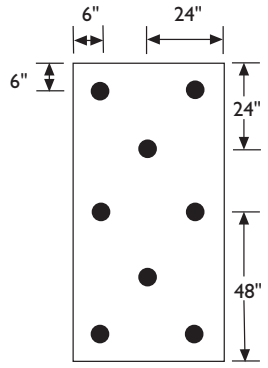
- When installing DURAPINK® roofing recovery board beneath a dark-colored, mechanically attached membrane, Owens Corning recommends the installation of eight fasteners and stress plates per 4'x8' panel. The diagram shows the recommended fastener placement. For fully adhered and ballasted systems, contact the specific membrane manufacturer or Owens Corning for fastening recommendations.

Fastening Pattern Diagram



- When installing DURAPINK® roofing recovery board beneath a white, mechanically attached roof system, a minimum of one fastener per eight square feet is required to secure the board, placed within 6" of each corner of 4'x8' panel. This limited amount of fasteners is acceptable but may allow some board movement. Install two to four additional fasteners in the center field as shown in the fastening diagram for enhanced flatness. The membrane should be laid out perpendicular to the long dimension of DURAPINK® roofing recovery board panels.

Typical Physical Properties[1]

DURAPINK® Roofing Recovery Board

Property	Test Method[2]	Value
Thermal Resistance[3], R-Value (180 day) minimum, hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	ASTM C518	
½" Thickness[4]		3.0 (0.53)
1" Thickness		5.0 (0.88)
@ 40°F (4.4°C) mean temperature		
½" Thickness[4]		3.2 (0.57)
1" Thickness		5.4 (0.95)
Long Term Thermal Resistance, LTTR-Value[3,] minimum hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	CAN/ULC S770-03	
½" Thickness[4]		N/A
1" Thickness		5.0 (0.88)
Compressive Strength[5], minimum psi (kPa)	ASTM D1621	
½" Thickness[4]		18 (124)
1" Thickness		25 (172)
Flexural Strength[6], minimum psi (kPa)	ASTM C203	75 (517)
Water Absorption[7], maximum % by volume	ASTM C272	0.10
Water Vapor Permeance[8], maximum perm (ng/Pa•s•m²)	ASTM E96	1.5 (86)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread[9, 10]	ASTM E84	5
Smoke Developed[9, 10, 11]	ASTM E84	45-175
Oxygen Index[9], minimum % by volume	ASTM D 2863	24
Service Temperature, maximum °F (°C)	—	165 (74)
Linear Coefficient of Thermal Expansion, in/in/°F (m/m/°C)	ASTM E228	3.5×10^{-5} (6.3×10^{-5})

1. Properties shown are representative values for 1" thick material, unless otherwise specified.
2. Modified as required to meet ASTM C578.
3. R means the resistance to heat flow; the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value. Follow the manufacturer's instructions carefully. If a manufacturer's fact sheet is not provided with the material shipment, request this and review it carefully. R-values vary depending on many factors including the mean temperature at which the test is conducted, and the age of the sample at the time of testing. Because rigid foam plastic insulation products are not all aged in accordance with the same standards, it is useful to publish comparison R-value data. The R-value for FOAMULAR® XPS Insulation is provided from testing at two mean temperatures, 40°F and 75°F, and from two aging (conditioning) techniques, 180 day real-time aged (as mandated by ASTM C578) and a method of accelerated aging sometimes called "Long Term Thermal Resistance" (LTTR) per CAN/ULC S770-03. The R-value at 180 day real-time age and 75°F mean temperature is commonly used to compare products and is the value printed on the product.
4. The ½" is actually a nominal half-inch of 9/16th needed to achieve 3.0 R-value.
5. Values at yield or 10% deflection, whichever occurs first.
6. Value at yield or 5%, whichever occurs first.
7. Data ranges from 0.00 to value shown due to the level of precision of the test method.
8. Water vapor permeance decreases as thickness increases.
9. These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.
10. Data from Underwriters Laboratories Inc.® classified. See Classification Certificate U-197.
11. ASTM E84 is thickness-dependent, therefore a range of values is given.

- Some membranes, such as PVC containing plasticizers, will require a separator between DURAPINK® roofing recovery board and the membrane.
- For roofing and other horizontal applications, product should be installed with the printed surface facing downward.
- DURAPINK® roofing recovery board can be installed over coal tar pitch (CTP) provided the existing coal tar is at least ten years old and has not been re-saturated in the last four years. If those age criteria are not met, a 6 mil polyethylene sheet will serve as an adequate separator between CTP and XPS.

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Product and Packaging Data
DURAPINK® Roofing Recovery Board

Material	Packaging
Extruded polystyrene closed-cell foam panel with continuous skin on face and back surfaces.	Shipped in poly-wrapped units with individually wrapped or banded bundles.

Thickness (in)	Product Dimensions Thickness (in) x Width (in) x Length (in)	Pallet (Unit) Dimensions (typical) Width (ft) x Length (ft) x Height (ft)	Square feet per Pallet	Board feet per Pallet	Bundles per Pallet	Pieces per Bundle	Pieces per Pallet	Edges
½	½ x 48 x 96	4 x 8 x 8	5,120	2,560	8	20	160	Square Edge
1	1 x 48 x 96	4 x 8 x 8	3,072	3,072	8	12	96	

1. Available lengths and edge configurations vary by thickness. See www.foamular.com for current offerings. Other sizes may be available upon request. Consult your local Owens Corning representative for availability.

- See DURAPINK® roofing recovery board guide specifications for complete installation details.

All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.

FOAMULAR® XPS Insulation can be exposed to the exterior during normal construction cycles. During that time some fading of color may begin due to UV exposure, and, if exposed for extended periods of time, some degradation or "dusting" of the polystyrene surface may begin. It is best if the product is covered within 60 days to minimize degradation. Once covered, the deterioration stops, and damage is limited to the thin top surface layers of cells. Cells below are generally unharmed and still useful insulation.

FOAMULAR® XPS Insulation is a thermoplastic material with a maximum service temperature of 165°F. ***For DURAPINK® XPS that is of proper thickness and installed per manufacturers recommendations, installation under a dark membrane is an acceptable application.*** However, until properly placed and secured, if stored under dark (nonwhite) or clear (non-opaque) materials, in horizontal applications (such as on roof decks), it may experience greater solar exposure and it may be damaged by heat buildup. Simple precautions during construction can minimize the potential for heat related damage. For all horizontal applications always turn the print side down so the black print does not show to the sun which may, at times, act as a solar collector and raise the temperature of the foam surface under the print. Do not cover FOAMULAR® XPS Insulation either stored (factory wrapped or unwrapped), or partially installed, with dark colored (non-white), or clear (non-opaque) coverings and leave it exposed to the sun. Examples of such coverings include but are not limited to filter fabrics, membranes, temporary tarps, clear polyethylene, etc. If improperly covered, and exposed to the right combination of sun, time and temperature, deformation damage may occur rapidly. When covering is necessary, use only white opaque material, or, cover with the final approved finish material as soon as possible. A white opaque cover reflects energy from the sun rather than absorbing it or passing it which reduces the potential for excessive heat exposure. Clear (non-opaque) coverings allow light energy from the sun to pass through rather than reflect it which may produce a partial greenhouse effect, trapping hot air and raising the temperature below the cover. See Owens Corning publication number 10015704, "Heat Build Up Due to Solar Exposure" for more information.

Standards, Codes Compliance
- Meets ASTM C578 Type IV
- UL Classified. A copy of UL Classification Certificate U-197 is available at www.owenscorning.com
- See UL ER8811-01 at UL.com
- ASTM E108 Fire Classified Assemblies. See UL On-Line Certifications directory for details.
- Meets California Quality Standards and HUD UM #71a
- Compliance verification by RADCO (AA-650)

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Certifications and Sustainable Features of FOAMULAR® XPS Insulation

- FOAMULAR® XPS Insulation is reusable and remnants from manufacturing are recycled back into new XPS Insulation
- FOAMULAR® XPS Insulation is made with a zero ozone depletion formula
- Certified by SCS Global Services to contain a minimum of 20% recycled content
- Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification Program, and the GREENGUARD Gold Certification.
- Utilizing FOAMULAR® XPS Insulation can help achieve green building certifications including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) certification

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at http://sustainability.owenscorning.com.

Warranty

FOAMULAR® XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C 578 properties. See actual warranty for complete details, limitations and requirements at www.owenscorning.com.

References

- "The Impact of Climate on Drying Times of a Wetted Low-Slope Roof System," A.O. Desjarlais, D.M. Kyle, J.E. Christian, Oakridge National Laboratory, Journal of Thermal Insulation, December 1992.

All products described here may not be available in all geographic markets. Consult your local sales office representative for more information.

For more information on the Owens Corning family of building products, contact your Owens Corning dealer, call 1-800-GET-PINK®, or access www.owenscorning.com.

GREENGUARD PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS UL.COM/GG UL 2818

GREENGUARD GOLD PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS UL.COM/GG UL 2818

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AVERAGE 20% RECYCLED CONTENT PRE-CONSUMER

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