GreenGuard®

GG100-LG XPS Insulation Board

For use as insulation for high load-bearing engineered applications requiring 100 psi minimum compressive strength

- GreenGuard® 100 psi boards are ideal for these high-load applications:
  - Protected Membrane Roofs (PMR)
  - Green Roof Applications
  - Geotechnical heavy load-bearing structures (airport runways, high ways, helicopter landing pads, bridge abutments, parking decks)
  - Convention Roofs
  - Below-Grade Foundations
  - Floors and Walls

Kingspan®

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Description

Kingspan GreenGuard® GG100-LG XPS Insulation Board is a closed-cell foam insulation designed for demanding applications such as low temperature (freezer floor) applications, highways, airport runways, bridge abutments, parking decks, utility lines, and ice rinks. With a compressive strength of 100 psi (690 kPa), it offers exceptional moisture resistance and R-value retention

Kingspan GreenGuard® insulation products are engineered to resist compressive creep and fatigue, ensuring sustained compressive strength over time. Like all Kingspan GreenGuard® insulation products, 100 XPS insulation is known for its durability, versatility, and reusability, making it a preferred choice for a wide range of high-load applications.

Features and Benefits

- Highly Moisture Resistant: Superior resistance to water absorption, water vapor transmission and freeze thaw cycling
- Long-Term Compressive Strength: Resist compressive creep and fatigue

Warranty

Kingspan GreenGuard® insulation is backed by a 50-year thermal limited warranty on products 1.5 inches and greater. For thickness less than 1.5 inches, other warranties may apply. For additional warrant information please visit kingspaninsulation.us or contact your Kingspan sales representative.

Product Data			
Thickness	Width	Length	R-Value
2 in.	2 ft.	8 ft.	10
Test Method	**Test Title**	**Property**	**Results**
	Fire		
UL 723	Test Method for Surface Burning Characteristics of Building Materials	Surface Burning Characteristics	Flame Spread ≤ 25 Smoke Developed ≤ 450
	Thermal		
ASTM C518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	Thermal Resistance per inch, @ 75°F mean temp.[1]	5.0 ft² ·h·°F/Btu, R-value, min.
ASTM D696	Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between −30°C and + 30°C with a Vitreous Silica Dilatometer	Coefficient of Linear Thermal Expansion	3.5 x 10-5 in/in·°F
ASTM D2126	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging	Change in Dimensions	2.0 % change, max.
	Strength		
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics	Compressive Strength[2]	100 psi, min.
ASTM D1622	Standard Test Method for Compressive Properties of Rigid Cellular Plastics	Compressive Modulus (typical)	3,700 psi
ASTM C203	Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation	Flexural Strength	100 psi, min
	Water		
ASTM C272	Standard Test Method for Water Absorption of Core Materials for Sandwich Construction	Water Absorption	0.1 % by volume, max.
ASTM E96	Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials	Water Vapor Permeance[3]	0.8 perm, max.

[1] Values are consistent with the criteria of ASTM C578 and the requirements of the FTC R-value rule (16 CFR Part 460). R means resistance to heat flow. The higher the R-value, the greater the insulating power.
[2] Vertical compressive strength is measured at 5 percent deformation or at yield, whichever occurs first. Since extruded polystyrene insulations are visco-elastic materials, adequate design safety factors should be used to prevent long-term creep. For static loads, 3:1 is suggested. For dynamic loads, call (800) 241-4402 for safety factor recommendation.
[3] Based on 1" thickness.

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Warning

WARNING: For Professional Use Only - Read and follow the entire Safety, Handling, and Storage section carefully before use. The information below is designed to protect the user and allow for safe use and handling of Kingspan products. Due to the critical technical design aspects of many of its applications, Kingspan recommends that qualified designers or consultants design your system. Follow all applicable federal, provincials, territories, local and employer regulations.

Precautionary Statements

- **CAUTION:** Kingspan GreenGuard® XPS Insulation is combustible. This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code.
- Fabrication methods which involve cutting into this product may release the blowing agent(s) remaining in the cells. Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower flammable limit.
- If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.
- Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Supplemental Information

The product meets the definition of an article and is exempt from US TSCA and Canadian DSL inventory requirements. Compliant with Title 42 Chapter 85 Clean Air Act: Subchapter VII American Innovation and Manufacturing Act of 2020, and Section 612 US EPA Significant New Alternative Policy. Global Warming Potential <150. This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). Compliant with CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999, SOR/2016-137, 64.5 (1) Plastic foam or rigid foam product. Global Warming Potential <150.

Product Limitations

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Kingspan can give assurance that mold will not develop in any specific system.

Cleanup & Disposal

- Dispose of any residual Kingspan product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.
- Kingspan GreenGuard® XPS Insulation is made of extruded polystyrene (XPS) and can be recycled at facilities that recycle XPS materials. Please check recycling facilities in your area to ensure they can recycle XPS Insulation.

Life & Storage

In order to prevent buildup of combustible vapors, do not store large quantities of this product in unventilated spaces. Transport bulk shipments of this product in ventilated vehicles. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources. When stored outdoors, keep insulation boards covered with white plastic film or light-colored tarps to protect from weather and weighted down to prevent boards from being blown around by the wind. Store above standing water.

For more information on specific building product recommendations and installation guidelines, contact your Kingspan Insulation LLC representative.

Kingspan Insulation LLC believes the information and recommendations herein to be accurate and reliable. However, since use conditions are not within its control, Kingspan Insulation LLC does not guarantee results from use of such products or other information herein and disclaims all liability from any resulting damage or loss. No warranty, express or implied, is given as to the merchantability, fitness for particular purpose, or otherwise with respect to the products referred to.

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Please scan the QR code for the most recent product information.

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