Firestone Polyiso Boards

Superior energy efficiency.
Superior protection.

Firestone Polyiso Boards

Firestone
BUILDING PRODUCTS
NOBODY COVERS YOU BETTER.®

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Firestone Polyiso Boards

Firestone total roofing systems

Since Firestone Building Products entered the commercial roofing industry in 1980, the company has produced and installed over 1.000.000.000 m^2 of single-ply membranes worldwide. This performance has made Firestone Building Products a leading manufacturer of EPDM and TPO membranes.

Firestone is however committed to offer a complete line of high performing roofing solutions as individual as your building. This commitment has resulted in the development of Firestone's Polyiso Boards.

A winning combination

Firestone offers two types of Polyisocyanurate boards: Firestone ISO 95+ GL Insulation Board and Firestone ISOGARD™ HD Cover Board. Thanks to their physical properties, they bring added-value to the roofing system, prior to installation of a durable EPDM or TPO roofing membrane.

The **Firestone ISO 95+ GL** insulation board offers high-energy efficiency for which PIR boards are renowned. Compatible with all types of commercial roofing systems, this lightweight, easy-to-handle insulation is suited for direct application onto steel roof, concrete or wood deck. It provides outstanding thermal resistance, dimensional and compressive strength.

Firestone ISOGARD™ HD is a high-density cover board that not only combines high impact resistance and ease of installation in a single durable product, but also enhances fire and wind resistance of the roof build-up, adds compressive strength to the entire roof system and provides a smooth surface in case of reroofing. With the highest thermal performance of any 12 mm cover board product on the market and a superior resistance to extreme weather conditions, ISOGARD™ HD provides an added measure of protection for any roof.

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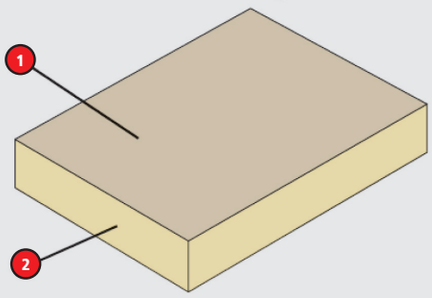
Firestone ISO 95+ GL



1. Glass Reinforced Mat Facer
2. Closed-cell Polyiso Foam Core

Polyiso roof insulation board

Firestone ISO 95+ GL consists of a closed-cell Polyiso foam core laminated on both sides to a glass reinforced mat facer. The foam technology does not contribute to the depletion of the earth's ozone layer (zero ODP) and uses a HCFC-free blowing agent.

Superior insulation solution

The ISO 95+ GL board is suitable for adhered, ballasted and mechanically fastened single-ply roofing systems. It provides outstanding thermal resistance, dimensional and compressive strength.

The installation of Firestone ISO 95+ GL insulation boards as part of a Firestone Total Roofing System provides you with a single source of quality design, quality materials and warranty responsibility.

Technical features

- Compatible with ballasted, fully adhered and mechanically attached single-ply systems.
- Available in flat boards of 1,22 m x 2,25 m and in thicknesses ranging from 25,4 mm to 101,6 mm.
- Coated and perforated glass reinforced mat facer of approx. 150 g/m².
- Firestone EPDM and TPO Roofing Systems installed over Firestone ISO 95+ GL obtain $B_{ROOF}(t1)$ fire rating. Contact the Firestone Technical Department for further information.

Physical properties

Property	ASTM test	Typical Value	EN test	Typical Value
Density	D-1622	32 kg/m³	823	32 kg/m³
Compressive strength	D-1621	> 138 kPa	826	> 138 kPa
Dimensional stability	D-2126	< 2%		
Water absorption	C-209	< 1% (by volume)	12087	< 3% (by volume)
Service temperature		-73°C to 121 °C		

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Product data

R-values have been determined using the calculation method described in EN ISO 6946 standard based on the use of the Firestone ISO 95+ insulation board waterproofed using a single-ply membrane and taking into account the surface resistances, both inside and outside.

If you require a more detailed R or U-value calculation, please contact the Firestone Technical Department.

Thickness (mm)*	Thickness (inch)	R-Value (m^2. K/W)
25,4	1,00	1,11
31,7	1,25	1,35
38,1	1,50	1,58
44,5	1,75	1,82
50,8	2,00	2,05
58,4	2,30	2,26
63,5	2,50	2,44
71,1	2,80	2,71
76,2	3,00	2,89
82,6	3,25	3,02
88,9	3,50	3,24
95,3	3,75	3,45
101,6	4,00	3,68

* Please contact Firestone Building Products for availability of other thicknesses.

Code compliance

Firestone ISO 95+ GL bears a variety of code body compliances noted below:

- CE marked according to EN 13165
- ASTM C-1289, Type II, Class 1
- UL Classified
- FM Class 1 Approved (insulated steel deck construction)
- Manufactured in an ISO 9002 Registered Facility

Packaging, storage and precautions

1. Tuff-wrap packaging provides a durable protective covering to the top and four sides of the bundle, as well as a portion of the bottom board.
2. Keep insulation dry at all times. Insulation bundles need to be elevated above the water line to prevent moisture infiltration from the bottom side.
3. Combustible. Refer to MSDS for more information.
4. Before insulation is placed on the roof deck, the substrate must be clean, dry, free of debris, water, ice or snow, and suitably prepared by removing all defects that might affect the quality of the application. Any unusual deck conditions or defects should be brought to the architect or building owner's attention prior to installation.
5. No more insulation shall be installed than can be covered with membrane and completed before the end of each day's work or before the onset of inclement weather.
6. ISO 95+ GL is non-structural, non-load-bearing material. The finished roof assembly should be protected from excessive roof traffic with proper walkway materials.

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Method of application

ISO 95+ GL insulation boards must be installed using fasteners and plates, hot bitumen or Firestone approved insulation adhesives. Insulation shall be neatly fitted to all roof perimeters, penetrations and abutments. The ISO 95+ GL board is suitable for adhered, ballasted and mechanically fastened single-ply roofing systems.

Mechanically Attached single-ply Systems

Fasten the insulation with a minimum of 5 approved fasteners and plates per 1,22 x 2,25 m board. Additional fasteners may be required in areas of high wind loads or around the perimeter of the roof. Please refer to local wind uplift requirements and/or contact the Firestone Technical Department.

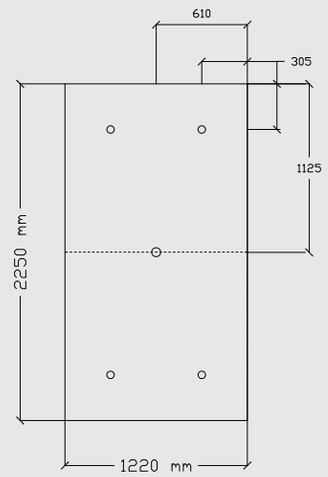
Ballasted single-ply Systems

For ballasted systems, the top layer of Firestone insulation may be loose laid or adhered. If mechanical attachment is specified, contact Firestone Building Products for specific guidelines.

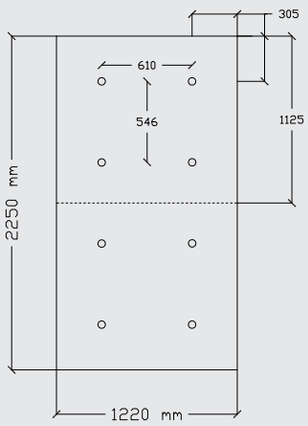
Fully Adhered single-ply Systems

Number of fasteners per board needs to be determined based on a wind uplift calculation in accordance with local building codes and taking into account the following minimum requirements:

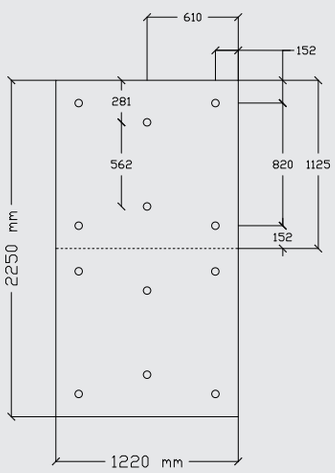
- **Thicknesses less than 38,1 mm**: Fasten insulation with minimum 16 fasteners per 1,22 x 2,25 m board.
- **Thicknesses less than 50,8 mm**: Fasten insulation with minimum 12 fasteners per 1,22 x 2,25 m board.
- **Thicknesses less than 101,4 mm**: Fasten insulation with minimum 8 fasteners per 1,22 x 2,25 m board.



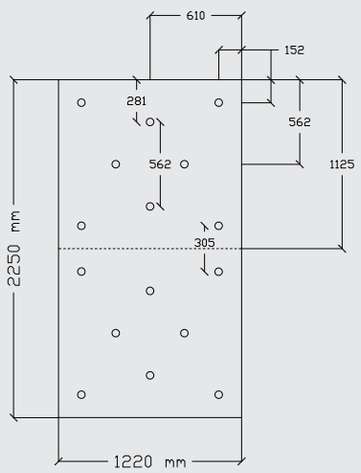
5 fasteners



8 fasteners



12 fasteners



16 fasteners

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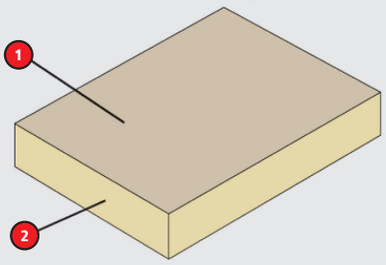
Firestone ISOGARD™ Cover Board



1. Coated Fiberglass Facer
2. High Density Polyisocyanurate Foam Core

Polyiso roof cover board

Firestone ISOGARD™ HD Cover Board is a 12,7 mm thick Polyiso board designed for use as a cover board. It is a high-density, closed-cell, Polyiso foam core that has been manufactured with a coated fiberglass facer.

Protects. Conserves. Endures.

When foot traffic on the roof is heavy, mineral wood boards run the risk of being crushed or, in case of plastic foam insulations, the adhesion of the facer to the foam can be affected. The ISOGARD™ HD Cover Board spreads the load and protects the boards underneath. It therefore often pays, from a life-cycle cost perspective, to protect the insulation boards with ISOGARD™ HD Cover Boards. They combine impact resistance and ease of installation in a single durable product.

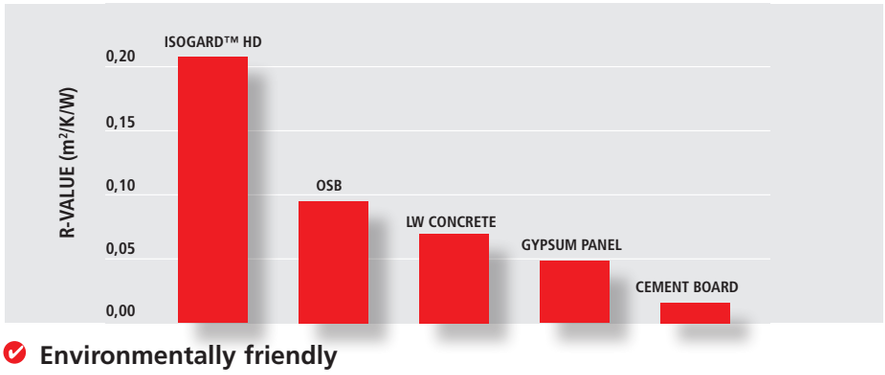
Features & benefits

Easy to use

ISOGARD™ HD Cover Board is easy to cut and handle for quick fabrication around roofing elements such as drains or other penetrations, reducing installation time and labour costs. A single 1,22 m x 2,25 m sheet of ISOGARD™ HD Cover Board weighs only 5 kg, meaning easy manipulation and placement.

Outstanding performance qualities

ISOGARD™ HD Cover Board leads to superior wind uplift performance, lays flat and requires fewer fasteners per 1,22 m x 2,25 m board compared to 25 mm insulation boards. ISOGARD™ HD Cover Board has the highest thermal performance (determined by ASTM C518) of any 12 mm cover board, and it is resistant to extreme weather conditions.



Environmentally friendly

ISOGARD™ HD Cover Board is composed of mold-resistant material that does not support growth of damage-causing fungi and bacteria. The board is manufactured with a 100% fiberglass, mold- and moisture resistant facer. ISOGARD™ HD Cover Board contains 8% Post Industrial Recycled Content. It uses a HCFC-free blowing agent that does not contribute to the depletion of the ozone layer and there are insignificant amounts of global warming potential.

An added measure of protection

With a compressive strength of more than 700 kPa (5 to 6 times that of a normal PIR insulation board), ISOGARD™ HD Cover Board adds structural strength to the entire roofing system and helps to absorb the effects of hail, worker traffic and other potentially damaging impacts. ISOGARD™ HD Cover Board can also enhance fire performance of the roofing system. Contact the Firestone Technical Department for further information.

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Physical properties

Property	ASTM test	Typical Value
Density	D-1622	80 kg/m³
Compressive strength	D-1621	827 kPa
Resistance to mold	D-3273	Pass
Foot traffic resistance	Rolling Load Emulator	> 6000 passes
Dimensional stability	D-2126	< 0.5%
Water absorption	C-209	< 3% (by volume)

Product data

Thickness (mm)	Thickness (inch)	Dimensions (mm)	Dimensions (ft)
12,7	0,50	1,22 x 2,25	4' x 7'

Code compliance

Firestone ISOGARD™ HD Cover Board bears a variety of code body compliances noted below:

- Manufactured in an ISO 9002 Registered Facility
- FM Global Approved when applied with the fastening pattern shown below
- UL Classified

Packaging, storage and precautions

- Firestone ISOGARD™ is a non-structural material. Therefore, keep insulation dry at all times. Bundles need to be elevated above the water line to prevent moisture infiltration from the bottom side.
- Combustible. Refer to MSDS for more information.
- Do not install over wet, damp or uneven substrates.

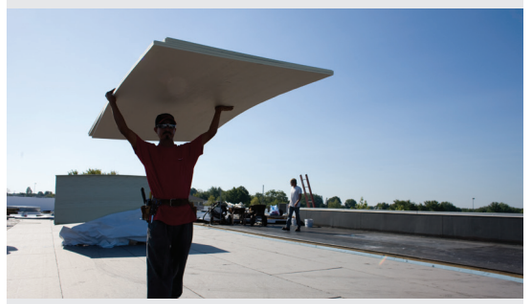
Method of application

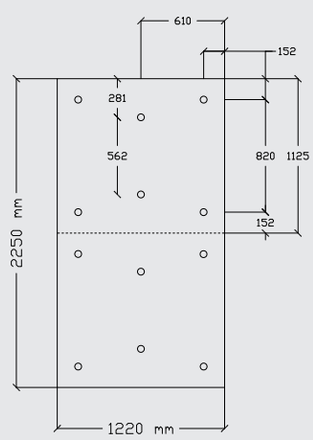
Firestone ISOGARD™ HD shall be neatly fitted to all roof penetrations and projections. No more boards shall be installed than can be covered with membrane and completed before the end of each day's work or before the onset of inclement weather.

Firestone ISOGARD™ HD can be applied over existing roof surfaces and under adhered or mechanically attached single-ply roofing membranes. ISOGARD™ HD Cover Board must be installed using approved fasteners and plates or insulation adhesives.

Number of fasteners per board needs to be determined based on a wind uplift calculation in accordance with local building codes and taking into account a minimum requirement of 12 fasteners per board. Please consult Firestone Technical Department for information on fastening patterns.

DO NOT use hot asphalt with ISOGARD™ HD. DO NOT install ISOGARD™ HD under ballasted systems.





12 fasteners

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