



Boosting Efficiency

of the "World's Best Roof®"

Duro-Guard®
Insulation Solutions

How Could We Make the "World's Best Roof®" Better?



Once Duro-Last® created the "World's Best Roof®", we started working on how to make it better.

We did so by ensuring every element of the roofing system lives up to the quality control standards of Duro-Last roofing membranes.

This meant designing and manufacturing our own fasteners, edge metal and drainage details – and partnering with manufacturers that meet very specific criteria for roof cover boards and insulation.

This ensures every component of a roof plays to the strengths of your Duro-Last Roofing System.

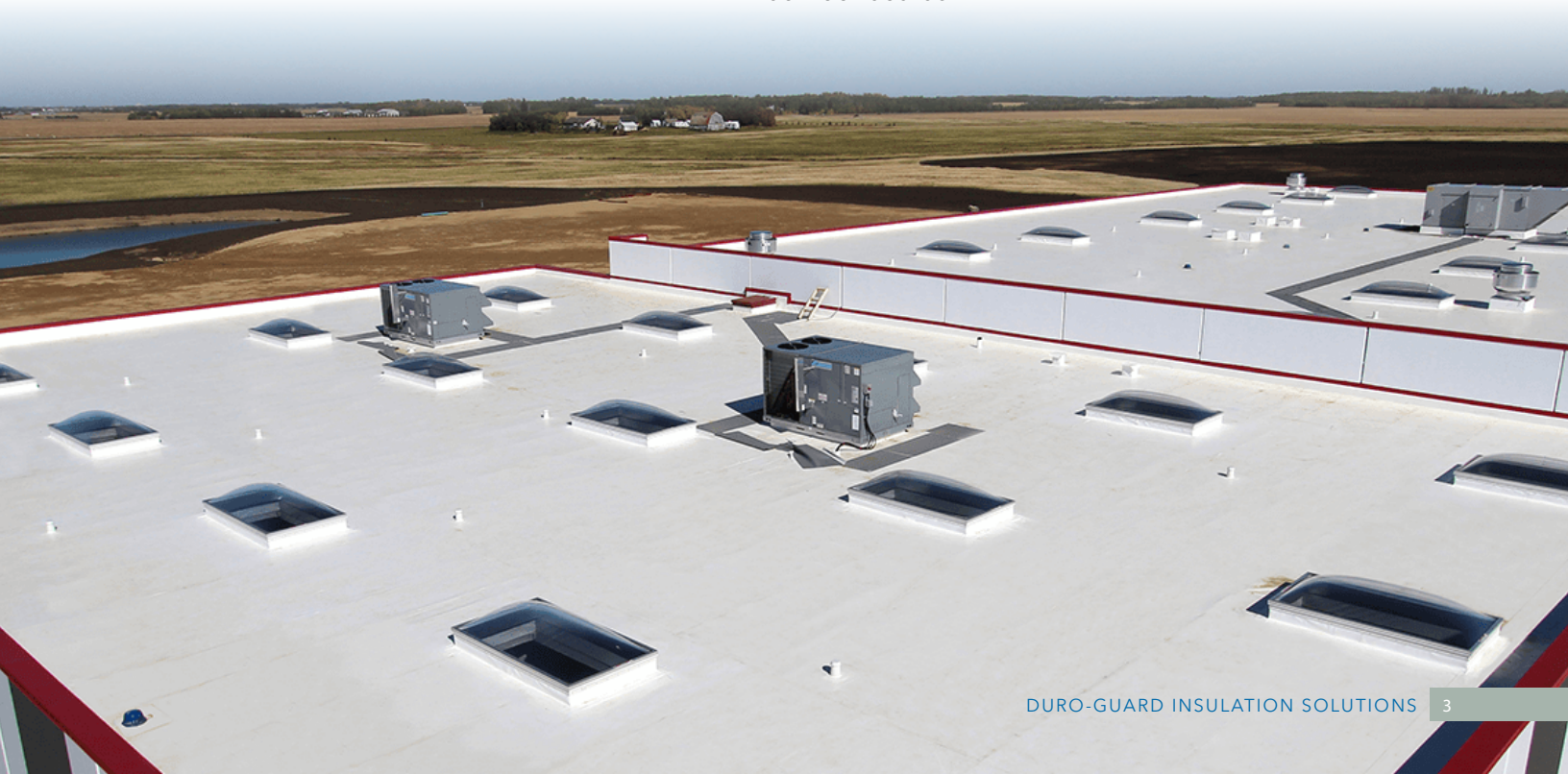




Duro-Guard Insulation Solutions

Duro-Last offers a variety of Duro-Guard insulation solutions for use with Duro-Last Roofing Systems, including:

- Duro-Guard polyisocyanurate (ISO) insulation panels
- Duro-Guard expanded polystyrene (EPS) insulation panels
- Expanded (EPS) fan fold products
- Extruded polystyrene (XPS) fan fold products
- Duro-Last Vapor Barrier
- Reinforced gypsum, cement and poly-coated fiber roof boards



Duro-Guard Insulation Solutions

No matter what kind of roof you have, insulation plays a critical role in reducing heat exchange – and saving energy. Duro-Guard insulation solutions offer a variety of products for use with Duro-Last Roofing Systems.

Duro-Guard ISO and EPS insulation panels:

- Provide Long-Term Thermal Resistance (LTTR) values
- Contain no CFCs or HCFCs
- Have zero ozone depletion potential (ODP)
- Are EPA compliant
- Have virtually no global warming potential (GWP)



Duro-Guard ISO Insulation

Because of its superior R-value, buildings with polyisocyanurate board insulation have lower heating and cooling costs than buildings insulated with other materials of the same thickness.

Polyiso has the highest R-value per inch of any rigid foam board insulation.

Duro-Last insulation solutions are UL and FM approved and many of our roof board products offer Miami-Dade County and Florida Products compliance. For more information on code approvals and standards, visit the Duro-Last website at: duro-last.com/duroguard

- A polyiso continuous insulation system keeps energy and heat loss to a minimum, increasing the building's energy efficiency and leading to lower monthly operating costs.
- Among all foam plastics, polyiso possesses the highest level of inherent fire resistance because of its unique structure of strong isocyanurate chemical bonds.

Product	Composition	R-Value	Properties	Flat	Tapered
ISO II	A closed-cell polyisocyanurate foam core insulation board with an integrally laminated, fiber-reinforced facer.	5.7 to 26.8	- Manufactured with a blowing agent that has zero ozone depletion potential and virtually no global warming potential. - Approved for direct application to steel and other deck types.	X	X
ISO III CG	A closed-cell polyisocyanurate foam core insulation board with an integrally laminated, heavy, durable and dimensionally stable coated-glass facer.	5.7 to 26.8	- Manufactured with a blowing agent that has zero ozone depletion potential and virtually no global warming potential. - Offers excellent fire and mold resistance.	X	X
ISO HD	A ½" thick, high-density polyisocyanurate insulation panel specifically designed for use as a cover/recover board.	2.5	4 lbs/pcf high-density foam core provides enhanced physical properties. - Sturdy constitution and durability protects the roof system from effects of hail, roof top construction traffic and other potentially damaging elements.	X	
ISO HD Composite-H	Comprised of ½" high-density polyisocyanurate cover board laminated during the manufacturing process to Duro-Guard ISO III rigid roof insulation.	8.2 to 26.1	- Eliminates the need for a cover board. - Ideal for commercial roofing projects requiring high thermal efficiency combined with maximum durability.	X	
ISO NB	A rigid roof insulation composite panel composed of a closed-cell polyisocyanurate foam core bonded during the manufacturing process to fiber reinforced facers on one side to OSB board or plywood.	6.3 to 24.2	A superior combination of high insulating properties and a nailable surface.	X	

Duro-Guard EPS Insulation

Duro-Guard EPS Types I, II, VIII and IX are insulations consisting of a superior closed-cell, lightweight and resilient expanded polystyrene.

- Contain no CFCs or HCFCs
- Superior moisture resistance
- 100% recyclable



Product	Composition	R-Value	Properties	Flat	Tapered
EPS Type I, II, VIII and IX	A rigid modified expanded polystyrene with superior, resilient closed cells.	4.17 to 4.76	- Densities: Type I - 0.9 to 1.0 Type II - 1.35 to 1.5 Type VIII - 1.15 to 1.25 Type IX - 1.8 to 2.0 - Provides a high R-value at a low cost.	X	X
EPS Fiberglass Facer	A premium insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene, which is factory-laminated to a durable fiberglass facer.	4.2 to 25.2	Saves labor time and reduces overall project costs when incorporated into a roofing system requiring a slip sheet.	X	
EPS Nail Base	A premium composite insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene bonded to OSB or plywood.	6.4 to 43.9	A superior combination of high insulating properties and a nailable surface.	X	
HD ISO Plus EPS	A premium insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene bonded to a high-density polyisocyanurate cover board.	8.8 to 27.7	May be used directly under the Duro-Last membrane.	X	

Duro-Guard Fan Fold Products

Fan Fold is used most often as a recover board when applying a single-ply membrane roof over granulated or smooth cap sheets, smooth built-up roof systems, aggregate-surfaced built-up roofs, aged coal tar pitch roof systems or other single-ply membranes.

All Duro-Guard Fan Fold products are inert, non-nutritive and highly stable. They contain no CFCs, HCFCs or HFCs and offer superior moisture resistance.

XPS Fan Fold

Duro-Guard XPS Fan Fold insulation is available in a crush fold or hybrid crush/cut fold. Both types are manufactured with a rigid extruded polystyrene core and wrapped with tough facers to create a durable, water-resistant board. Highly resistant to heat flow and moisture penetration, the film facers are compatible with all roof membranes offered by Duro-Last.

XPS Fan Fold boards are $\frac{3}{8}$ " thick and measure 4' by 50', for 200 square feet of coverage. They are fan-folded every two feet, creating easy-to-handle bundles measuring 2' by 4' by 9" thick.

EPS Fan Fold

Manufactured with a rigid expanded polystyrene core and wrapped with tough facers to create a durable, water-resistant board. EPS is a closed-cell foam, which is highly resistant to heat flow and moisture penetration. The film facers are compatible with all roof membranes offered by Duro-Last.

EPS Fan Fold boards are $\frac{1}{2}$ " thick and measure 4' by 50'. They are also fan-folded every two feet, creating easy-to-handle bundles measuring 2' by 4' by 13" thick.



Duro-Guard Roof Board Products

Also known as cover boards or double-layered insulation, roof boards are an unseen, yet critical component of roofing projects. The primary advantage of double-layered insulation is that it provides a smoother top surface for the application of the membrane – an important characteristic in adhered membrane systems because membrane adhesion is more successful over flat, stable surfaces.

Roof board insulates the fastener, eliminating energy loss and possible thermal bridging at fasteners and insulation joints. Roof board also eliminates protrusions to the membrane surface from backed-out fasteners created by thermal contraction stress, and it prevents the need for continual membrane repair throughout the service life of the system.

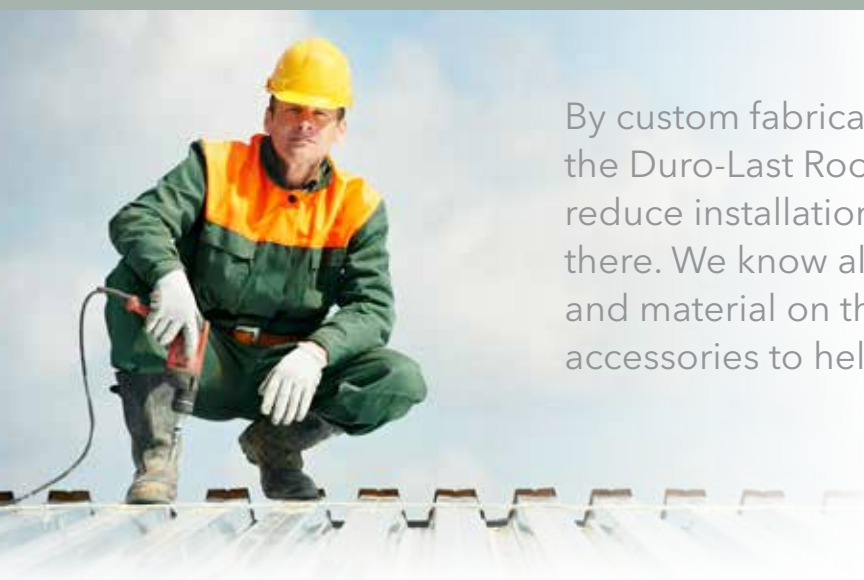
In addition to offering a firm substrate for fastening, composite roof boards offer better sound and thermal insulation to fiberboard, OSB and other traditional roof decking products. Duro-Last offers four families of roof boards:

- DensDeck® Roof Boards
- SECUROCK® Roof Boards
- DEXcell® Roof Boards
- Everboard™ HalfBack ½" Roof Boards

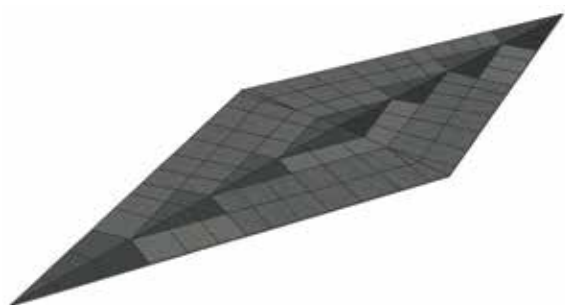


Product	Composition	R-Value	Properties	Adhered	Mechanically Attached
DensDeck® (¼", ½" and ⅝")	A cover board employing fiberglass mats front and back, mechanically bonded to a high density gypsum core, providing excellent fire resistance and wind uplift properties.	¼" - 0.28 ½" - 0.56 ⅝" - 0.67	Can be used as a fire barrier, thermal barrier, cover board and recovery board.		X
DensDeck Prime (¼", ½" and ⅝")	A cover board that employs fiberglass mats front and back, mechanically bonded to a high density gypsum core, providing excellent fire resistance and wind uplift properties.	¼" - .28 ½" - .56 ⅝" - .67	- Enhanced face mats allow adhesives to be applied more uniformly and consistently. - Reduces the amount of mastic or adhesive used and potentially eliminates field primers.	X	X
SECUROCK Glass Mat (¼", ½" and ⅝")	A cover board with unique, fiber-reinforced, homogenous composition giving the panel strength and water resistance through to the core. High-performance glass-mat facer provides protection against fire, mold and moisture.	¼" - 0.36 ½" - 0.53 ⅝" - 0.54	- Engineered to provide superior wind uplift performance. - Uniform water-resistant core ensures excellent moisture and mold resistance. - Easy to cut, handle and install.		X
SECUROCK Gypsum-Fiber (¼", ⅜", ½" and ⅝")	A cover board with unique, fiber-reinforced, homogenous composition giving the panel strength and water resistance through to the core.	¼" - 0.20 ⅜" - 0.30 ½" - 0.50 ⅝" - 0.60	- Made from 97% recycled material. - Low absorption in adhered systems.	X	X
DEXcell Glass Mat (¼", ½" and ⅝")	A high-performance cover board manufactured with coated fiberglass facers and an enhanced gypsum core.	¼" - 0.25 ½" - 0.45 ⅝" - 0.50	- Resistant to fire, mold and mildew. - Scores and snaps easily. - Coated fiberglass facers for improved handling and strength.		X
DEXcell FA Glass Mat (¼", ½" and ⅝")	A mold-resistant gypsum board designed for use as a cover board and/or thermal barrier in commercial roofing applications.	¼" - 0.25 ½" - 0.45 ⅝" - 0.5	- Resistant to fire, mold and mildew. - Scores and snaps easily. - Recommended for adhered roofing systems.	X	X
DEXcell Cement	A lightweight moisture and mold-resistant cement board designed for use as a cover board and/or thermal barrier.	7/16" - 0.28	- Lightweight cementitious core. - Superior moisture resistance. - Exceptional freeze/thaw resistance.	X	X
EVERBOARD HalfBack ½"	A unique composite panel made of 100% recycled poly-coated fiber, with excellent freeze-thaw moisture and mold resistance. With twice the compression strength of any other cover board, HalfBack can be used as a recovery board and overlayment protection for polyiso and polystyrene insulation.	¼" - 0.25 ½" - 1.0	- Easy to handle, won't crack, disintegrate or delaminate. 100% recycled material. - Maximum LEED® points, with zero VOCs and zero water manufacturing process.	X	X

Reducing Your Time on the Roof

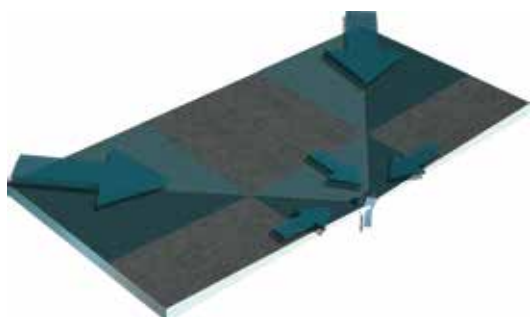


By custom fabricating most of the seams in the factory, the Duro-Last Roofing System is designed to help you reduce installation time. But the efficiency doesn't stop there. We know all the pain points that cost you time and material on the job site – and offer products and accessories to help you minimize them.



Duro-Guard Pre-Cut Cricket

Made of expanded polystyrene, these custom fabricated crickets virtually eliminate the time and waste material required to make crickets on-site.



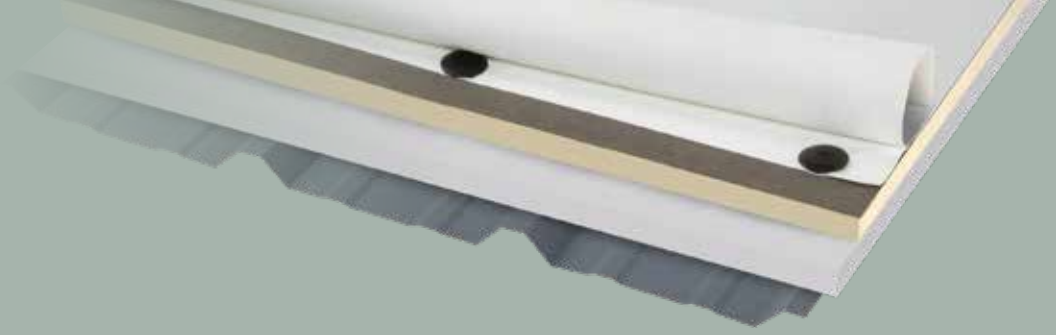
Duro-Guard Pre-Cut Miter

These dimensionally stable 4' by 4' panels offer a simple, prefabricated valley or hip solution. Made of closed-cell polyiso bonded to reinforced facers, they are available in a variety of slopes and thicknesses and are compatible with standard tapered panels.



Duro-Guard Tapered Edge Strip

Duro-Guard Tapered Edge Strips can be used for a variety of insulation transitions, including crickets, drain sumps and perimeter slope enhancement. The 96" panels are made of polyiso foam with reinforced facers and are available in two widths to create slopes of 1" or 1.5" per foot.



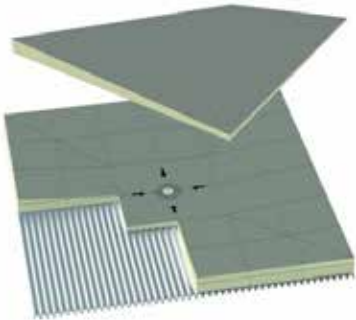
Duro-Guard Nailable Cross-Ventilated Roof Insulation

These thermally efficient cross-ventilated panels consist of vent spacer strips permanently bonded to polyiso insulation board and OSB or CDX plywood. The 4' by 8' panels are available in several composite thicknesses, from 2.5" to 6.5", and are also available in a non-vented form.



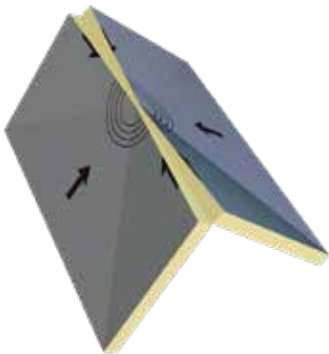
Duro-Guard Extended Panel Taper

The Duro-Guard Extended Panel Taper allows you to do more with less – less adhesive, less handling and less labor. Each sloped rigid roof insulation panel is composed of a closed-cell polyiso core bonded to a fiber reinforced facer or coated glass facer on both sides. They are available in 4' by 4' sheets with slopes from 1/16" to 1/2" per foot.



Duro-Guard Hinged Target Sump

Reduce waste, dumpster fees and labor on the roof. This hinged panel unfolds into a pre-cut drain sump. Made of polyiso with fiber-reinforced facing or coated glass facer, it is available in edge thicknesses from 1" to 3" and four different slopes from 1/8" to 1/2" per foot.



Duro-Last Vapor Barrier Products

Vapor barrier plays a critical role in the roofing and insulating system. It prevents vaporized moisture from migrating from the inside of the building and damaging decking and insulation. Duro-Guard Vapor Barrier products are also manufactured with properties designed especially to work with the unique qualities of a Duro-Last Roofing System.





Duro-Last Vapor Barrier

Our vapor barrier is a self-adhesive membrane composed of SBS-modified bitumen adhesive and silicone release film on the bottom surface, and a tri-laminated woven polyethylene on the top surface.



Sopramastic

This black, solvent-based mastic contains SBS-modified bitumen, fibers and mineral fillers. Sopramastic has been formulated with a high level of polymer to resist flow at high temperatures and is easily manipulated at temperatures down to 14 F. Sopramastic is an ideal complement for Duro-Last Vapor Barrier to form a temporary roof assembly. Its uses include waterproofing of T joints, transitions and any other openings within a temporary roof assembly.



Duro-Last VB Primer

Duro-Last VB Primer is a solvent-based primer composed of a blend of natural resins and synthetic rubber. Duro-Last VB Primer is designed to enhance the adhesion of Duro-Last Vapor Barrier to a variety of surfaces, such as structural concrete, gypsum, lightweight concrete, wood and masonry.

Manufacturers of the "World's Best Roof®" with proven performance since 1978.

How Can We Help?

Would you like to know more about how Duro-Guard insulation products can help you create a roofing system which is functional and beautiful? Contact us at 800.248.0280 or visit: duro-last.com/duroguard

Environmental Performance

Duro-Guard products can help contribute to LEED credits in several categories:

Energy and Atmosphere

- Minimum Energy Performance
- Optimize Energy Performance

Materials and Resources

- Building Reuse
- Construction Waste Management
- Recycled Content
- Local and Regional Materials

Innovation and Design



For more information give us a call
or visit our website today.

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duro-last.com/duroguard

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