

AK PANELS COMPARISON

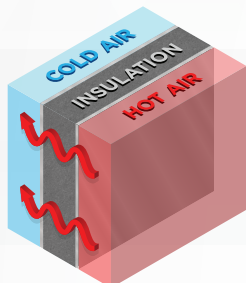
THE SUPERIOR CHOICE



Panel Construction

Amerikooler panels are built through automated assembly of precision-cut panels using specially formulated DuPont™ Styrofoam™ XPS (Extruded Polystyrene) foam insulation. XPS is designed specifically for Walk-In applications to deliver exceptional thermal performance, consistent quality, and long-lasting reliability. Our 4" thick panels achieve an R-Value of R-29 for Coolers, and R-32 for Freezers. Each panel passes through 10 quality control checkpoints, ensuring they meet all specifications, are correctly labeled, and are ready for packaging. XPS has been continuously improved for over the last 75 years since its patent by DOW (now Dupont) in 1944. Thoroughly tested and at the forefront of performance with DuPonts™ Industry leading 50-Year Thermal and Amerikooler's 15-Year Panel Warranty Amerikooler XPS is the ideal choice for superior cold storage solutions.

*Reference DuPont 50-Year Limited Thermal Warranty

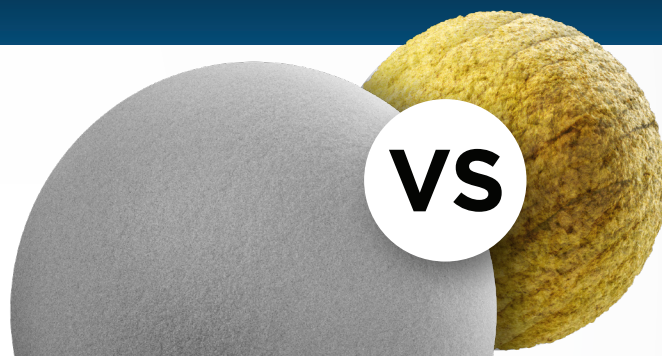


WHAT IS R-VALUE?

- R-Value measures a material's thermal resistance, indicating its effectiveness in preventing heat transfer, which is essential for maintaining cold environments. The new EISA regulations require walk-in coolers to have a minimum R-value of 25 for ceilings, walls, and doors at 55°F, while freezers must have an R-value of 32 at 20°F.

INSULATION PROPERTIES

- XPS insulation outperforms traditional Foam-In-Place (FIP) with its consistent, closed-cell structure, offering superior thermal resistance and hydrophobic properties. Unlike FIP, which can develop air pockets and absorb moisture, leading to reduced effectiveness and degradation, XPS provides durable, void-free panels that maintain their integrity over time. With its advanced manufacturing and reliability, XPS is the most advanced Walk-In insulation on the market.



AK Extruded Polystyrene (XPS)



- Thermal:** R-Value of 29 for coolers (7.25 per inch) and 32 for freezers (8 per inch). K-Value of 0.125 Btu-in/hr-ft²·°F. on Freezers. Flame Spread Index of 0-15 and a Smoke Developed Index of 155-165.



- Hydrophobic:** Vapor transmission less than 1.5 perm, & water absorption less than 0.1 % by vol.



- Composition:** 4" foam core with a density of 1.8 lb/ft³. 100% void free with consistent density of ultra-fine closed cell structures. Fully cured before received for manufacturing.



- CERTIFICATIONS:** Industry leading 50 Year Limited Thermal Warranty on insulation and 15 Year Limited warranty on Panels. Meets and exceeds all industry standard certifications in U.S.A. (including Leed, UL, EPD, ICC-ESR, EPA, & ASTM)



- SUSTAINABILITY:** Meets new HFC compliance standards in U.S.A. with lower embodied carbon (.5 per (A1-C4) kgCO₂e/bdft*). Produced with 20% pre-recycled material & is 100% recyclable.

Foamed-In-Place Polyurethane (FIP)



- Thermal:** R-Value of 28.8 for coolers (7.2 per inch) and 30 for freezers (7.5 per inch). K-Value of .125 Btu-in/hr-ft²·°F. on Freezers. Flame Spread Index of 20 and a Smoke Developed Index of 200.*



- Hydrophobic:** Vapor transmission less than 1.5 perm, & water absorption less than 0.2 % by vol.



- Composition:** 4" foam core with a density of 2.2 lb/ft³. Semi uniform density of closed cell structures. Cures over time, cannot be guaranteed to be 100% void free*



- CERTIFICATIONS:** Industry standard 10 Year Limited Thermal Warranty on insulation and 10 Year Limited warranty on Panels. Complies with key certifications in the U.S.A. (including UL, FM, EPA, & ASTM).*



- SUSTAINABILITY:** Compliant with U.S.A. HFC regulations. Contains 10% pre-recycled content and is recyclable where facilities exist.

EASY TO DO BUSINESS WITH SINCE 1985

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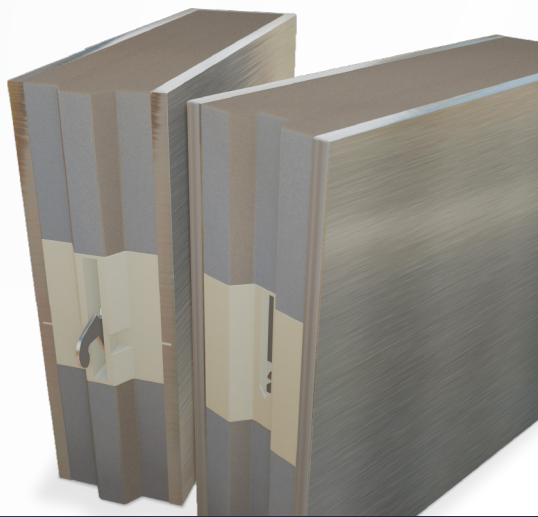
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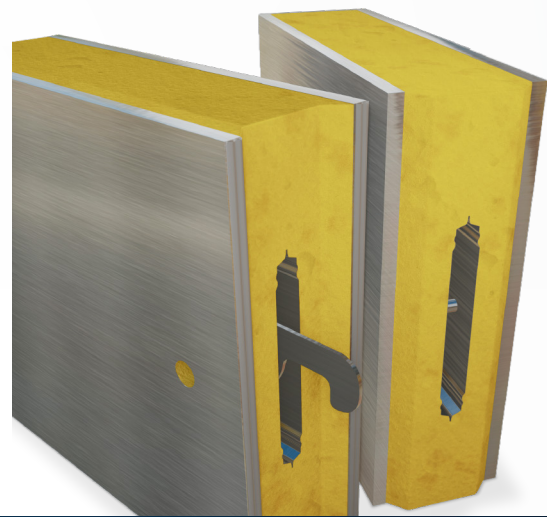
The “Delamination Myth”

Delamination refers to the separation of layers in composite materials, such as the metal skin detaching from the insulation in Walk-In panels. While commonly used in the industry, the term is a misnomer when applied to Foam-In-Place (FIP) panels, as they aren't truly laminated. FIP panels can “delaminate” however because the metal finish is not bonded to the insulation like in XPS panels. In FIP panels, ongoing curing and moisture absorption can lead to voids and degradation, compromising the panel's structural integrity. In contrast, Amerikooler's Laminated XPS Panels feature a metal skin permanently bonded to the cured XPS core using a proprietary adhesive, preventing separation and ensuring long-term durability.



**XPS (EXTRUDED POLYSTYRENE)
INSULATION PRODUCTION PROCESS**

VS



**FIP (FOAMED IN PLACE POLYURETHANE)
INSULATION PRODUCTION PROCESS**

- | | |
|---|--|
| <ol style="list-style-type: none">1. Manufactured using a proprietary continuous extrusion process; polystyrene resin pellets, blowing agents, and other chemicals are mixed, heated under pressure, and extruded into a solid block of material -this method ensures 100% consistency and density in the closed cell structure of the foam as it expands.2. After curing, each block is cut to 4” thick slabs , and surface-treated before being shipped to Amerikooler.3. Once received the slabs are inserted into the production line and automatically milled before cam-locks are inserted to precise configuration based on project specs.4. Panels are then bonded to the metal finish under extreme pressure and heat using a Dupont™ formulated laminate adhesive designed specifically for use on XPS insulation.5. Panels are configured and labeled before being ready for packing. We ensure quality at every stage of the manufacturing process through a combination of automated systems and manual inspections, with a total of 10 quality checkpoints. | <ol style="list-style-type: none">1. Manufacturing begins within an airtight framework using metal sheets and cam-action fasteners that have been prepositioned. A 2 part chemical mix is injected though a single opening which then begins to expand.2. Polyurethane foam expands irregularly to fill the cavity, ejecting air from inside the frame and forming trapped air pockets and small cavities, it cannot be guaranteed to be 100% void free.3. While standard panel molds are used, custom projects require new molds be built specifically for each panel, this increases lead-times.4. Panels must cure before being taken out of molds and are usually stocked in standard sizes, requiring extra storage space that could otherwise be used for increased manufacturing capacity. |
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