



Compressive  
Strength



Stable  
R-value



Moisture  
Resistant



Termite  
Resistant



Environmentally  
Friendly



Limited Lifetime  
Warranty



## How does Mineral Wool insulation compare to **THERMALSTAR X-GRADE GX rigid insulation?**

When specifying cavity wall insulation, consider ThermalStar<sup>®</sup> X-Grade<sup>®</sup> GX. It has been designed specifically for cavity wall applications and manufactured with proprietary EPS<sup>x</sup><sup>®</sup> Technology for long term performance and protection.

Property	Mineral Wool	ThermalStar X-Grade GX
Product Description	Semi-rigid, mineral wool insulation board designed for exterior cavity wall applications	Graphite enhanced expanded polystyrene rigid insulation for various commercial and residential projects, including cavity wall
Compressive Strength	Per ASTC C165, mineral wool is 0.625 psi at 10% deformation	X-Grade GX is available in 10, 15 and 25 psi at 10% deformation per ASTM D1621
<b>X-Grade Benefit:</b> A durable solution with compressive strengths available more than six times the psi of mineral wool, making it more damage resistant and supportive for load bearing applications		
Thermal Performance	Per ASTM C518, mineral wool has an R-value of 4.2/inch, which is subject to R-value reduction due to wind washing effect	Per ASTM C518, X-Grade GX has a stable, long term insulating value of R5 in a nominal 1" thick panel
<b>X-Grade Benefit:</b> Ability to provide a stable, higher R-value in a thinner wall		
Continuous Insulation	Mineral wool requires costly Z-Furring or proprietary clip systems, leading to expensive energy modeling to meet code, which will also cause thermal bridging, reducing the effective R-value of mineral wool	There are several types of anchor systems available, making X-Grade GX easy to install
<b>X-Grade Benefit:</b> Cost effective since X-Grade is compatible with several clip systems		
Moisture Resistance	Mineral wool has the potential to become saturated with moisture, reducing its thermal efficiency	A wax matrix is incorporated into X-Grade GX, enhancing the natural water resistance and assuring the product can withstand repeated exposure to moisture
<b>X-Grade Benefit:</b> Resistance to water absorption helps maintain a stable, long term R-value		
Fire Performance	Excellent fire performance, with ability to withstand high temperatures	GX Series products are approved for cavity wall NFPA 285 assemblies
<b>X-Grade Benefit:</b> Meets NFPA 285 standards, while providing superior thermal insulation performance		
Standard Sizes Available	16" x 48" and 24" x 48"	48" x 96" scored at 16", 24" and 32"
<b>X-Grade Benefit:</b> Flexibility to fit various wall applications		

# Environmental Product Declaration (EPD) COMPARISON

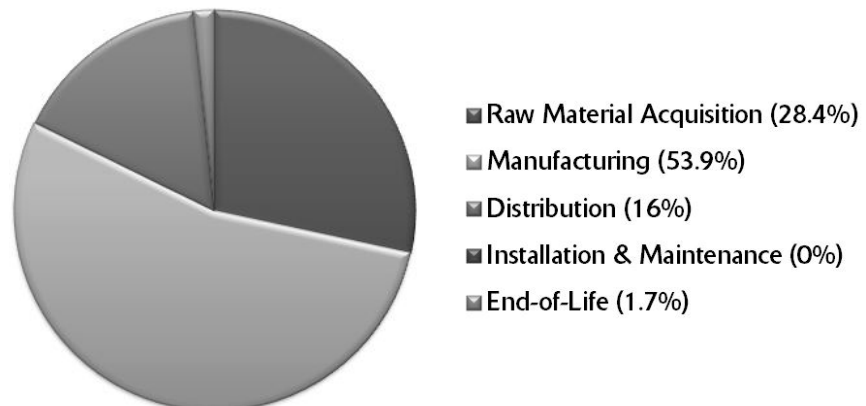
Did you know that EPS life cycle uses 5.3% less energy overall during its manufacturing process than mineral wool? In order to manufacture a 1m<sup>3</sup> of R5 EPS, it takes roughly 71.4 mega jewels of energy, compared to 75.4 mega jewels to make 1m<sup>3</sup> mineral wool.

Figures 1 and 2 illustrate a breakdown of the total energy demand for both the EPS and mineral wool life cycles. Raw material acquisition accounts for the majority of the total energy demand for EPS at 81.8%, with the actual manufacturing process only using 14.4%. Mineral wool on the other hand uses consumes the most energy during the actual manufacturing process (53.9%).

Figure 1: Total Energy Demand for EPS



Figure : Total Energy Demand for Mineral Wool



**ThermalStar**<sup>®</sup>  
Rigid Insulation

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