

ThermoCor®

ENERGY EFFICIENCY DELIVERED™



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Today's temperature management marketplace is driven by the demand for greater energy efficiency. For specific appliance, transportation, and construction applications, poor insulation can translate into big costs as power consumption increases and temperature-sensitive goods risk spoiling or damage. In addition, these same applications are challenged with space issues and the need to meet regulatory requirements. Where does the industry turn? **ThermoCor®**.



WHAT ARE THERMOCOR VACUUM INSULATION PANELS (VIPs)?

These days, most people will agree that the best type of energy has become the energy not used. For manufacturers, especially those in the temperature-controlled supply chain, the initiative to supplement energy alternatives drives the demand for optimized efficiency in both process and product. VIPs are an impressive and unique answer to the call for conservation.

VIPs are manufactured to custom dimensions and fit easily into narrow spaces, where size constraints are a consideration. For example, they can be found at home in places such as refrigerator walls and entry doors. They insulate refrigerated vehicles and boxes used to transport medical samples. They are built into modern high-rise construction and can even be found keeping your favorite soda cold inside many vending machines.

For the temperature-controlled supply chain, ThermoCor VIPs provide a superior energy-efficient option for insulation. VIPs are vacuum-sealed barrier envelopes containing filler that is specially designed to resist heat transfer and provide optimized efficiency.

Other forms of insulation might have similar descriptions, but none do the job like ThermoCor VIPs. In fact, VIPs outperform their competitors – like blown insulation – by six to ten times. What's more, because of their thin profile, VIPs help to reduce the overall footprint of their application, and maximize the usable space around them.

For a brighter future, manufacturers – and consumers alike – can look to ThermoCor VIPs to reduce energy usage.

APPLICATIONS

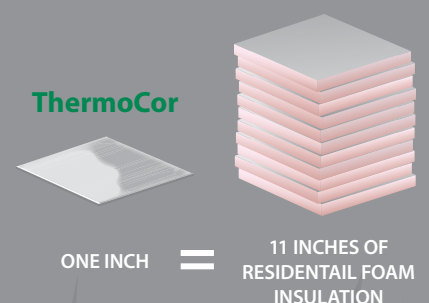
ThermoCor vacuum insulation products cover a broad range of applications. Each ThermoCor insulation product is flexible to suit unique situations and highly durable – including water and air resistance – to prolong the life and energy efficiency of the application. While ThermoCor VIPs are available in a variety of standard dimensions and thicknesses, they are typically built to unique specifications to ensure optimum performance. Our team of engineers is available to ensure our customers maximize the greatest value for their specific requirements.

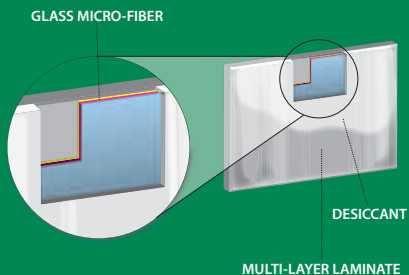
Look for ThermoCor VIPs in:

- High-efficiency home refrigerators and freezers
- Temperature-controlled transportation
- New building construction
- Temperature-controlled shipping boxes
- Marine transportation

What sets ThermoCor apart ...

ThermoCor panels offer thermal resistance six times greater than commonly used polyurethane foam insulation and up to ten times that of other common insulations. They are durable, reduce insulation footprint and are easily integrated to current manufacturing practices. Whether purchased in standard sizes or custom fabricated to meet specialized needs, ThermoCor VIP's allow customers to achieve mandated energy-efficiency levels while enhancing product features that provide customer value.





VIP Technology

ThermoCor incorporates features that significantly retard basic heat transfer mechanisms like convection, radiation and conduction through fluids and gases. The thermal conductivity of ThermoCor Vacuum Insulated Panels is six times better than that of polyurethanes.

EXPERTISE

ThermoCor is a recognized global leader in vacuum insulation technology. As a company, it is a premier technology pioneer and application innovator. For over 20 years, our team of experienced engineers has proven their ability to meet the challenge of maximized energy efficiency needs across a broad range of applications – from the world’s stringent cold chain management shipping solutions to home refrigeration.

The foundation for our customer’s success begins with our simple inquiry: What do you want to accomplish? The answers to this question allows us to diagnose and deliver exceptional customer value. ThermoCor applies the aforementioned experience with a proven product track record to optimize the efficiency ratio and provide the

greatest value for each customer-specific application. Difficult space requirements? Working to meet regulations or tight deadlines? We’ll work with you, from the initial design requirement stage through production. ThermoCor’s unmatched responsiveness and technical expertise has allowed us to consistently deliver the optimum solution while meeting time critical deadlines.

Beyond meeting your application needs – in terms of unique configuration and energy efficiency – we are also prepared to meet your manufacturing capacity requirements. In 2010 we were the world’s second largest producer of VIP’s and increased our VIP production tenfold in a six-month period of time in order to meet customers’ increased demands. ThermoCor provides what others cannot.

ADVANCED TESTING AND VALIDATION

As the global leader in vacuum insulation technology, ThermoCor takes an active leadership role in the testing and validation of insulation performance. As part of our commitment to ensure customers receive exactly what they require, ThermoCor adheres to rigid test procedures, strictly defined protocols, and industry-guided equipment calibration for accuracy. ThermoCor products are designed to withstand the industries toughest “Accelerated Life Test” requirements delivering customers the most robust product in the market with guaranteed quality and performance.

Third-party Certifications and Procedures

All ThermoCor materials are tested in accordance with ASTM C518 – Standard Test Method for Steady-State Thermal Transmission by Means of Heat Flow Meter Apparatus. ThermoCor heat flow meters are routinely calibrated using National Institute of Standards and Technology (NIST) traceable instruments.

Production Testing

ThermoCor high performance insulation products are tested in production to ensure application-specific R-values are achieved. Production test equipment is calibrated using NIST traceable instruments and ASTM C518 test procedures.

Testing Services

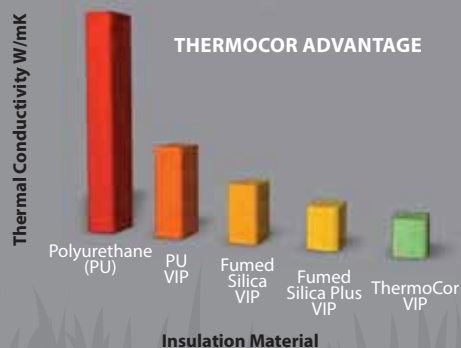
Contact us about testing services with regard to the ThermoCor materials you use.



Benefits

All insulating materials are measured by their rate of heat transfer. This is often referred to as thermal conductivity commonly measured in Watts/meter Kelvin (W/mK). The lower the thermal conductivity, the better the material performance.

ThermoCor VIP’s offer a thermal conductivity unmatched by conventional materials and substantially lower than other VIP core material technologies creating maximum value to the customer.



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