TempShield™ by Reflectix

Innovations
in Thermal Packaging

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Our AB Box Liner
Two custom die cut pieces turn your ordinary cardboard box into a lightweight cooler for shipping perishable items.

Gussetted Liner - Leak Resistant
This is a one piece durable liner that is quick and easy to set up.

Thermal Pallet Covers
Our Pallet Covers can be used for the transport of food and pharmaceutical products that are sensitive to changes in temperature..

TempShield™ Pouches
When thermal protection is not the only concern, our metalized film is the economic choice.

Reflectix Inc.

Reflectix has solely dedicated itself to the process of reflective technology and is the world's largest manufacturer of reflective insulation. Founded in 1979, we have built a respected reputation in the markets we serve.

Reflectix manufactures the TempShield™ insulation product which is made up of seven layers; two layers of aluminum each bonded to a tough layer of polyethylene for strength; two inner layers of bubble for resistance to heat flow or R-value, with a center layer polyethylene for added strength. Our goal is to revolutionize the Thermal Packaging Industry with our reflective insulation products.

Reflective Technology

Radiant heat, the major source of heat flow, is energy in the form of infrared waves. It travels at the speed of light, even through a vacuum, and is either transmitted through, absorbed into, or reflected by any material it contacts. TempShield™ reflects up to 97% of the radiant energy striking its surface.

Infrared works in the same way as visible light; heat is generated when this energy is absorbed. Common insulation products tend to absorb a large percentage of the radiant energy they encounter. However, tests have shown that one sheet of aluminum in the center of an airspace reflects 97% of radiant heat. This means that heat rays pass through it at a rate of only 3%. Properly installed TempShield™ reflective insulation takes full advantage of this by using one or two such surfaces separated by encapsulated air.

Features and Benefits

Our Capabilities Include: Die Cutting, Sheet Cutting, Custom Sizing/Width and Length, Splicing and Pouches.

- Maintains temperature ranges
- Saves inbound/outbound freight up to 60%
- Reusable
- Offers thermal value properties
- Decorative for presentation
- Flexible, tough and durable
- Stops heat transfer by radiation (75% of all heat transfer is radiant)
- Resistant to fungi, mold and mildew
- Enhances EPS thermal protection
- Works with moisture or humidity
- Inhibits odor transfer
- Helps ensure product quality, taste, texture and color
- Reduces amount of warehouse storage by 85% when compared to EPS material
- Gives protective cushioning
- Thin and lightweight
- Low emissivity (does not allow large amounts of energy to pass through)
- Environmentally safe/easy to dispose
- FDA approved for incidental contact with food

Reduces amount of warehouse storage by 85% when compared to EPS material.

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Innovators in Packaging

Proven Applications

Perishable Foods:

- Seafood, Meat and Poultry
- Beverages; i.e. wine, juices
- Gourmet Foods
- Baked Goods
- Dairy; i.e. ice cream, milk, cheese
- Confections; i.e. candies, chocolates

Medical:

- Pharmaceuticals
- Healthcare
- Clinical Labs
- Organ Transporting
- Prescription Labs
- Biotechnology
- Blood Transport
- Cryogenic Research
- Medical Supplies; i.e. implants
- Genetics, DNA

Scientific/Industrial:

- Chemicals
- Solders
- Ink Manufacturers
- Adhesives
- Bio Chemicals

Animal Health:

- Animal Fluids
- Animal Labs
- Veterinarian Products and Supplies
- Dead Animal Removal

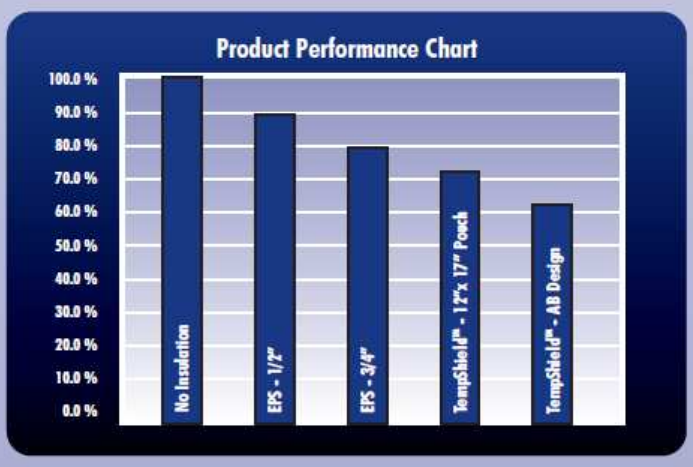
Other:

- Flowers
- Cosmetics/Perfumes
- Tropical Fish
- Freight Companies
- Banquet Facilities

Material Comparison - 20 Hour Test

Table and graph below shows the results of a 20 hour test using 3.5 lb. blocks of ice packaged in various configurations. TempShield™ AB Design performed best. After 20 hours the ice had lost 63.4% of its initial weight.

Material:	Starting Weight of Ice (lbs):	Residual Weight of Ice After 20 hrs. (lbs):	Weight of Ice Melted (lbs):	Ice melted after 20 hrs. as a % of initial weight of ice (%):
No Insulation	3.531	0.000	3.531	100.0
EPS - 1/2"	3.540	0.356	3.184	89.9
EPS - 3/4"	3.551	0.741	2.810	79.1
TempShield™-MFL 12" x 17" Pouch	3.530	0.904	2.626	74.4
TempShield™-MFL Clear Sheets (AB Design)	3.557	1.303	2.254	63.4



Graph above shows melting percentages after 20 hours.

Perishable Products

For extended protection of extremely perishable products, dry ice and or other refrigerants can be placed into the package without damage to the liner.

Product Versatility

TempShield™ has a proven record of temperature control. We can blend materials to suit your exact need.

Testing and Certification

Did you know that all tests on TempShield™ are performed at either nationally approved independent laboratories or leading universities?

Advantages in Using TempShield™

TempShield™ has a distinct advantage over competing products. Our experience, knowledge and manufacturing capabilities have made us the world leader in reflective technology.

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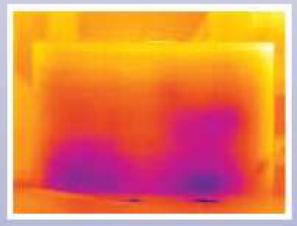
Testing & Certification (Double Foil, Double Bubble)

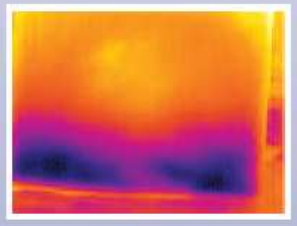
Vapor Transmission ..... .000	Mold & Mildew ..... No Growth
Emittance ..... .03	Tensile Strength ..... 3.7 N/mm
Pliability ..... No Cracking	
Thermal Performance ..... ASTM C518	
Fungus Resistance ..... MIL Std 810B Method 508	
Water Vapor Transmission ..... ASTM E96	
Tensile Strength ..... ASTM D751	
Emittance Testing ..... ASTM C1371	

Raw Materials Comply with USDA & FDA Regulations
Reflectance Measurements in 4 Wavelengths

All tests on TempShield™ insulation are performed at either nationally approved independent laboratories or leading universities. Tests are performed to current American Society of Testing and Materials (ASTM) Standards when a standard exists.



TempShield™



Styrofoam

Photos above show thermographic images of a TempShield™ lined corrugated box and a styrofoam cooler. Tests were performed at a leading mid-western university. Images were taken with six freezer brix in each container after 5 minutes. These images show the outside temperature of each container. The blue indicates the cold energy escaping.

¿Preguntas? ¿Necesita mayor información?

En PLASCO estamos para servirle:

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