PermaTherm
INSULATED METAL PANELS

Insulated Metal Panels

269 Industrial Park Road | Monticello, GA 31064 | 706-468-7500 | www.permatherm.net

PermaTherm Insulated Metal Panels

PermaTherm's insulated metal panels offer contractors, building owners, architects, and design-build firms unmatched flexibility in creating high performance structures.

High performance means: rapid installation time, lower maintenance cost, reliable climate control, and sustained energy savings; all with lower initial construction costs.

PermaTherm's customized panel systems offer high performance and low cost to architects, building-owners and construction contractors. With PermaTherm Panel Products you save money today and tomorrow.

PermaTherm Panel Applications

- Cold Storage Facilities
- Grow Facilities
- Suspended Ceiling Systems
- Food Processing Facilities
- Commercial Buildings
- Coolers/Freezers
- Partition Walls
- Fire Walls
- Roof Systems

While extensively used for exterior and interior wall systems, PermaTherm panels are utilized through a broad range of building products, including roof systems, floor systems, door assemblies, ductwork, and truck bays. The variety of exterior skins and core material combinations can be blended to accommodate nearly any project or facility needs.

PermaTherm can help you custom tailor your project needs to maximize up-front savings and long-term performance.

Panel Design

PermaTherm panels are formed in a continuous manufacturing process. In the proprietary process, metal skins are laminated to PermaTherm's pre-shaped expanded polystyrene cores (optional cores available). Edges are fashioned with tongue & groove connections to ensure a tight seal. The resulting composite panel is ready for easy installation, providing the ultimate in structural and thermal performance.

Exterior Skins

Stainless Steel
Galvanized Steel

Optional Cores

Expanded Polystyrene 1lb and 2lb Density Cores
Mineral Wool

Textures / Colors

For more information on textures and colors contact your panel consultant today!





Time Tested Performance

PermaTherm panels have been used in food processing, cold storage, floral, pharmaceutical, warehouse, and other building applications across the Nation. Thousands of structures, from 10,000 to over 350,000 ft^2 are testimony to the quality and reliability of our products. PermaTherm has worked closely with its clients in perfecting its panel products through a broad range of commercial & industrial building applications. This dynamic structure continues today as our clients' challenges shape our constantly evolving panel products of tomorrow.

The PermaTherm Panel Advantage

- EPS R-value increases as temperature decreases
- Lowest operating cost over building life
- Greater span capability with less steel
- Permanent R-value over panel life
- Lowest cost R-value/board foot
- Heat-reflective external finishes
- EPS is HCFC and CFC-free
- Void-free cores and joints
- Rapid Installation

Accessories

- Doors
- Base Channels
- Inside Trim
- Outside Trim
- Roof Coatings
- Ceiling Hangers
- Attachment Items




PermaTherm EPS

Since 1987, PermaTherm has been an industry leading manufacturer of expanded polystyrene (EPS) products used in a variety of applications. PermaTherm EPS is the core of our building panel system. EPS isn't just foam insulation; it is an innovative building material that contributes to the design and structural, as well as thermal, integrity of building projects.

PermaTherm produces all of its own EPS, providing our customers with optimum cost value. Our custom-engineered panel products offer superior performance over other panel technologies due to exceptional thermal control, dramatic energy savings, low maintenance, durability, flexible design, and easy installation. Quality control is assured through our state-of-the-art molding and curing process. Permatherm panels have been use in food processing, cold storage, and other industrial/commercial buildings throughout North America for over 30 years.

PermaTherm's insulation products have been tested by Underwriters Laboratories and meet the requirements of the Standard Mechanical Code and International Mechanical Code.

Cold Storage

EPS R-value increases as temperature decreases. The majority of the cold storage industry is focused on the safe storage and transportation of food-related products, yet a large, growing segment of cold storage facilities serves non-food agricultural, pharmaceutical, and floral clients. PermaTherm's panel systems offer a superior alternative for projects that require stringent environmental control. Architects, construction companies, and owners increasingly turn to PermaTherm for high performance and low life-cycle cost.

EPS Physical Properties

Physical Properties	ASTM Method	Units	1 lb. Density	2 lb. Density
Density, Minimum	D1622	lb/ft3	0.9	1.8
Density, as tested	D1622	lb/ft3	1.0	2.0
Density, Range	D1622	lb/ft3	0.9-1.14	1.8-2.2
Compressive Strength	D1621	lb/in2	15.3	33.12
Shear Strength	C273	lb/in2	18-22	33-37
Shear Modulus	C273	lb/in2	280-320	600-640
Modulus of Elasticity	C273	lb/in2	180-220	460-500
Tensile Strength	D1623	lb/in2	16-20	23-27
Flexural Strength	C203	lb/in2	40.1	71.1
Thermal Conductivity: K-Factor @1"	C177/C518	BTU·in/ hr·ft2·F		
@ 25F (-3.9C)			0.23	0.21
@ 55F (12.78C)			0.15	0.23
@ 75F (43.3C)			0.26	0.23
Thermal Resistance: R-Factor @1"	C177/C518	hr·ft2·F/ BTU		
@ 25F (-3.9C)			4.40	4.80
@ 40F (4.4C)			4.0	4.60
@ 75F (43.3C)			3.80	4.40
Water Absorption	C272	%	1.53	1.85
Water Vapor Transmission	E96	perm-inch	2.11	1.64
Capillarity			None	None
Coefficient, Thermal Exp.	D696		0.000035	0.000035
Long Term Service Temp		F	167	167
Maximum Exposure Temp		F	180	180
Oxygen Index	D2863		24.0	24.0

Maximum Wall Spans for Uniform Loads

(Units in Feet for 26-Gauge Steel Panel Skins)

Core Thickness	Total Uniform Load (lb/sq ft)						
	5	10	20	30	40	50	60
2 inch	17	13	9	7	6	5	4
3 inch	23	17	12	10	8	7	6
4 inch	29	22	16	13	11	8	7
5 inch	34	25	18	14	11	9	8
6 inch	38	27	19	16	12	10	8
7 inch	41	29	20	17	13	10	9
8 inch	43	31	22	18	14	11	9
9 inch	46	32	23	19	15	12	10
10 inch	48	34	24	19	15	12	10

Panel Manufacturing Tolerances

Length:
Up to 20 feet: +/- 1/8 inch
Over 20 feet: +/- 3/16 inch
Width:
45.5 inches: +/- 1/8 inch
Thickness:
2-10 inches: +/- 1/8 inch
Squareness: +/- 1/8 inch (measured 6 inches from end)
Lateral Bow:
Up to 10 feet: +/- 3/32 inch
10 ft to 20 ft: +/- 3/16 inch
Over 20 feet: +/- 3/8 inch
Flatness: +/- 3/16 inch per 2 ft span
Joints: Male/female joint edges flush, with no more than 1/8 inch deviation.

Thermal Resistance

(1lb Density @ 25° F)

Thickness (in)	2	3	4	6	8	10
R-Value	8.8	13.2	17.6	26.4	35.2	44

Surface Panel Burning Characteristics

(1lb Density)	ASTM Method	UL Rating
Flame Spread @ 6"	E84	0
Smoke Density @ 6"	E84	100
Hot Surface	C41	Pass

Green Guard Gold Certified Panels

With PermaTherm Panels, the cornerstone of solutions for growers, there is no off gassing from the building products themselves, as this could harm your plants while in cultivation. This could cost you millions in failed crop products, and worst yet, toxins stored in your plants and delivered to end users could cause serious problems for them and potentially for you.

PermaTherm's Insulated Metal Panels are the only IMPs to carry Underwriters Laboratories Green Guard Gold accreditation. UL's green guard system grades building products according to their propensity to produce poor indoor air quality.

Many building materials produce harmful compounds that can be hazardous to indoor air quality and human health. The most common form of indoor toxins that affect air quality come from Volatile Organic Compounds (VOCs), which are chemical compounds that become airborne via off gassing as building products and other goods are utilized in indoor space. There are over 400 VOCs commonly found in the indoor environment which include but are not limited to Formaldehyde and Chlorine.

PermaTherm Panel Approvals

- ASTM E84 25/50 Flame/Smoke certification
- Florida Building Code product approvals
- UL listed insulation material
- USDA approved finishes
- UL listed fire panels

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

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