

THERMOTECH 21

DIMENSIONS AND PHYSICAL PROPERTIES

INSULATION CORE

Expanded Polystyrene (EPS) contains no formaldehyde, formaldehyde related chemicals nor CFCs. Thermal conductivity (k value) of 0.240 @ 40°F, 1 P.C.F. density, rates a thermal resistance (R value) of 4.17 per inch of thickness.

COEFFICIENT OF THERMAL EXPANSION

.000035 [in./in.)(F.) (ASTM D-96)

DIMENSIONS AND WEIGHT

Overall Thickness

Wall Panel	7 1/4"
Roof Panel	12"
Width (typical)	48"
Width Tolerance	±0.0833"
Standard Lengths (ft.)	4' to 40'
Weight	±2 lbs./S.F.

SOUND ABSORPTION

	STC ²
@ 1,000 CPS	0.36
@ 2,000 CPS	0.54
@ 4,000 CPS	0.38

THERMAL PERFORMANCE

4.35 R/1" at 25° F
3.85 R/1" at 75° F

STRUCTURAL DESIGN GUIDELINES (PANELS)

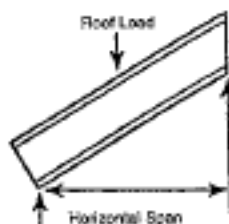
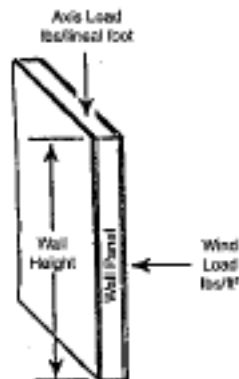
The THERMOTECH 21™

building system is a fully engineered structural system designed to meet or exceed all major building codes.

Standard wall heights of 9' with 20 P.S.F. windloads can easily sustain axial loads of 2,250 pounds per lineal foot.

Uniform horizontal roof loads of 40 P.S.F. are a standard and easily sustained by roof panels with appropriate purlin or ridge beams 10 foot on center.

All plans, custom or standard are accompanied by section drawings with a structural engineers' stamp.



MOISTURE GAIN/THERMAL RETENTION

EPS insulation is a closed cell polystyrene foam that has a high degree of dimensional stability under moisture exposure. Due to its closed cell structure of hydrophobic polymer, EPS has excellent resistance to moisture absorption by submersion in water or burial in continuously wet clay soil. Most, if not all, of such moisture gains in EPS are either surface or interstitial and have limited effect on thermal values (i.e. 94% of R-value retention with 5.0% of moisture gain (% by volume)). Even when moisture gain is caused by unidirectional and continuous vapor diffusion, EPS is far more resistant to adverse thermal impacts than other insulations.

FIRE SAFETY

Finish Rating³

1/2" or 5/8" drywall provides the necessary rating as required by uniform building codes. ASTM 119 load bearing assembly is available for one (1) hour application.

Structural Integrity in Fire Conditions

May ignite between 600-650°F. By comparison, Douglas fir products ignite at approximately 500°F.

Shrinks away from contact with flame sources without burning. Burning will cease with removal of flame source.

Toxicity of Combustion Products

Contains 0.0833% of the combustibles present in wood products.

By-products of combustion are carbon dioxide and carbon monoxide, but in concentrations less than equal volume of wood product.

Unlike sandwich panels which derive strength from glue and wood products, THERMOTECH 21™ panels achieve their strength and load bearing capacity from tubular steel frame members. The THERMOTECH 21™ insulating components provide additional stiffness and rigidity.

FOR MORE INFORMATION

For additional information on THERMOTECH 21™ products and applications, contact our company.



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