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Vacuum Insulation Panel (VIP) Technical Data Sheet



Product Profile

Vacuum insulation panel (VIP) is a new type of super insulation material emerging based on vacuum insulation technology. They combine the advantages of both vacuum insulation and micro-porous insulation methods, achieving ultimate thermal insulation performance.

Zerothermo's vacuum insulation panels are made of nano-scale composite core materials with excellent thermal insulation properties, encapsulated in high-barrier films under vacuum conditions. They minimize heat conduction, convection and radiation, block heat transfer, and possess high-efficiency thermal insulation capabilities.

These panels are widely used in pharmaceutical cold chain, construction, refrigerators and other fields.

Product Features

-Excellent Thermal Insulation: Thermal insulation performance is 6-10 times better than that of traditional thermal insulation materials.

- High-Efficiency Fire Resistance: Made mainly of inorganic core materials, achieving Class A fire protection.
- Ultra-Thin Insulation Layer: The high-efficiency thermal insulation performance can effectively reduce the thickness of the insulation layer and increase usable space.
- Long Service Life: Unique core material structure without the need for getters, with a service life of up to 50 years.
- Green and Pollution-Free: Certified by both ROHS and REACH.

Technical Data

Thermal Conductivity Initial Value (25°C)	≤0.0045W/(m.K)
Thermal Conductivity Ventilated (25°C)	≤0.020W/(m.K)
Initial Heat Transfer Coefficient (25°C)	0.23W/(m ² .K) (Thickness=20mm)
Internal Air Pressure (20°C)	≤5mbar
Density	180Kg/m ³ -220Kg/m ³
Area Density	3.6Kg/m ² -4.4Kg/m ² (Thickness=20mm)
Applicable Temperature	-80°C~80°C
Compressive Strength	≥100kPa
Tensile Strength	≥80kPa
Expansion Rate Perpendicular to the Panel Surface After Puncture	≤10%
Fire Rating	Class A
Service Life	50 Years

Remark

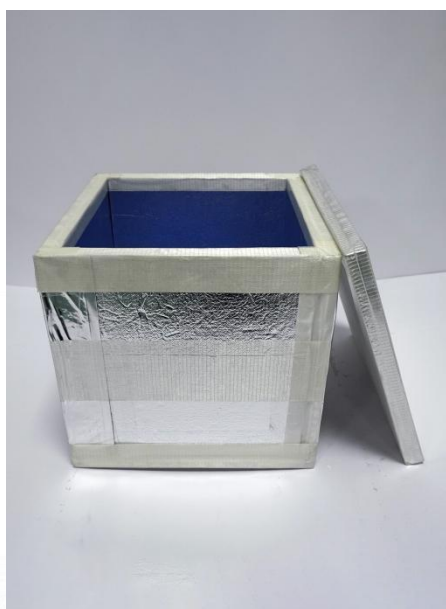
-In accordance with ASTM C518-10, the product's dimensional data is measured at a density of 180 kg/m³ and a temperature of 25°C.

-Custom sizes are available upon customer request. For special requirements, please contact us.

Dimensions and Tolerances

Length	≤1200mm
Width	≤800mm
Thickness	5~50mm
Length and Width Tolerances	-3mm~+2mm
Thickness Tolerance	±1mm
Film Material and Folding Method	Metalized Barrier Film Back Sealing Three-Side Sealing
Package & Delivery	Carton + Pallet

Application Fields



Pharmaceutical Cold Chain



Cold Chain Logistics



Refrigerators