



Siltherm VacuPanel

Rigid Microporous Vacuum Insulation



-70°C
+80°C



MAX
1200x650
mm



5-50
mm

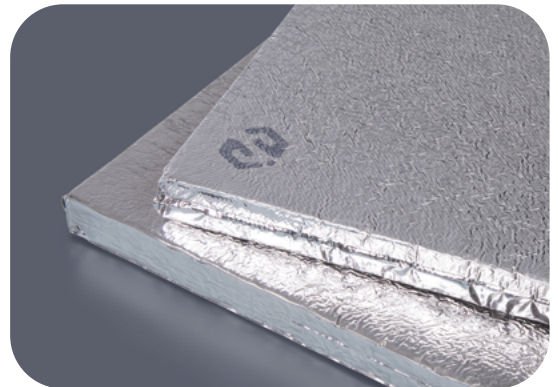
Siltherm VacuPanel is a high performance vacuum insulation microporous product developed to maintain the internal temperature in tightest spaces in a wide variety of low temperature applications from refrigerators to temperature controlled packaging and building and constructions.

It combines the properties of a microporous insulation which is a blend of pyrogenic silica and a filament reinforcement with the advantages of vacuum insulation technology, resulting in extremely low thermal conductivity and low insulation thickness. The core is encapsulated in an ultra-low permeable EVOH barrier film, with excellent flex-crack resistance that comprises multiple metallised polymer layers and is sealed under vacuum which ensures the temperature is maintained more efficiently and for longer time compared to other vacuum insulation panels. This can deliver benefits in terms of space optimisation, panel thickness optimisation, and extended storage cycles. Siltherm VacuPanel is totally self-supporting, pressure resistant and easy to use; special process techniques and innovative formulations enable Siltherm VacuPanel to deliver outstanding thermal performance and R-value coupled with long term durability.

Features and Benefits

Microporous insulation offers considerable and measurable advantages in terms of thermal management, energy efficiency and reduction of carbon footprint; the integration of microporous insulation in your heat containment systems and equipment provides a set of unique and measurable assets which impact at environmental, operational, social, economic and strategic levels like no other insulation can.

- Extremely low thermal conductivity.
- Longer storage time and safer transportation conditions in cold-chain transport.
- High thermal resistance.
- Light in weight.
- Excellent resistance to compression.
- Wide range of sizes available to order.
- Thermal shock resistant.
- No harmful respirable fibres.
- Environmentally friendly.
- Resistant to most chemicals.



Typical Applications

- **Building and Construction Industry:** used as exterior and interior solution to improve the energy efficiency of buildings both as retrofit or new constructions for flat roofs, terraces, walls, attic hatches.
- **Temperature controlled packaging:** used to provide inside insulation and keep temperature under control of cool transportation boxes and packets containing drugs, medicines and vaccines vials.
- **Appliances, heating systems:** used to increase storage capacity or improve R-values in equipments such as water heaters, boilers and warm water storage tanks, refrigerators and freezers, chill cabinets, cold storage units, vending machines, heated food display units.
- **Oil and Gas:** used to maintain the temperature required for Liquid Natural Gas (LNG) to remain in its liquified state.
- **Transportation (marine, rail, automotive, aerospace):** used to maintain cabin comfort, cold storage areas.



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Technical Specification

| CHARACTERISTICS | TICKNESS | UNITS | STD | PLUS |
|--|--|-------------------|-----------------|----------------|
| Color Options | | | silver or white | |
| Nominal Density | | kg/m ³ | 160-210 | 140-170 |
| Cold Compressive Strength | | kPa | 145 | 145 |
| Thermal Conductivity ¹ | <1 mbar | 5-50 mm | 0.0045 | - |
| | | 20-50 mm | - | 0.0035 |
| | Ambient pressure | | 0.02 | 0.02 |
| Temperature Stability | | °C | -70°C to +80°C | -70°C to +80°C |
| Thermal Shock Resistance | Insensitive to heat and cold shock at given temperatures | | | |
| Humidity Stability | | % | 0-60 | 0-60 |

¹ Core tested according to ASTM C177

Standard Dimensions and Tolerances

| CHARACTERISTICS | SIZES (mm) | TOLERANCES (mm) |
|---|-------------|-----------------|
| Standard Sizes (Length x Width) ² | Customized | ±3 |
| Maximum Sizes (Length x Width) | 1200 x 650 | |
| Standard Thicknesses | 5-50 | ±1 |
| Standard Geometry ² | Rectangular | |

Product measured at a density of 170 kg/m³ according to ASTM C518 & ISO 8301 @ mean 10°C ² Special design and geometries are available on demand
For special needs on barrier films, please contact our sales engineer for further help

For environmental, health & safety information, please refer to our Material Safety Data Sheet.

Product Data Sheet



ISO9001:2015
CERTIFIED

The values given in this datasheet are subject to normal manufacturing variation, they are provided for guidance only and may be subject to change without notice. Recommendations for use are not intended to, and do not constitute a warranty, express or implied, of the suitability of the product for a particular use. The user is responsible for determining the suitability of Siltherm products for each application. Siltherm shall not be responsible whether in contract or tort or otherwise howsoever for any consequential loss or damage caused by or arising out of your selection of the Siltherm products or for any consequential loss or damage caused by or arising from any recommendations of use of the Siltherm products in any way whatsoever by you or any other third party.

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