

# KNAUF INSULATION ULTRASPACE™

November 2020

High-performance vacuum insulation panel, for applications where optimal temperature conditions and efficient use of energy and space are required.



## DESCRIPTION

**Knauf Insulation Ultraspace™** is an evacuated, high performance thermal vacuum insulation panel with exceptionally low thermal conductivity. It's designed to provide energy efficiency and boost space efficiency of home appliances, temperature controlled packaging, refrigerated transportation systems and any other products or applications that require low energy loss from heat transfer.

**Knauf Insulation Ultraspace™** vacuum insulation panels consist of a rigid, highly-porous glass mineral fiber core, evacuated, encased and sealed in a thin laminated, ultra low permeating outer envelope. This prevents outside gases from entering the panel, thereby achieving higher thermal resistance where thin insulation layers are required.

High-tech production technologies ensure uniform fiber distribution, complete evacuation of gases, air-tight seals and close control of product dimensions and performance.

## PERFORMANCE

### Thermal insulation

Optimal thermal insulation properties ( $\lambda_d = 0.003 \text{ W/mK}$ ) ensure supreme energy efficiency and energy consumption

### Certified quality

Complies with RoHS Directive  
Complies with REACH Regulation  
RAL  
EUCEB

## BENEFITS

- ✓ Extremely low thermal conductivity of 3 mW/mK
- ✓ Low insulation thickness (10 – 25 mm) to increase volume capacity of applications where lack of insulation space is critical
- ✓ Stable, long-term thermal performance
- ✓ Environmentally friendly insulation solution

## APPLICATION

Due to extremely low thermal conductivity and minimal thickness, vacuum insulated panels are especially well suited to applications where optimal temperature conditions and efficient use of energy and space are required:

- **Insulation of refrigerators and freezers**, providing lower energy consumption, higher energy efficiency, and greater usable internal volume
- **Refrigerated trucks / transportation systems**
- **Temperature-controlled packaging** (for medical and pharmaceutical industry)
- **Vending machines / cold storage units**

## STANDARD

Knauf Insulation Ultraspace™ is manufactured in accordance with ISO 9001 Quality Management Systems, ISO 14001 Environmental Management Systems, ISO 50001 Energy Management Systems and ISO 45001 Occupational Health and Safety Management Systems as certified by TÜV Nord.

## CERTIFICATES



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## TECHNICAL PROPERTIES:

Characteristics	Symbol	Value	Unit
Density	$\rho$	200 - 250	kg/m <sup>3</sup>
Thermal conductivity	$\lambda$	< 3	mW/mK
Operating temperature	-	- 80 to +80	°C
Internal gas pressure	-	1	Pa
Specific heat capacity	$C_p$	0.84	kJ/kgK
Core material	Glass mineral fibre		
Film	Multi-layers metallized		

## STANDARD DIMENSIONS

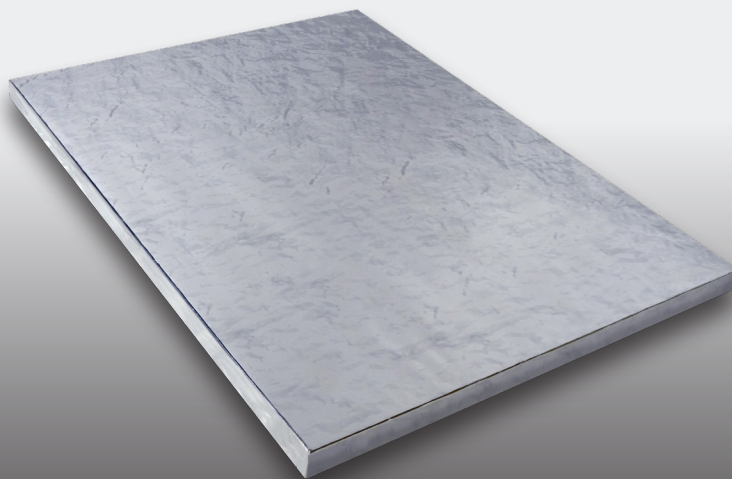
**Thickness:** 10 – 25 mm**Panel sizes:** 300 × 300 mm to 600 × 1,800 mm**Tolerances:**

- Thickness +2/-1 mm
- Width/Length: +/-3mm

## HANDLING & STORAGE

Knauf Insulation Ultraspace™ is packed on a wooden or plastic pallet. Products are covered with PE foil or wrapped twice with stretch foil, which is designed for short-term protection only. It is recommended to store the product either indoors, or under a cover and off the ground, for a maximum of up to 12 months.

The performance of Ultraspace™ depends on the customer's manufacturing process. Individual customers must optimize and control their manufacturing process to ensure the material meets the requirements of their manufacturing process and their final product.

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