

Technical Data Sheet

va-Q-steel



Product Description

va-Q-steel is a vacuum insulation panel based on a stainless-steel film. The microporous insulation material out of pressed fumed silica boards ensures an outstanding insulation performance and offers new possibilities to insulate applications at high and even ultra-low temperatures. On top of this no flammable material is used. Typical applications are ovens, battery boxes, laboratory devices, emergency fire doors and the construction market.

Features

- Temperature resistant from up to -196 °C to + 400 °C
- No inflammable component (consists of only non-flammable materials)
- Low thermal bridge due to optimal panel design
- Best insulation value at extreme temperatures over the entire lifetime for insulation panels based on fumed silica
- 100 % quality control with the patented gas pressure measurement system (va-Q-check)

Properties

Thermal conductivity (at delivery) @ 10 °C ¹	≤ 0,0045 W/(m·K) - 0,006 W/(m·K) according to DIN EN 12667
Thermal conductivity @ 200 °C ¹	≤ 0,008 W/(m·K) according to DIN EN 12667
U-value – initial value @ 10 °C ¹	0,23 W/(m²·K) (thickness = 20 mm)
Internal gas pressure @ 20 °C	< 5 mbar (at delivery)
Density	300 – 340 kg/m³ (thickness = 20 mm) according to DIN EN 1602 380 – 420 kg/m³ (thickness = 10 mm) according to DIN EN 1602
Temperature resistance ²	From up to - 196 to + 400 °C
Thermal shock resistance	0 to + 400 °C based on DIN EN 60068-2-14
Fire protection class	Consists of only non-flammable materials
Available thickness ³	10 – 20 mm , in 5 mm increments
Dimension ³	Min. 150 x 150 mm Max. 1000 x 500 mm
Lifetime	Depending on usage, up to 100 years

Testing standards

Our va-Q-steel panels are subjected to internal test methods:

- Accelerated aging test at 50 °C, 70 % relative humidity and 400 °C (dry)
- Long time monitoring at room conditions (p(t) und λ(t))
- Thermal conductivity measurements λ(T), λ(p) according to DIN EN 12667
- Thermal shock resistance based on DIN EN 60068-2-14

¹ Please note terms of service § 6 "Deviation range of the insulation value" in "Special Terms and Conditions of Sale and Delivery, Product: Vacuum Insulation Panels (VIPs)" corresponding to the valid version respectively.

² Higher application temperatures are possible on request. Please contact us for details.

³ Please contact us for your preferred sizes and tolerances.

Dimensions and tolerances

Length l / Width w in [mm]	Thickness t in [mm]	Tolerance: l/w/t in [mm]		
≤ 500	10 - 20	+2/-5	+2/-4	± 1
> 500 - 1000	10 - 20	+2/-6	+2/-5	

Please note: Due to their special product design, va-Q-steel panels show a 45° chamfer. Circulating the panel there is a 10 – 20 mm wide sealing seam. Please contact us for your preferred dimension and tolerances.

Flaps	Measure	Tolerance
Width of flaps	20 mm	+5/-10 mm

Legal Notes/Disclaimer

The data presented in this technical data sheet are in accordance with the present state of our knowledge.

All numbers and features proposed in this data sheet (e.g. lifetime) were determined under test conditions in the laboratory and therefore represent a nonbinding and purely scientific value. There are no guarantees associated with. Only the respectively agreed warranty period and warranty rights apply.

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