KNAUF INSULATION Technical Solutions

www.knaufinsulation-ts.com

POWER-TEK BD 450 - 700

September 2023

DESCRIPTION

Power-teK BD is a Rock Mineral Wool insulation board, optimised for high-temperature applications and equipped with excellent heat conductivity values, it is used as a universal solution for level and large surfaces.

Various insulation boards are available with densities from 50 to 150 kg/m³ as well as for maximum temperatures of up to 700 °C.

Knauf Insulation Power-teK BD 450 – 700 are produced with **ECOSE® Technology,** a patented binder system, entirely based on renewable raw materials.

PERFORMANCE

Max. service temperature	450 - 700 °C depending on density (EN ISO 18097)
Reaction to fire	A1 (EN 13501-1)
Density	ca. 50 to 150 kg/m³ (EN ISO 29470)
Declaration of performance*	http://dopki.com/T4305LPCPR for BD 450 http://dopki.com/T4305TPCPR for BD 550 http://dopki.com/T4305OPCPR for BD 620 http://dopki.com/T4305PPCPR for BD 640 http://dopki.com/T4305PPCPR for BD 650 http://dopki.com/T4305QPCPR for BD 660 http://dopki.com/T4305BPCPR for BD 680 http://dopki.com/T4305CPCPR for BD 700

* for detailed information on DoP please check the product label

APPLICATION

Defined Power-teK applications:

- Furnaces & other equipment
- Tank walls & heat storage
- Tank roofs

The product is recommended for thermal, fire and sound insulation of the defined applications within technical insulation where:

- **High maximum service temperatures are required (optimised for high application temperatures).**

BENEFITS

- ✔ Suitable for high-temperature applications
- ✔ Installation without sub-structure
- ✔ Easy to handle (each piece)
- ✔ Easy to cut to different forms
- ✔ Easier multi-layer insulation
- ✔ Variety of versions and thicknesses
- ✔ Rigid, flat, stable form
- ✔ ECOSE® Technology

STANDARDS

Knauf Insulation products are produced according to four of the most important International Management Standards for sustainability ISO 9001 (Quality Management), ISO 14001 (Environmental Management), ISO 50001 (Energy Management) and ISO 45001 (Health and Safety Management), all certified by Tüv Nord.

CERTIFICATES (VALID FOR ALL):

CERTIFICATE VALID ONLY FOR BD 660 — ASTM C612-TYPE IV

CERTIFICATE VALID ONLY FOR BD 700 — ASTM C612-TYPE IV-A

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SPECIFICATIONS

Description	Sign	Description/data														Unit	Standard
	ϑ		Density (kg/m³)	MST °C	10	50	100	200	300	400	450	500	550	600	650	700	°C	
Thermal conductivity depending on temperature	λ	BD 450	ca. 50	450	0,037	0,041	0,048	0,071	0,108	0,157	0,186	–	–	–	–	–	W/(mK)	EN 12667
		BD 550	ca. 60	550	–	0,040	0,046	0,067	0,094	0,130	–	0,176	0,204	–	–	–		
		BD 620	ca. 70	620	–	0,039	0,046	0,065	0,089	0,120	–	0,160	–	0,209	–	–		
		BD 640	ca. 80	640	–	0,040	0,049	0,067	0,092	0,123	–	0,163	–	0,215	–	–		
		BD 650	ca. 90	650	–	0,039	0,045	0,063	0,086	0,115	–	0,150	–	0,195	–	–		
		BD 660	ca. 100	660	–	0,039	0,044	0,060	0,078	0,102	–	0,132	–	0,169	–	–		
		BD 680	ca. 120	680	–	0,040	0,045	0,059	0,075	0,096	–	0,121	–	0,153	0,180	–		
		BD 700	ca. 150	700	–	0,041	0,045	0,059	0,075	0,095	–	0,119	–	0,147	–	0,178		
Water soluble chloride ions (AS quality)	–	≤ 10														ppm	EN ISO 12624
Water absorption	W_p	≤ 1,0														kg/m²	EN ISO 29767
Water vapour diffusion resistance	μ	1														–	EN 14303
Silicone free	–	No emissions of lacquering disturbing substances														–	–
Melting point of fibres	ϑ	≥ 1000														°C	DIN 4102-17
Specific heat capacity	c_p	1030														J/(kgK)	EN ISO 10456
Longitudinal air flow resistance	–	BD 450	BD 550	BD 620	BD 640	BD 650	BD 660	BD 680	BD 700							–	–
		≥ 10	≥ 15	≥ 15	≥ 15	≥ 25	≥ 25	≥ 30	≥ 60								
Designation code	–	BD 450 - MW-EN14303-TS-ST(+)450-WS1-CL10				BD 650 - MW-EN14303-TS-ST(+)650-WS1-CL10										–	EN 14303
		BD 550 - MW-EN14303-TS-ST(+)550-WS1-CL10				BD 660 - MW-EN14303-TS-ST(+)660-WS1-CL10											
		BD 620 - MW-EN14303-TS-ST(+)620-WS1-CL10				BD 680 - MW-EN14303-TS-ST(+)680-WS1-CL10											
		BD 640 - MW-EN14303-TS-ST(+)640-WS1-CL10				BD 700 - MW-EN14303-TS-ST(+)700-WS1-CL10											

Declared material properties are obtained in the production process and ensured by the factory production control in accordance with the European Standard at the time of manufacture.
Observing storage and handling guidelines will maintain performance within published tolerances.

HANDLING

Knauf Insulation products are easy to handle and easy to install. They are supplied in suitable packaging materials to balance necessary transport protection with sustainable recycling options. Packaging is not designed for long-term storage or exposure to harsh weather conditions. Further product information is mentioned on every pack.

STORAGE

For longer-term protection on site we recommend storing the product either indoors or alternatively under a roof cover and off the ground. If covered storage is not available, products can be stored outside (open-air-storage) if placed off the ground (keep palletized) and covered with plastic hood (foil), for a maximum of up to 6 months from the date of delivery. Outdoor storage is not recommended during particularly humid months with large fluctuations in temperature.

STANDARD FORMATS*

Thickness	20 - 140 mm
Length	600 mm
Width	1000 mm

*Other dimensions on request (maximum possible thickness 160 mm for BD 700, 200 mm for BD 680, 250 mm for BD 450-660).

with ECOSE® TECHNOLOGY

Knauf Insulation mineral wool products made with ECOSE® Technology benefit from a formaldehyde-free binder made from rapidly renewable bio-based materials instead of petroleum-based chemicals. The technology has been developed for Knauf Insulation's mineral wool products, enhancing their environmental credentials without affecting the thermal, acoustic or fire performance. Insulation products made with ECOSE® Technology contain no dye or artificial colours – the colour is completely natural.

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