

## BASFIBER® ADVANCED TEXTILES NON-WOVEN

Basfiber® new non-combustible heat insulation material — Basfibermat®. This product allows to realize the main advantages of the basalt fiber over the traditional fibers —glass and mineral wool.

The continuous temperature application rates about 300°C higher than the comparative product made from E-Glass. The final application, its environment, the heat conditions, the heat directions, the density of the mat itself, as well as its thickness are only a few determining factors for the appropriate continuous application temperature. It seems that a good safe number will be 1000°C for the Basfibermat®. Higher values may apply, depending on the particular application. In order to enhance temperature reflective properties, an aluminium foil can be added to the product.

While the Basfibermat® is widely used in thermal applications, it also can be treated with resins and turned into a constructional board.

### NOMENCLATURE

Our nomenclature is based on three letter followed by three numbers.

#### Example: NNW-06

The letters will be always NNW which stands for our Non-Woven products. The following number represents the thickness of the Non-Woven in millimetres:

### MECHANICAL PROPERTIES:

TYPE	6/130	8/130	10/130	12/130
Volumetric Density [kg/m <sup>3</sup> ]	130	130	130	150
Surface Density [g/m <sup>2</sup> ] (1)	780	1.040	1.300	1.800
Tolerance [%]	± 12	± 12	± 12	± 12
Thickness [mm] (2)	6	8	10	12
Tolerance [mm]	± 1	± 1	± 1	± 1
Width [cm]	100			
Tolerance [cm]	± 1	± 1	± 1	± 1
Roll Length [m]	50			
Tolerance [%]	± 1	± 1	± 1	± 1



### FILAMENT DIAMETER [µM] (ASTM D578)

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Sizing type	Silane
Sizing content [%] (ISO 1887)	0.1 - 1.5
Thermal stability [°C]	At continuous temperature of 550 °C and peak temperatures till 1200 °C
Fire behaviour (DIN 4102)	Incombustible
Safety measures	Gloves and long sleeve shirt.

### THERMAL CONDUCTIVITY (W/M·K) WITH 5% TOLERANCE OF BASFIBER®

Average Temp. (°C)	20°	100°	200°	300°	400°	500°	600°	700°
130 kg/m <sup>3</sup>	0.031	0.034	0.042	0.056	0.080	0.115	0.161	0.200
150 kg/m <sup>3</sup>	0.031	0.033	0.041	0.054	0.078	0.115	0.154	0.209
170 kg/m <sup>3</sup>	0.031	0.032	0.039	0.053	0.075	0.105	0.143	0.191

### COMPARISON WITH GLASS WOOL

	0.039	0.055	0.063	0.079	0.118	Loses Characteristics

### THERMAL PROPERTIES COMPARISON:

Application Temperature (°C):	-260° to +700°	GLASS WOOL
Short-term Max-Operation Temperature (°C):	+850°	+550°
Heat Conductivity (W/m <sup>2</sup> k):	0.031 to 0.038	0.034-0.04

### MECHANICAL PROPERTIES COMPARISON:

	BASFIBER®	GLASS WOOL
Tensile Strength of dry Fiber - mN/tex: (ASTM D3822)	600-730	350-500
Tensile Strength of single filaments – Mpa: (ASTM D2101)	4500-4800	3450-3800
Tensile Modulus of single filaments – Gpa: (ASTM D2101)	84-87	72-76

### APPLICATIONS

- ◆ Automotive industry,
- ◆ Road Paving,
- ◆ Engine Heat Shield,
- ◆ Clay Lining,
- ◆ Waterproof Lining,
- ◆ Turf Reinforcement,
- ◆ Railways,
- ◆ Asphalt Reinforcement,
- ◆ Erosion Control Matting,
- ◆ Embankments, Stockpiles & working Platforms,
- ◆ Subsoil Drainage System,
- ◆ Rock Fall Control,
- ◆ Secondary Container Tanks,
- ◆ Turbines,
- ◆ Retain Silt and Sediments,
- ◆ Industrial Insulation and general high temperature insulation,
- ◆ Walls,
- ◆ Floors,
- ◆ Water Pipe System,
- ◆ Shipbuilding,
- ◆ Roofs,
- ◆ Flexible Expansion Joints,
- ◆ Gasket, Batting,
- ◆ Asbestos replacement,
- ◆ Cryogenic,
- ◆ Ovens,
- ◆ Furnaces,
- ◆ Turbines,
- ◆ White ware,
- ◆ Exhaust Systems,
- ◆ etc.

### OTHER PROPERTIES:

- ◆ Non-respirable, 13 micron filament diameter.
- ◆ Meets chemical acceptability of NRC Guide 1.36, section C
- ◆ Very high alkali and acid resistance (surpassing most mineral and synthetic fibers)
- ◆ Negligible moisture absorption (less than 1% at 65% relative air humidity)
- ◆ Remarkable immunity to nuclear radiation, UV light and biologic contamination

### PACKAGING

Rolls on cardboard tubes with 76 mm inside diameter, wrapped and sealed in plastic foil.

### STORAGE

Dry, protected against moisture. Transportation In clean covered vehicles or closed containers

**Disclaimer of Liability:** This data is offered solely as a guide in the selection of reinforcement. The information contained in this publication is based on actual laboratory data and field test experience. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability arising out of its use or performance. The user, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial compounds when using this or any other reinforcement.

