Technical Information

Noiseflex® MH UF+

Product description:
Noiseflex® MH UF+ is a grey, open-cell foam made of melamine resin.

Properties:
Physical properties: The thermoset character and the open-cell structure of the melamine resin foam translate into an attractive property profile:

- High sound absorption
- Low thermal conductivity
- High fire resistance
- Extremely low weight
- High long-term operating temperatures
- No brittleness at low temperatures

Tab. 1.
Technical data:

Density		7 ± 3 kg / m³	EN ISO 845
Compressive strength	– Average value	> 4 kPa	EN ISO 3386-1
Tensile strength	– Average value	> 85 kPa	ISO 1798
Elongation at break	– Average value	> 22 %	ISO 1798
Thermal conductivity		λ = 0.032 – 0.038 W / m·K	DIN EN 12 667
Thermal resistance		240 °C	DIN EN ISO 2440
			defined ISO 3386 – 1 (change of initial value after exposure to heat of 22 h: < 50 %)

Fire behavior:

Germany	Buildung material class B1	DIN 4102
Europe	Classes B / C	DIN EN 13 501 – 1
	HL3	EN 45545
USA	V-0; HF-1	UL 94
	Upon request	ASTM E 662
	Upon request	ASTM E 162
	Upon request	ASTM E 84
Great Britain	Class 1	BS 476 Teil 7
	Upon request	BS 476 Teil 6

The given values are based on individual preliminary tests.

Sound absorption behaviour:
The test results from the acoustic experiments in an impedance tube according to DIN EN ISO 10534 2 are shown in Figure 1.

In the medium and high frequency ranges, Noiseflex® MH UF+ exhibits an outstanding sound absorption behaviour (Figure 1). At low frequencies, technical acoustic improvements can be achieved, for example, by means of additional heavy layers or through the application of films.

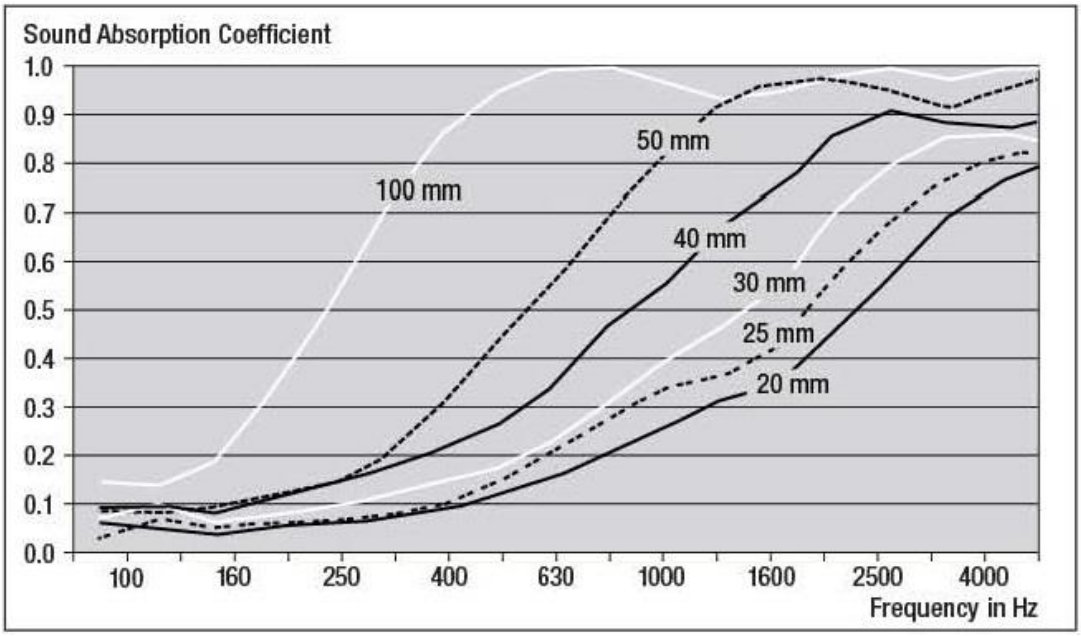

Fig. 1:
Degree of sound absorption of Noiseflex® MH UF+ as a function of the thickness, according to DIN EN ISO 10534 2 (impedance tube).

Thermal conductivity:
Figure 2 shows the thermal conductivity of Noiseflex® MH UF+ as a function of the mean temperature. The thickness of the specimen is 50 mm. With its values of 0.032 – 0.038 W / m·K at 10 °C (50 °F), Noiseflex® MH UF+ occupies a leading position among the commercially available insulating materials.

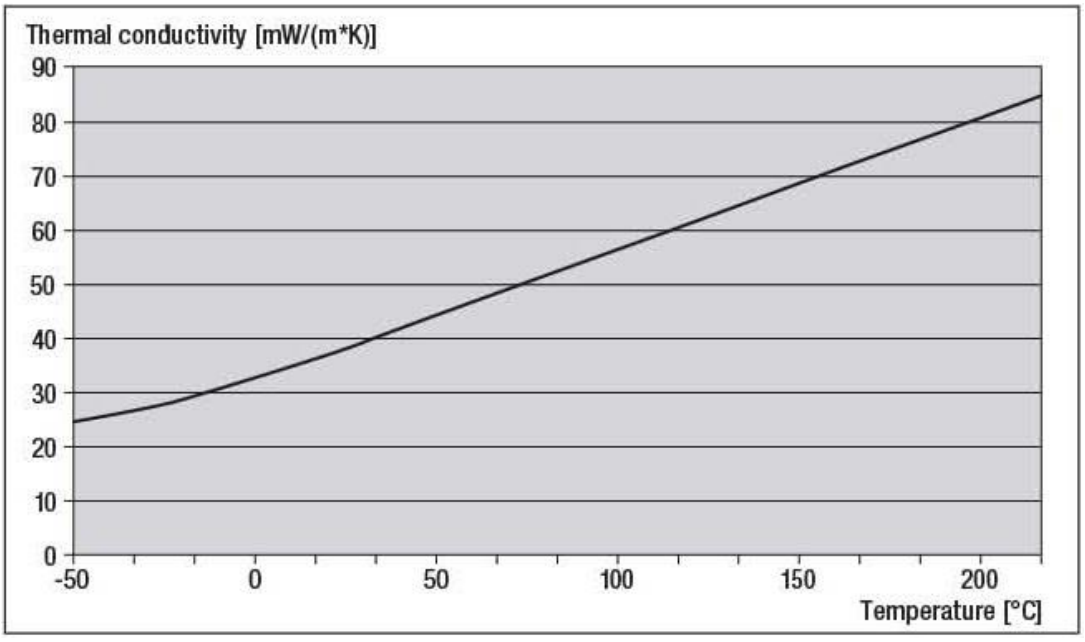

Fig. 2:
Thermal conductivity of Noiseflex® MH UF+.

Storage / Processing:
The dust resulting during processing, e. g. when sawing and milling should be drawn off directly at the cutting location. It is recommended to carry a dust mask during the above-mentioned work.

Noiseflex® MH UF+.should be stored in a dry place. Direct and prolonged exposure to ultraviolet radiation is to be avoided. The delivered and packed foam material parts must be unpacked and stored temporarily for at least **3 – 5 days** before processing at the climatic conditions corresponding to the later foreseen application. This is very important in order to avoid unwanted changes in length, width, and thickness later on.
The moisture content of the material changes as a function of the environmental conditions, due to the absorption behaviour of the melamine resin in connection with the open cellularness of the foam material.
This goes hand in hand with dimension changes (Fig. 3), similar to wood, concrete or clay bricks.

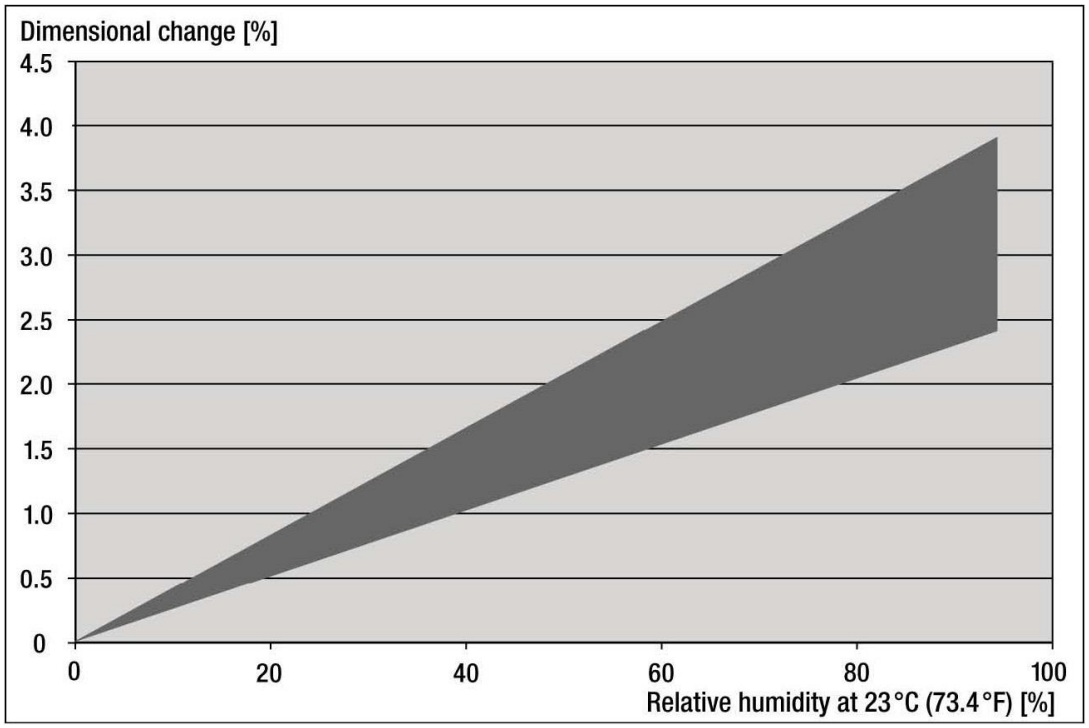

Fig. 3:
Dimensional change is a function of the relative indoor humidity at an ambient temperature of 23 °C (73 °F).

For full surface gluing of sheets, pyramids or other cuts made of made of Noiseflex® MH UF+ onto walls or ceilings we recommend our BOSIG Acoustic Adhesive. Please observe the technical instruction sheet specifications and the processing notes of BOSIG Acoustic Adhesive. Particularly sheets, pyramids or other cuts made of Noiseflex® MH shall be installed with continuous joints. Displacements are to be avoided. Or with a shadow gap of 10 to 20 mm, for achieving an optimal appearance.

Product safety and the environment:
Noiseflex® MH is produced without the use of halogenated hydrocarbons. The product is not hazardous to water. Noiseflex® MH is delivered free of blowing agents and is not subject to labelling requirements under the German Hazardous Material Regulations.
Waste from Noiseflex® MH can be recycled for purposes of heat and material recovery.

Chemical resistance:
According to DIN 53428, Noiseflex® MH UF+ as a thermoset material is resistant to many media (Table 2). The compressive strength according to ISO 3386 – 1 (40 % compression, 4th load cycle) serves as the evaluation criterion. The figures apply to a test temperature of 23 °C (73 °F).

Tab. 2:
Chemical resistance of Noiseflex® MH UF+

Medium Group	Medium	Concentration	Evaluation*)
Hydrocarbons	Gasoline		+
	Diesel		+
	Kerosene		+
Alkaline solutions	Ammonia water	25 %	+
	Sodium carbonate	25 %	+
	Sodium hydroxide solution	40 %	+
Ketones	Acetone	100 %	+
Alcohols	Ethyl alcohol		+
	Methyl alcohol		+
Acids	Acetic acid	100 %	+
	Lactic acid	10 %	+
	Nitric acid	10 %	-
	Hydrochloric acid	10 %	-
	Sulphuric acid	10 %	-
	Citric acid	10 %	+
Other chemicals	Dishwashing detergent	0.1 %	+
	Sodium chloride solution	3.6 %	+
	Universal cleaner	0.1 %	+
	Water		+

*) + resistant
0 conditionally
- resistant instable

Attention! Important Note:
Above information are based on best present knowledge of current technology, but do not guarantee faultless processing of our products. The information is based on practical results of our tests, but is not binding and does not constitute warranties of characteristics in terms of Federal Supreme Court jurisdiction. Our information does not constitute a legally binding assurance of certain properties or suitability for a specific purpose. Supplementary information by our specialists are merely recommendations, for which no liability is accepted.
Due to the many possible applications of our products, we recommend subjecting the project to a thorough suitability test on original materials before release for further application.
Since our information are non-binding we do not warranty their correctness. For this reason we accept no liability for possible improper processing based on information submitted by our employees.
This technical data sheet replaces all previous versions and is valid until a new version is issued, or until Dec. 31, 2024. Please request the latest version after Jan. 01, 2025.

Dr. Hermann, Anwendungstechnik / Application Technology, Gingen / Fils