Basotect® Plastics Plus

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# Basotect® G

**Product description**

Basotect® G is a light-grey, open-cell foam made of melamine resin.

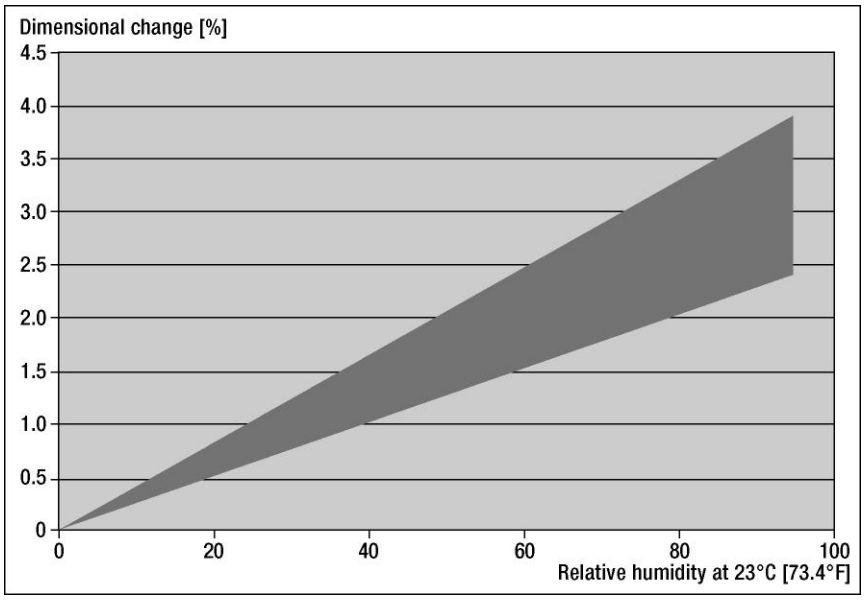
**Delivery form, storage**

Basotect® is manufactured in the form of untrimmed blocks with a thin outer skin. The standard dimensions of the blocks are 2500 x 1250 x 500 mm. Special lengths can be produced upon request.

The blocks are delivered in film packaging and should be stored in a dry place. Direct and prolonged exposure to ultraviolet radiation should be avoided.

Prior to being processed, the blocks should be stored for a minimum of three days, preferably five days, in a standard conditioned atmosphere. The reason for this is the sorption behavior of the melamine resin. The dimensions of the blocks change as they absorb or release moisture.

*Diagram 1:* Dimensional change as a function of the relative indoor humidity at an ambient temperature of 23°C [73.4°F]



**Properties**

Physical properties

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

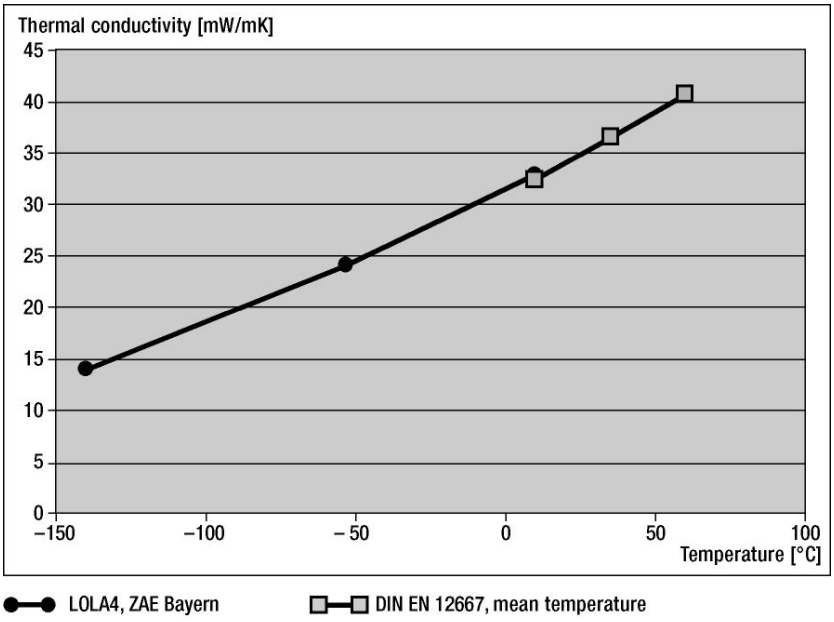
– high sound absorption
– low thermal conductivity
– high fire resistance
– low density
– high long-term use temperatures
– no brittleness at low temperatures

*Table 1:* Physical properties of Basotect® G

| Properties | Standards | Units | Values |
|---|---|---|---|
| Density | EN ISO 845 | kg/m³ | 9 +2/-1 |
| Compressive strength | EN ISO 3386-1 | kPa | 5 – 10 |
| Tensile strength | ISO 1798 | kPa | >90 |
| Elongation at break | ISO 1798 | % | >10 |
| Maximum application temperature (defined in ISO 3386-1) | DIN EN ISO 2578 | °C [°F] | |
| 1000 h | | | 220 [428] |
| 5000 h | | | 200 [392] |
| 20000 h | | | 180 [356] |
| Fire behaviour | | | |
| - Germany | DIN 4102-1 | | B1 |
| | EN 13501-1 | | upon request |
| | DIN 5510-2 | | S4, ST2, SR2 |
| - France | NF P 92-507 | | M1 |
| - USA | FMVSS 302 | | compliant (0 mm/min) |
| | UL 94 | | V-0 HF-1 |
| | ASTM E 662 | | upon request |
| | ASTM E 162 | | upon request |
| | ASTM E 84 | | upon request |
| | ASTM D 2863 (ISO 4589-2) | | upon request |
| - Italy | UNI 9177 Parete + Soffito | | Class 1 |
| - Great Britain | BS 476 part 7 | | Class 1 |
| | part 6 | | I=7,2 |
| | BS 6853 Annex D.8.4 | | upon request |
| | BS 6853 Annex B2 | | upon request |
| - Airbus | ABD 0031 | | upon request |
| - Bombardier | SMP 800-C | | upon request |
| - International | JAR/FAR Part 25 § 25.853 (a) | | upon request |

Basotect® G complies with all relevant fire standards in the application fields of aeronautics and railroad vehicles.
Diagram 2 shows the thermal conductivity of Basotect® G as a function of the mean temperature. With its values of ≤ 0.035 W/mK at 10°C [50°F], Basotect® occupies a leading position among the commercially available insulating materials.

*Diagram 2:* Thermal conductivity of Basotect® G. Measurement according to DIN EN 12667 or with the measuring device Lola 4 manufactured by ZAE Bayern of Würzburg, Germany




The test results from the acoustic experiments in an impedance tube according to ISO 10534-2 and in a reverberation room according to DIN EN ISO 354 are shown in Diagrams 3 and 4. In the medium and high frequency ranges, Basotect® G exhibits an outstanding sound absorption behavior. At low frequencies, technical acoustic improvements can be achieved, for example, by means of additional heavy layers.

*Diagram 3:* Degree of sound absorption of Basotect® G as a function of the thickness, according to ISO 10534-2 (impedance tube).

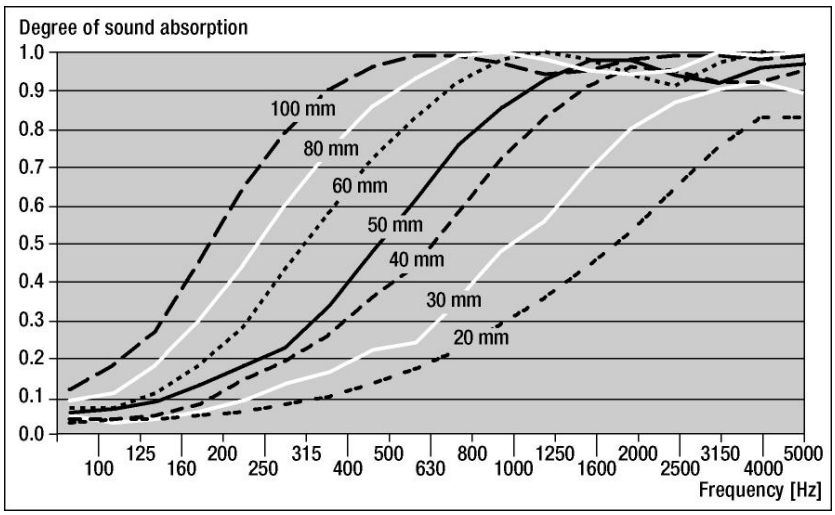
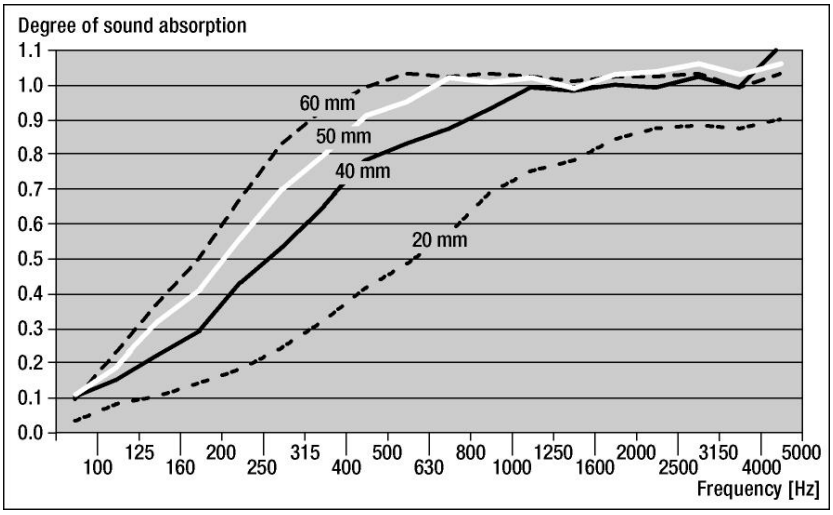


*Diagram 4:* Degree of sound absorption of Basotect® G as a function of the thickness, according to DIN EN ISO 354 (reverberation room)




Chemical resistance

According to EN ISO 175, Basotect G, 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 [73.4°F].

*Table 2:* Chemical resistance of Basotect® G

| Medium | | Evaluation |
|---|---|---|
| **acids** | | |
| formic acid 90% | | – |
| acetic acid 90% | | + |
| lactic acid 10% | | + |
| phosphoric acid 50% | | – |
| nitric acid 10% | | – |
| hydrochloric acid 10% | | – |
| sulfuric acid 10% | | – |
| citric acid 10% | | |
| **aggressive gases** | | |
| chlorine | low concentration | + |
| | high concentration | – |
| ozone | low concentration | + |
| | high concentration | – |
| **other chemicals** | | |
| sodium hypochlorite | | – |
| sodium chloride solution | | + |
| water | | + |
| hydrogen peroxide 30% | | – |
| **hydrocarbons** | | |
| gasoline | | + |
| diesel | | + |
| kerosene | | + |

*Table 2:* Chemical resistance of Basotect® G

| Medium | Evaluation |
|---|---|
| **lyes** | |
| ammonia water 25% | + |
| sodium carbonate 25% | + |
| sodium hydroxide solution 40% | + |
| **esters** | |
| butyl acetate | + |
| ethyl acetate | + |
| **ketones** | |
| acetone | + |
| **other solvents** | |
| dichloromethane | + |
| diethylether | + |
| glycol ether | + |
| **alcohols** | |
| butyl alcohol | + |
| ethyl alcohol | + |
| glycol | + |
| glycerine | + |
| isopropyl alcohol | + |
| methyl alcohol | + |

**Product safety and the environment**

Basotect® is produced without the use of halogenated hydrocarbons. The product is not hazardous to water. Basotect® is delivered free of blowing agents and is not subject to labelling requirements under the German Hazardous Material Regulations.

Waste from Basotect® can be recycled for purposes of heat and material recovery. Flake composite foams made of the same material and having densities ranging from 25 to 100 kg/m$^3$ exhibit outstanding sound absorption in the lower and medium frequency ranges. Loose flake filling has already been successfully installed in hollow spaces of suspended ceilings with the objective of improving their acoustic properties. Flakes made of Basotect® have also already been used as a binder for liquids.

**Additional technical information**

Detailed technical information can be obtained from:

BASF Aktiengesellschaft
GBU Specialty Polymers & Specialty Foams
www.basotect.de
(basotect@basf.com).

**Safety**

The information and instructions provided in the **Safety Data Sheet** have to be adhered to when this product is handled. For the rest, all preventive and occupational-safety **protection measures** that apply to the handling of chemicals **must be observed**.

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**Important Note**

The information provided in this publication is based on our current knowledge and experience. In view of the wide array of possible influences during the processing and utilization of our product, this information does not free processors from the need to conduct their own tests and experiments. The information we provide does not constitute a guarantee of specific properties or of the suitability of the product for a particular application purpose. All of the descriptions, drawings, photographs, data, ratios, weights and the like presented here can be changed without prior notice and do not constitute the contractually agreed-upon characteristics of the product. The recipients of our product are themselves responsible for observing any protective rights as well as all applicable laws and regulations


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