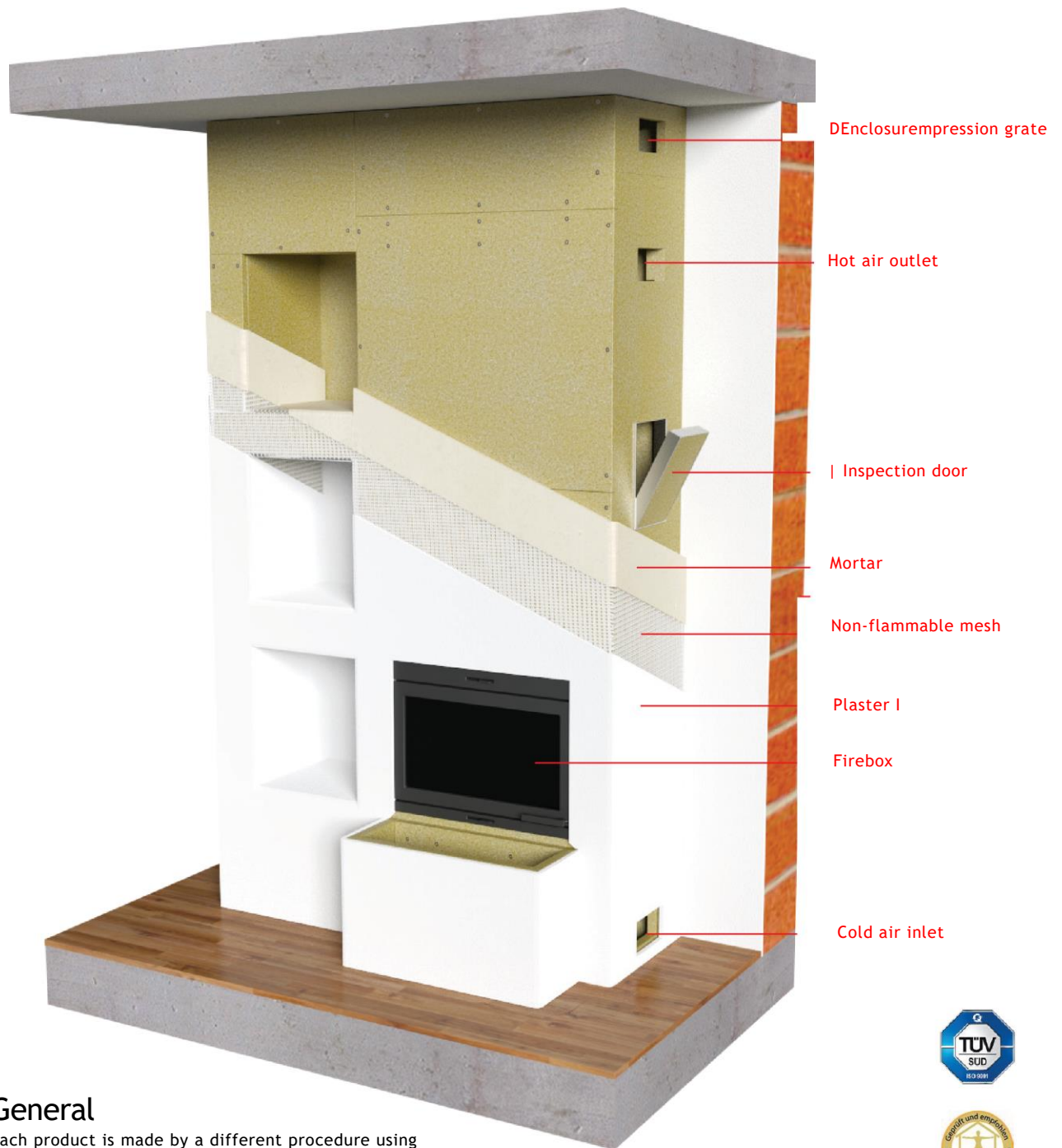


THERMAX® Enclosure - details of the design of the enclosure

THERMAX® large format boards =



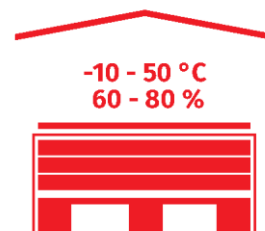
General

Each product is made by a different procedure using various additives. Therefore, usage should be approached individually, even if the material is the same at first sight.



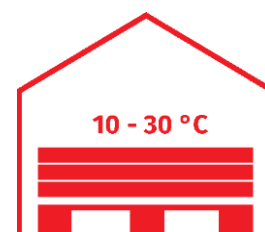
Storage

The boards must be stored in a dry, ventilated space, temperature -10 to 50 °C, humidity 60-80%, placed on the pallet horizontal, wrapped in stretch film and covered with chipboard boards.



Preparation for use

Prior to installation the boards are stored horizontally, it is advisable to place them in the space where the installation will take place at least 2 days before installation, room temperature.



Dilation-expansion

Thermax ENCLOSURE boards are stable at temperature, slightly expand (0.05%) when heated to 200 °C, and at this temperature is exceeded. The maximum expansion is 5-7 mm. Consider this dilatation and create a space for expansion between the firebox and the boards of 5-7 mm or between the walls and the boards on the side(s) of the shell. The ideal solution is to insert a strip of mineral wool with a higher volume density, as a dilatation strip.



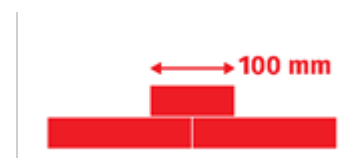
Surface of the raw board

After assembly, the surface of the boards should be dusted off and readied for the first layer of mortar.



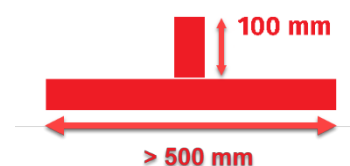
Joining boards

Boards are joined by the overlaying the joints with strips inside the shell. The strips are the same thickness as the surface of the boards, and 100 mm wide. All joints are bonded with high temperature adhesive —Thermax.



Length of boards

The boards with length more than 500 mm are supported by the strips 100 mm width, the same thickness in the middle of the length of supported boards inside the shell. All joints are bonded with high temperature adhesive —Thermax.



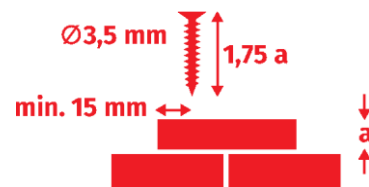
Holes

We recommend making all holes with corners in the form of a radius $R = \text{min. } 5 \text{ mm}$. In sharp corners there is a risk of the board cracking. The holes are the firebox slots, slots for grates, the inspection door, or slots for pipelines for the removal of warm air from the shell.



Screwing

The boards are connected by screws with a length calculated as 1.75 times the thickness of the board surface. Screw diameter 3.5 mm. The minimum distance from the edge of the board is 15 mm. Screw spacing max. 150 mm. There is no need to pre-drill the boards before screwing.



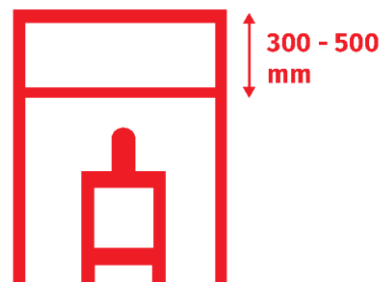
Surface treatment

We recommend using a tested product, such as Silatherm or Dracholin. The first layer is White 600 or Dracholin Rapid, then fireplace gauze is pressed in. After these layers have hardened, we can apply other surfaces, Silatherm plaster, Dracholin or a stone, ceramic or other facing material. We recommend using Thermax adhesive for stone and ceramic tiles.



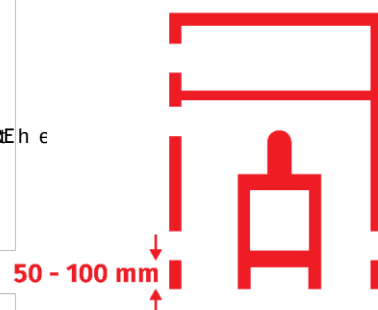
Decompression chamber

If the shell is built up to the ceiling, a decompression chamber with a height of 300-500 mm needs to be set up. It is used to protect the ceiling from high temperatures.



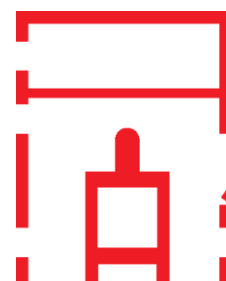
Location of grates

Ventilation grates should be calculated based on the output of the firebox, the size of the shell ENCLOSURE boards. One or two grates are located at the bottom, 5-10 cm above the floor, one or two grates are located below the decompression chamber and one is located in the decompression chamber. Contact your board supplier for a calculation.



Inspection door

We recommend that you place an inspection door for easy inspection, cleaning or repair in each shell.



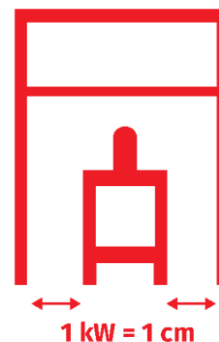
Chimney duct

The duct passage should be insulated, especially if you have a wooden ceiling or wall. We recommend using vermiculite slabs or non-combustible wool as insulation.



Spaces

The inside space between the firebox and the board is calculated according to the output of the firebox. The minimum space is 1 cm per 1 kW of firebox output. For example, if you have a 15 kW firebox, you need 15 cm between the firebox and the board on both sides of the shell. It is advisable to have a space of 5-10 cm behind the firebox.



Atypical design

If you build a fireplace between two walls, you must create a minimum expansion space of 3 mm on each side.

When using a double-sided firebox, it is important to create more space on both sides between the firebox and the shell, about 1.5 times more for ventilation of the air heated inside the shell.



First firing

The first firing in the fireplace should not take place until 3 days after the completion of the shell installation. During first firing use a few small dry softwood chips, at most 0.5 kg for 15 minutes, then allow the fireplace to cool. Repeat this process 4x. The next day, repeat the procedure with 1 kg of softwood, with about 30 minutes of heating and 60 minutes of cooling. Repeat 3-4x according to the size of the shell and the temperature conditions of the space you are heating. Hardwood may be used for the third heating with at most 4 kg of wood, a heating time of 60 min and 120 min cooling. Repeat 2x. All inlets and dampers for air coming into the firebox must be fully open and remain so. The firebox must be set at maximum output. During drying, you may smell an odor (the firebox/flue/clay/mortar baking). Use a fire lighter and dry wood.

After this first heating process, you can heat according to the manufacturer's instructions.



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Further information and advice on the specific details of the products described here can be obtained in writing from Techno-Physik Eng. GmbH (Germany).

Techno-Physik Group is constantly developing its products and reserves the right to change product specifications at any time without prior notice.

It is therefore always the customer or TechnoPhysik Eng. GmbH whether the requested material is suitable for his or her specific purposes. The stated values are average values, determined based on actual production, and are for information only. Warranty claims cannot be elicited from the above values.

We recommend first trying out the selected material for your specific application.

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