



# EFFECTIVE HEAT AND TEMPERATURE CONTROL

**HOBRA** ŠKOLNÍK

REFRACTORY AND INSULATING  
MATERIALS



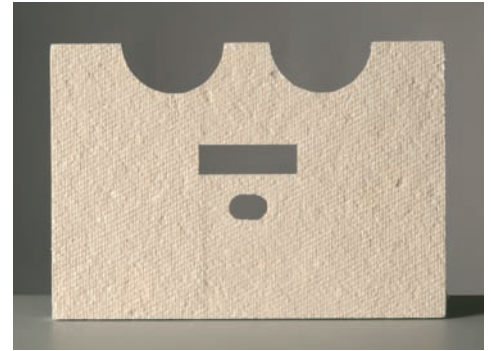
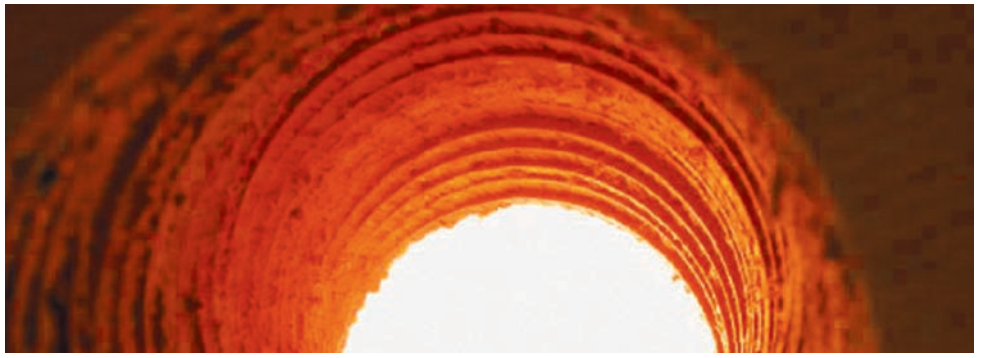
## About the company

The company HOBRA – Školník s.r.o. has been one of the established producers of filtering plates since 1950; since 1965 it has also been a producer of high quality refractory and insulating materials. In terms of strategic – marketing program called “Effective heat and temperature control” HOBRA produces and supplies refractory and insulating materials: the refractory paper (FLESIBREX®), refractory and insulating fiberboards of various specifications (TIBREX®, SIBREX®, IZOBREX®, HOBREX). Together with these products HOBRA also produces and supplies refractory shaped forms (TVAROFORM).

Consultancy and customer solutions including specific requirements on the shape of the product are also offered within the frame of the “Effective heat and temperature control” program. The waterjet cutting technology enables the production of precise cutouts from all produced materials.

HOBRA – Školník s.r.o. is fully aware of the importance of the quality control system and therefore it invests great effort into obtaining quality certificates. The quality control system certificate according to the ISO 9001 standard obtained in 2000 and the environmental management certificate according to ISO 14001 obtained in 2001 are the results of this effort.





### Refractory fiberboards IZOBREX®

IZOBREX® fiberboards are made of mixed ceramic aluminosilicate fibers (Sibral) and mineral wools. The mixture is bonded with both organic and inorganic binders. Refractory fiberboards Izobrex® are mainly designed for heat insulation for the temperature range between 400 – 800°C. These Fiberboards are made in two classes – they differ in the ratio of components in the basic mixture and the resulting application temperature.

Izobrex® 600 – for applications up to 600°C

Izobrex® 800 – for applications up to 800°C

Izobrex® fiberboards are used for heat insulation in a full range of products – in power industry, civil engineering, electrical engineering, metallurgy and glass industry. They are also used as a part of fire-protecting measures in technological parts of facilities and constructions. They are used as a part of heat insulation in linings for periodically working furnaces, for discrete heat insulation fillers in boilers, food ovens, etc.

Fiberboards are made from aqueous suspension by papermaking technology.  
Combustibility grade – B

### Refractory fiberboards SIBREX®

Fiberboards SIBREX® are made of ceramic aluminosilicate fibers (Sibral), which are bonded with combined organic and inorganic binders; they are used as heat insulating materials for temperatures up to 1100°C. They are made in two types:

Sibrex® 140 – soft fiberboards with the bulk density 140 kg.m<sup>-3</sup>

Sibrex® 250 – hard fiberboards with the bulk density 250 kg.m<sup>-3</sup>

They are mainly used in technological parts of constructions – soft ones for insulating exposed and more curved surfaces; hard ones in situations, where low compressibility at higher temperatures is required.

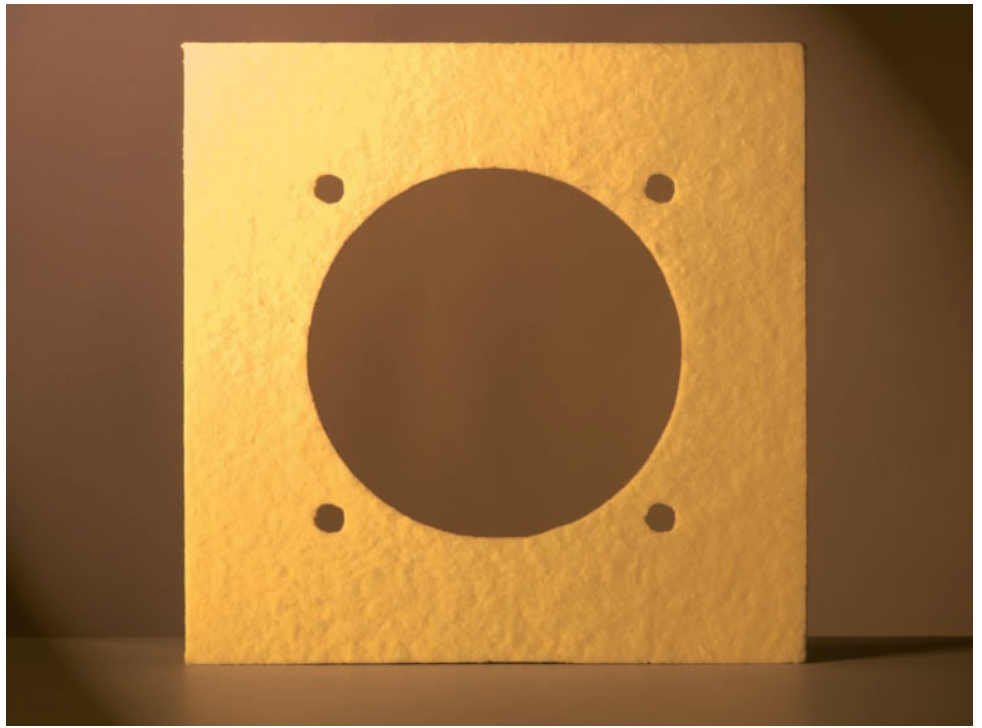
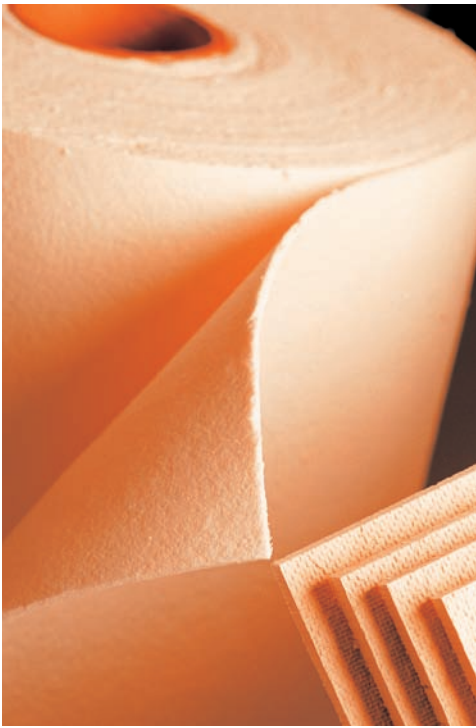
Sibrex® fiberboards are convenient for heat insulation in situations, where necessary the protection of constructions against high temperatures and the prevention of heat dissipation is needed – i.e. insulating in air heaters, blast furnaces, glass furnaces, boilers, food stoves, etc. High energy savings are achieved in all applications, especially in periodically working devices where, besides their insulating properties, the boards are also capable to accumulating significantly less heat, compared to common brick lining. The boards can be stuck to existing ceramic furnace lining with the help of refractory “Rudokit” cement or with “Soudal” stove cement.

Sibrex® fiberboards are made from aqueous suspension by papermaking technology.  
Combustibility grade – B

### Refractory fiberboards TIBREX®

TIBREX® fiberboards are made of ceramic aluminosilicate fibers (Sibral) bonded with just inorganic binders. These boards are used for various purposes requiring high heat-insulating properties at higher temperatures. These fibrous products are used for inner linings (in various types of boilers, furnaces, combustion chambers, reactors), as progressive insulating materials for metallurgy and foundry industry. Since Tibrex® fiberboards have to exhibit adequate fire strength, just inorganic binders are which retain their binding ability even at high temperatures are used. (The advantage of inorganic binders is given by their ability to form regular, uniformly interlaced and compact structures as well as their support of high strength and coherency of fiberboards at higher temperatures. It goes up to the limit of fire resistance of the fibers themselves – there is no burn-out by high temperatures.)

Refractory fiberboards TIBREX® are designed in particular for heat insulations with thermo-stability up to 1200°C. They protect constructions against high temperatures and ensure good protection against heat leakage. Use of high-temperature insulating materials has a long tradition and thermal savings, namely in discontinuously (periodically) working furnaces or in heat aggregates amount to 30 to 40% of heat consumption in furnaces constructed only from common fire-resistant materials. Fiberboards can be used as a load-carrying underlay, e.g. in storage heaters. Boards are made from aqueous suspension by papermaking technology. Since they don't contain organic substances, which would be released at the application temperature these boards can be used in “domestic” applications (fireplaces – chimneys, stoves, etc.).  
Combustibility grade – A



### Refractory and insulating paper FLESIBREX®

FLESIBREX® paper is made of ceramic aluminosilicate fibers (Sibral), which are bonded with organic binders; it is used as a heat insulating material for temperatures up to 1100°C. This paper is simply workable and sufficiently firm; it can be coiled on various pipes and curved surfaces. This paper is used as a thin heat insulating material in the power industry, engineering, metallurgy, foundry industry and electrical engineering. It helps as thermal protection at welding and soldering, as a dilatation sealing in refractory brickwork and fireproof constructions, as well as for heat insulation in furnace linings, laboratory stoves and domestic electro appliances. It is also supplied in the form of exact cut-outs according to clients drawings.

The paper Flesibrex® can be stuck to existing ceramic linings either by a fireproof or stove-fitting binder.

The Flesibrex® refractory and insulating paper is made from aqueous suspension by papermaking technology.  
Combustibility grade – B

### Mineral-fiber boards HOBREX

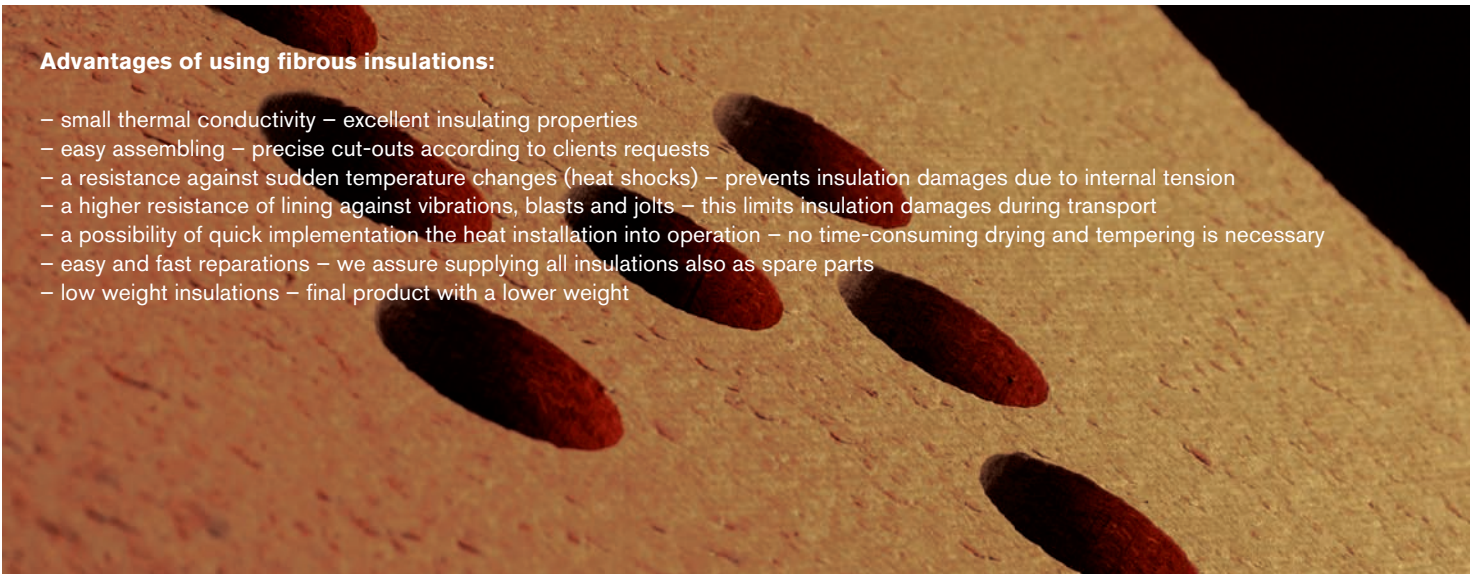
The HOBREX boards are made of mineral wool and organic binders. They are characterized by their dimensional stability and good heat-insulating properties. The boards are suitable mainly for interior parts of buildings, for ensuring insulation and thermal stability of sanitary unit ventilation passages, for cover plates, as heat and acoustic insulations on floors and into concrete. The boards are not suitable for static load, e.g. in applications as a floor board.

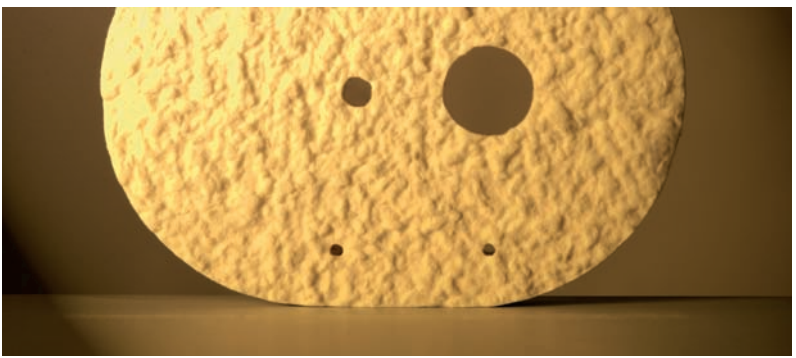
These Boards are also used as materials for heat insulation lining (up to the temperature of 450°C), as well as for external insulation. Other application is as insulation of warm-water containers and of external parts of boilers.

Hobrex boards are made from aqueous suspension by papermaking technology.  
Combustibility grade – B

### Advantages of using fibrous insulations:

- small thermal conductivity – excellent insulating properties
- easy assembling – precise cut-outs according to clients requests
- a resistance against sudden temperature changes (heat shocks) – prevents insulation damages due to internal tension
- a higher resistance of lining against vibrations, blasts and jolts – this limits insulation damages during transport
- a possibility of quick implementation the heat installation into operation – no time-consuming drying and tempering is necessary
- easy and fast reparations – we assure supplying all insulations also as spare parts
- low weight insulations – final product with a lower weight





### Refractory and insulating shaped forms TVAROFORM

Refractory and insulating shaped forms TVAROFORM are made of ceramic aluminosilicate and mineral fibers. They are bonded with both inorganic and organic binders according to the shaped form type and its classification temperature. In production there are used no carcinogenic asbestos fibers.

- Tvaroform products are not suitable for application where they are exposed to acids (phosphoric, hydrofluoric), concentrated lyes and alkali melts.
- Tvaroform products are resistant against high temperatures in oxidative environments.
- In aggressive environments (reductive conditions, alkali combustion products) the operational temperature is lower
- Tvaroform products have a high heat reflection with low heat conductance and capacity.
- Tvaroform products well absorb heat shocks.
- The mould (the inner) surface is smooth and is determining the exact proportions. The other surface is slightly rougher.

Shaped forms are used as inflow ports (Lost Foam Technology) and plugs, as hot-air piping insulations, as well as protecting elements in pyrometers and probes. They are also used in production and repair of various kinds of furnaces, boilers, fireplaces, etc. In the case of using the Tvaroform products at temperatures lower than 890°C, it is necessary to burn them out for 4 hours at the above mentioned temperature. This heating is required to burn out the organic binders and to activate the inorganic one.

Combustibility grade – B

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