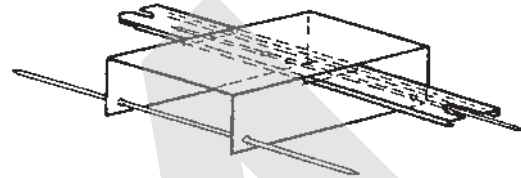


The drawing below shows the fastening details.



Material Type: Refractory Fiber Blankets in Modular Block Form

Classification Temperature

- Cerablanket® : 1260 °C
- Cerachem® Blanket : 1425 °C
- Cerachrome® Blanket : 1425 °C

Description

Z-Blok® II modules have a base of refractory fiber blankets making it possible to construct light insulating refractory linings fastened directly to industrial furnace shells.

In designing the Z-Blok® II special attention has been given to simplifying the installation system resulting in a considerable reduction in assembly time.

Three essential elements form the design basis of the Z-Blok® II modules, namely:

- An insulating refractory section composed of a tufted blanket of Thermal Ceramics refractory fibers, Cerablanket®, Cerachem® Blanket, or Cerachrome® Blanket with a density of 96 kg/m³, 25 mm thick, in accordion fold; standard modules consist of 8 folds.
- A system for reinforcement and fastening made of refractory steel, located on the cold face of the module, and consisting of:
 - two support rods crossing the blankets perpendicularly;
 - a folded sheet metal U-section, which slides between the folds, and supports the rods;
 - a U-section cross-rail, fixed directly to the furnace metalwork.
- A cardboard protection and strap maintain the blankets which have previously been compressed on a special machine designed to determine the standard dimensions of the modules.

Available Forms

The Z-Blok® II refractory fiber modules are supplied in a certain number of shapes determined by the service conditions.

Material Selection

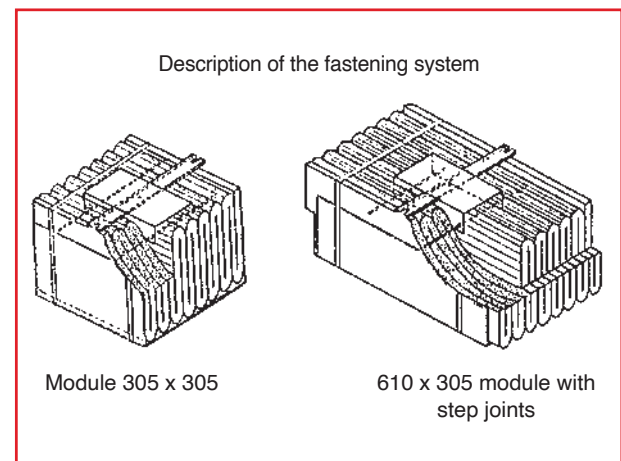
The choice of the type of blanket used in the construction of Z-Blok® II modules should be determined by the characteristics and operation of the furnace equipment to be lined. Operating temperature (steady or cyclic), nature of ware, type of energy used (electricity or type of gas or oil), furnace atmosphere, etc. are some of the factors that must be taken into account. We would recommend, for the optimum blanket selection that the Thermal Ceramics expert, and/or local representative be consulted in the initial stages of lining design.

Standard Sizes

	Length (mm)	Width (mm)
Standard modules	305	305
Modules with baffles	610	305

Thickness (mm):

- 102, 127, 152, 178, 203, 229, 254, 280 ve 305.



Installation

The Z-Blok® II system makes it possible to reduce the installation time for fibrous refractory materials. The prefabricated modules are fastened onto the furnace shell in a single operation.

The Z-Blok® II modules are assembled with all the folds facing in the same direction. Simply slide one end of the rail to the rear, inside the rail of the preceding module, the fasten the other end to the furnace shell:

- either by bolting onto a previously welded stud,
- or by the use of a nut and bolt, requiring prior drilling of the shell.

When the 305x305 mm Z-Blok® modules (without step joints), intended mainly for arch linings are used, it will be necessary to install a 25 mm thick strip of blanket with a density of 96 kg/m³, having the same quality as the module, between each row of Z-Blok® II. In order to make assembly easier, it should be held by stainless steel staples nailed into the modules that have been previously set in place. This blanket will be compressed to 10 mm during assembly of the following row.

For the 610 x 305 modules (with step joints) intended for lining vertical walls, the joint between each row is not necessary.

After all the Z-Blok® II modules have been set in place, the straps and cardboard used to maintain compression are removed, the blanket of refractory fibers expands, giving a very homogeneous lining without any open joint, and leaving the metal fastenings protected from high temperature. An installation booklet is included in each package.

Advantages

A furnace lining made from Z-Blok® II modules offers both manufacturer and user many advantages. The main ones are described below:

Ease and speed of assembly

Easily assembled with minimum equipment, even by one person who has received only a little training. Z-Blok® II lining can be installed quicker than a classical lining of refractory bricks or layer by layer blanket constructions. Full assembly instructions are found in the installation booklet.

Assembly safety

Each module's cardboard protection keeps dust from spreading during installation.

Efficiency and safety of the fastenings

The refractory steel mechanical fastenings are an integral part of the Z-Blok® II. Placed against the furnace shell, in the cold part of the lining, they are protected from the risks of oxidation caused by high temperatures.

Homogeneous lining

The decompression of the accordion folds, the stepped joint assembly or the joint between each row gives a perfectly sealed lining.

Immediate availability

As soon as the assembly is finished, the furnace may be put into service, without any treatment, or any start-up precautions whatsoever.

Lightness

For equal heat losses, a Z-Blok® II lining weighs 60 to 75% less than an insulating lining and 90 to 95% less than a lining made of heavy firebrick. For this reason, the framework and furnace shells can be built considerably lighter.

Low thermal storage

The thermal storage of a furnace is almost proportional to its lining weight. A low thermal storage allows the furnaces' heating and cooling times to be reduced, with the accompanying increase in production capacity. It also means that less energy is necessary to bring the furnace lining up to its operating temperature.

Resistance to thermal shocks

The ceramic fiber Z-Blok® II modules are extremely resistant to damage caused by rapid and extreme temperature variations. A furnace can be heated and cooled as quickly as its load will tolerate.

Mechanical resistance

The flexibility and elasticity of the ceramic fiber blankets renders them difficult to damage during manipulation prior to installation; such as shocks caused during the movement of loads within the furnaces, or by vibrations produced during road transport. These ceramic fibers are ideal for workshop prefabrication of furnaces or furnace components which will be delivered with the lining already in place.

Elasticity

Ceramic fiber linings can withstand deformations. Consequently, it is no longer necessary for the metallic furnace shells to be entirely rigid.

The values given herein are typical average values obtained in accordance with standard test methods and subject to normal manufacturing variations. They are supplied as technical data and may change without notice. Contact our company to obtain detailed information.

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