

# alfakel

TECHNOLOGY FOR SOUNDPROOFING



## SOUND **ABSORBING ELEMENTS**

# B202



### Description

These are modular sound absorbing panels with a vibrating membrane made of textile fiber material. The surface can have various embossed shapes formed with a heat molding process. On one side of the surface they are finished with porous non-woven fabric.

### Applications

The elements **Alfakel B202** are particularly suited for noise remediation of interiors in the civil sector where the geometric shape of the building is particularly subject to high sound reverberation. Additionally, they are recommended for interiors with special acoustic needs such as recording studios, music halls, and anechoic chambers etc.

## Acoustic Properties

### Sound absorbing coating

The sound absorption characteristics of acoustic materials are based also on the size of the air gap between the type of paneling being considered and the ceiling or the wall.

Figure 1 shows the absorption curves of the **Alfakel B202** elements, as function of the frequency, for various distances of the elements from walls or ceiling.

Volume of the reverberating chamber: 100 mc  
Surface examined: 7,2 mq in projection  
Type of sound: white noise in 1/3 of octave

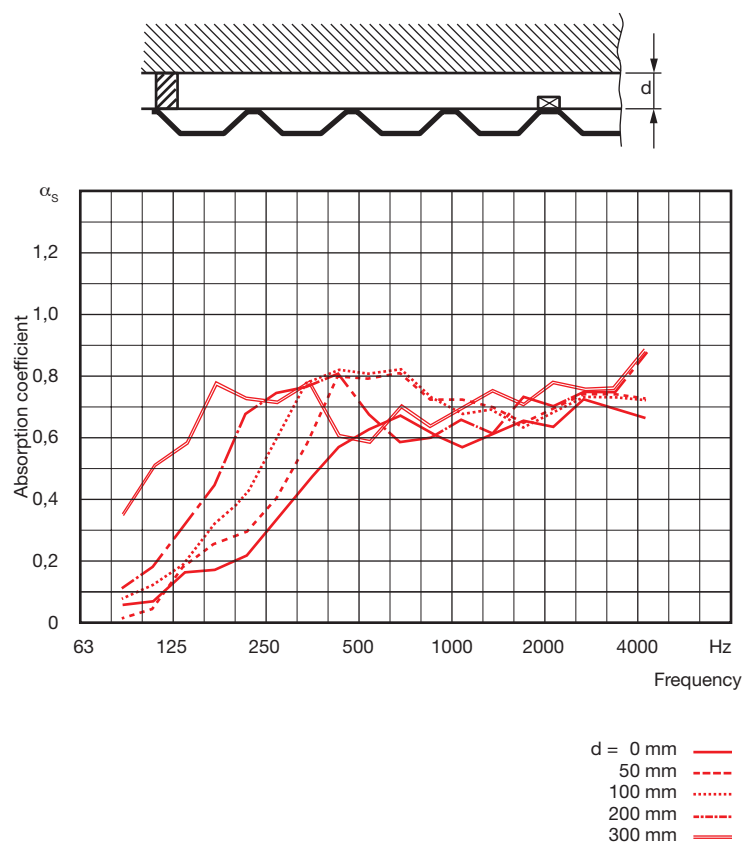


Fig. 1 - Impact of the size of the air gap.

The power of absorption of the **Alfakel B202** elements can be further enhanced by inserting in the air gap a layer of sound absorbing porous material such as Alfakel M.

The thicker is the layer of Alfakel M the higher is the absorption coefficient.

Figure 2 shows the various curves in relation to the thickness of the porous layer inserted for a distance of d=100 mm.

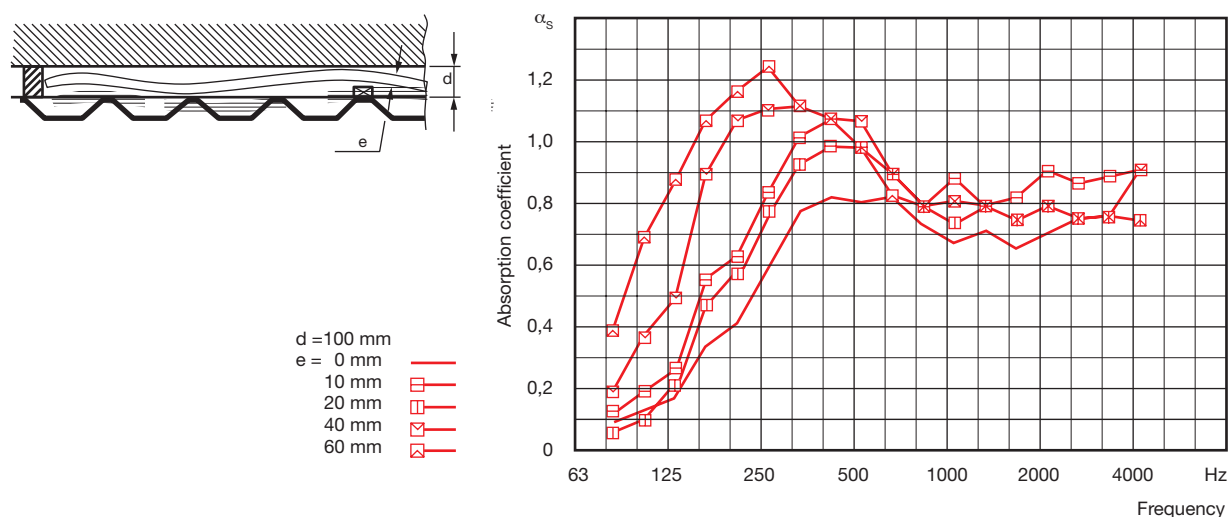


Fig. 2 - Impact of the thickness of the porous layer inserted in an air gap  $d = 100 \text{ mm}$ .

## Double Absorbing Baffles

To create a double absorbing surface, 2 **Alfakel B202** panels can be bonded together.

They are called “Baffles B 202/2” and they are used for practical reasons (for example, in consideration of the existing lighting system) or to meet particular acoustic requirements. In fact, the hanging Baffles B 202/2 for the same surface of absorption, yield same or higher values of absorption for the surface treated.

The Baffles **Alfakel B202/2** can be hung individually or assembled in banners or grids.

Figure 3 shows the Baffles **Alfakel B202/2**'s absorption curve as function of the frequency.

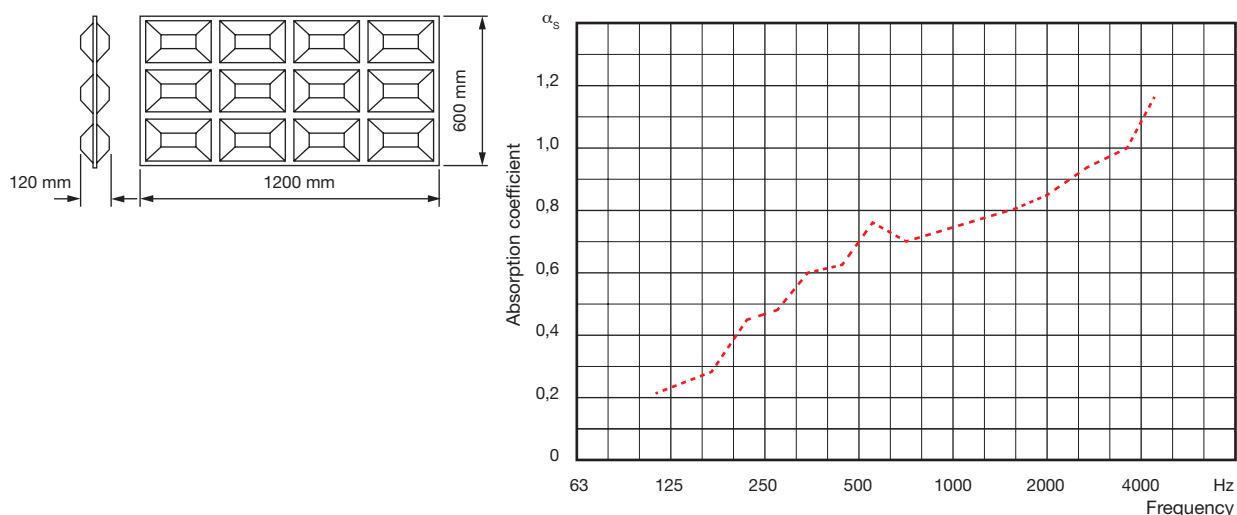


Fig. 3 - Baffles B 202/2's absorption curve as function of the frequency.

## General Properties

Weight

Nominal dimensions

Strength

Thermal Insulation

### B 202

1.2 Kg./sq.m approximately

600x1200x60 mm

Good

Excellent ( $\lambda = 0.033 \text{ kcal/mh } ^\circ\text{C}$ )

### B 202/2

2.4 Kg./sq.m approximately

600x1200x60 mm

Good

### Further Benefits

- Standard elements easy to install
- Great esthetics
- Light weight
- Sound absorbing surface completely visible
- Do not contain mineral fibers or fibers considered harmful
- Do not crystallize over time
- Standard color are considered relaxing
- Easy to clean with a common vacuum or water sprayed

### Applications

The **Alfakel B202** elements, as sound absorbing paneling for walls or ceilings, can be installed with traditional methods, such as profile frames either lengthwise or vertically, nailed on wooden strips or directly onto the walls. Installed with the correct frame, the panels can be mounted to attain the appropriate air gap desired.

The Baffles **Alfakel B202** can be hung from the ceiling on hooks, metal bars, etc. and anchored onto existing structures.



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