AESTUVER®

# Aestuver® Fire-protection board

## Cement-bonded, fibreglass-reinforced lightweight concrete board for high-quality structural fire-protection

## PRODUCT

Aestuver® Fire-protection boards are cement-bonded, fibreglass-reinforced lightweight concrete boards for high-quality structural fire-protection.

## APPLICATION

The fire-protection boards are universally applicable. Even in building components with high requirements, because the fire-protection boards are frost, water and weather resistant. Fire-resistance classifications from 15 minutes up to 360 minutes are possible depending on the components.

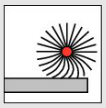
- Walls
- Ceilings
- Columns-/ beam claddings
- Electrical-/ installation ducts
- Special constructions

## CHARACTERISTICS

Non-combustible

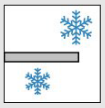

High
Compressive strength

High bending tensile strength

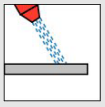


High abrasion resistance

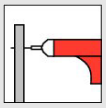
Water resistant



Frost-resistant



Cleanable



Easy to apply

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aes-400-00021/07.23

Technical customer service (freecall):
Tel.: 0800 – 3864001
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## SPECIFICATIONS AND INFORMATION

| Specifications | |
|---|---|
| Density $\rho_k$ (dry) | ~ 625 – 965 kg/m³ |
| Thermal conductivity $\lambda_R$ acc. to EN 12667 | Table page 3 |
| Specific thermal capacity c | ~ 0,9 kJ/kg·K |
| Expansion/shrinkage when the relative humidity changes by 30 % (20 °C) acc. to EN 318 | ± 0,1 % |
| Equilibrium humidity at 65 % relative humidity and 20 °C air temperature according to DIN EN ISO 12570 | ~ 7 wt.% |
| Alkalinity (pH-value) | ~ 12 |
| Category of use in relation to intended use according to EAD 350142-00-1106 | Type 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 |
| Category of use in relation to weathering according to EAD 350142-00-1106 | Type Z1, Z2, Y, X |

| Dimensional tolerances for compensation moisture for standard board formats | |
|---|---|
| Length/Width | ± 1 mm |
| Diagonal difference | ≤ 2 mm |
| Thickness | ± 1 mm |

| Approvals | |
|---|---|
| European Technical Assessment | ETA-11/0458 |
| Building material class acc. to DIN EN 13501-1 | non-combustible, A1 |
| IMO FTPC part 1 | non-combustible |

Typ X
Nutzungskategorie:
Ganz der Witterung ausgesetzt
EAD
350142-00-1106

ÉMISSIONS DANS L'AIR INTÉRIEUR
A+
A+ A B C

eco INSTITUT
TESTED PRODUCT
ID 0811 - 13701 - 015

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| Characteristic values as a relation of the board thickness | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Thickness in mm | 10 | 12 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 |
| Basis weight per m² in kg (at 7 % moisture) | ~ 10 | ~ 10 | ~ 12 | ~ 15 | ~ 18 | ~ 22 | ~ 25 | ~ 28 | ~ 34 | ~ 41 |
| Density ρk in kg per m³ (dry) | ~ 950 | ~ 800 | ~ 800 | ~ 700 | ~ 690 | ~ 680 | ~ 670 | ~ 650 | ~ 650 | ~ 640 |
| Bending tensile strength in N/mm² (based on EN 12467 ± 10 %) | 5 | 4 | 3,5 | 3,5 | 3,3 | 2,8 | 2,8 | 2,8 | 2,8 | 2,8 |
| Flexural modulus of elasticity in N/mm² (based on EN 12467 ± 10 %) | 4300 | 4200 | 3450 | 3000 | 2750 | 2400 | 2300 | 2250 | 1900 | 1450 |
| Compressive strength in N/mm² (acc. to EN 789) | 20 | –* | 8,5 | 9 | –* | 6,5 | 6,5 | 6,5 | –* | 6 |
| Water vapour diffusion resistance index μ (acc. to EN ISO 12572) | 36 | –* | 25 | 54 | –* | –* | - | –* | –* | 25 |
| Airborne sound insulation Rw in dB (acc. to DIN 52210) | ~ 31 | –* | –* | ~ 31 | ~ 33 | ~ 34 | ~ 35 | ~ 36 | –* | ~ 39 |
| Thermal conductivity $\lambda_R$ in W/m·K | 0,210 | | | 0,183 | | | | 0,160 | | 0,125 |

| Dimensions** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Thickness in mm | 10 | 12 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 |
| 2600 x 1250 mm | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* no values determined | ** Other panel thicknesses, lengths (up to 3 000 mm), widths (up to 1 250 mm) and cuts on request

| Thick-ness [mm] | Length [mm] | Width [mm] | Article number | EAN 40 0 7548 ... | Palletizing | | | Appx. weight per m² in kg** |
|---|---|---|---|---|---|---|---|---|
| | | | | | boards | m² | appx. kg* | |
| 10 | 2600 | 1250 | 8001000 | ... 00641 5 | 30 | 97,50 | 1020 | 10,0 |
| 12 | 2600 | 1250 | 8001200 | ... 00642 2 | 25 | 81,25 | 860 | 10,0 |
| 15 | 2600 | 1250 | 8001500 | ... 00643 9 | 25 | 81,25 | 1020 | 12,0 |
| 20 | 2600 | 1250 | 8002000 | ... 00644 6 | 20 | 65,00 | 1020 | 15,0 |
| 25 | 2600 | 1250 | 8002500 | ... 00645 3 | 18 | 58,50 | 1100 | 18,0 |
| 30 | 2600 | 1250 | 8003000 | ... 00646 0 | 15 | 48,75 | 1120 | 22,0 |
| 35 | 2600 | 1250 | 8003000 | ... 01159 4 | 12 | 39,00 | 1020 | 25,0 |
| 40 | 2600 | 1250 | 8004000 | ... 00647 7 | 12 | 39,00 | 1135 | 28,0 |
| 50 | 2600 | 1250 | 8005000 | ... 00648 4 | 10 | 32,50 | 1150 | 34,0 |
| 60 | 2600 | 1250 | 8006000 | ... 00649 1 | 8 | 26,00 | 1110 | 41,0 |

* board thickness from 8 mm and cuts on request | **at 7% humidity

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## BOARD STORAGE AND TRANSPORT

Aestuver® fire-protection boards are delivered horizontally packed on pallets. They should always be stored flat on a flat surface. Upright storage can lead to deformation of the panels and edge damage.

Outdoor storage is possible due to its frost and water resistance. However, because of the subsequent surface treatment, the boards should be provided with a water-repellent cover and external soiling caused by operation should be excluded.

Horizontal board transport is possible with a lift truck or other board transport vehicles. Single boards are always to be carried on edge. Manual carrying of the boards is facilitated by tools, so-called board lifters/carriers. If these tools are not available, processors should wear gloves.

## CUTTING AND PROCESSING

The Aestuver® fire-protection board is cut to size using a conventional rail-guided circular saw with suction, preferably as a plunge saw or with stationary board cutting saws. For accurate and sharp-edged cuts, we recommend the use of carbide-tipped saw blades with alternating teeth. The dust content is reduced by using saw blades with a small number of teeth and at low rotational speeds. The ideal cutting speed is at appx. 50 m/s. Possible sawing tools e.g. saw blade 210 × 30 mm, 52 teeth or electric hand jigsaw, 5 teeth/inch.

Further processing, such as creating curves, holes and edge profiles, can be carried out with a jigsaw, drill sets or routers. CNC machining centres are mainly used in the stationary area. This enables the production of precisely fitting, high-quality fire-protection technically demanding products. In order to achieve the service life of the tools and optimum machining results, carbide-tipped tools are preferably used for cutting and machining. As usual in the processing of panel materials, we recommend the use of extraction devices.

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## FASTENER

The national proof of suitability for use is decisive for the choice and arrangement of fasteners. For special solutions, the following fasteners are recommended as a guide, but they must be coordinated with the Aestuver® application engineering department.

| Recommended fastener spacing | | | | |
|---|---|---|---|---|
| | 1st and 2nd layer in substructure | | 1st layer in substructure, 2nd layer board in board (wall) | |
| | single layer | double layer | | |
| 1st layer | Screws: ≤ 250 mm | Screws: ≤ 400 mm | Screws: ≤ 250 mm | |
| 2nd layer | - | Screws: ≤ 250 mm | Screws: ≤ 250 mm<br>Row spacing: 400 mm | Staples: ≤ 150 mm<br>Row spacing: 400 mm |

| Recommended fastener distances from the board edge | |
|---|---|
| Screw | Staples |
| Horizontal: ≥ 15 mm / Vertical: ≥ 40 mm | Horizontal: ≥ 10 mm |

| Recommended fastener spacing for corner joints | |
|---|---|
| Screws | Staples |
| ≤ 150 mm | ≤ 75 mm |

## ADHESION

For bonding the boards to each other we recommend our Aestuver™ Fire-Adhesive 1300. To bond or seal corner joints, our Aestuver™ Fire-Adhesive 1300 or Aestuver™ Installation Mortar is used.

## SURFACE CONDITION

- visible side: Smooth formwork
- backside: sanded or smooth, partially sanded

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## SURFACE TREATMENT

For surface treatment, the boards must be dry and free of dust and grease. Due to the smooth surface of the visible side of the Aestuver® fire-protection boards it is not necessary to fill the alkaline substrate for most surface finishes. However, we recommend priming with a deep primer if the surfaces are to be painted. Filling Coatings can be applied with commercially available products based on dispersion, synthetic resin or acrylic.

For special applications, the surface of the board may have to be impregnated with alkali-resistant products. We recommend that you obtain approval from the respective coating manufacturer. Aestuver® coverings that are exposed to constant weathering should be given a surface protection if high optical demands are made.

## DISPOSAL

Aestuver® fire-protection boards are a mineral building material without any components that are hazardous to health or groundwater and can therefore be disposed of at the building rubble landfill. Aestuver® Fire-Protection Board waste can be processed in building material recycling plants as an aggregate for various applications.

**Waste code (EAK): 170101 (concrete)**

**Note:**
The information in the Aestuver® fire-protection board application instructions and accompanying documents must be observed!

## FURTHER NOTES

Our recommendations are based on extensive testing and practical experience. They do not replace guidelines, standards, approvals, and other applicable technical data sheets. Due to the large number of possible influences during processing and application, we recommend always carrying out a trial processing and application. No claims for compensation can be derived from the information provided. Delivery, processing, and warranty for the properties we have guaranteed are in accordance with our General Terms and Conditions.

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