

ALTERNA

Product Information Leaflet¹

1. Product composition

ALTERNA slates are made of fiber cement and consist of:

- Portland cement
- Mineral fillers
- High-grade synthetic fibers (PVA)
- Organic process fibers (cellulose)
- Organic coating

1. Production method

ALTERNA slates are made of highly compressed and air-cured fiber cement. During production pigmented slurry is applied on the face. After curing exact slate sizes are cut from the base sheets. Different multi-layer coating systems are applied on front and back of each slate.

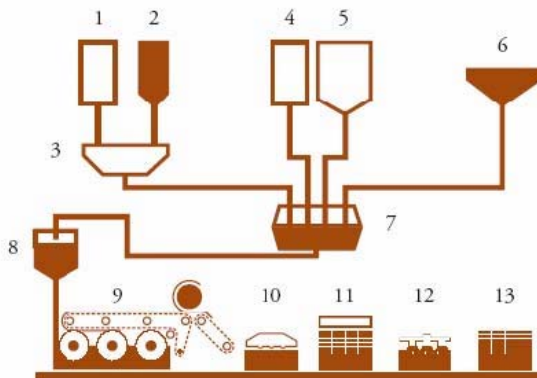


Fig. 1: Production scheme

- | | |
|----|-----------------------|
| 1 | 1. Reinforcing fibers |
| 2 | 2. Water |
| 3 | 3. Mixer |
| 4 | 4. Process fibers |
| 5 | 5. Cement |
| 6 | 6. Water |
| 7 | 7. Central mixer |
| 8 | 8. Silo |
| 9 | 9. Hatschek machine |
| 10 | 10. Press |
| 11 | 11. Cutting frame |
| 12 | 12. Finishing |
| 13 | 13. Stacking |

¹ This product information leaflet replaces any previous editions. EURO PANELS OVERSEAS reserves the right to amend this information leaflet without prior notice. Readers should always make sure to consult the most recent version of this document.

1. Dimensions, tolerances and weight

Nominal thickness: 4 mm
 Tolerances: on length and width +3/-3 mm
 On thickness +1/-0.4 mm

Table 1: Dimensions

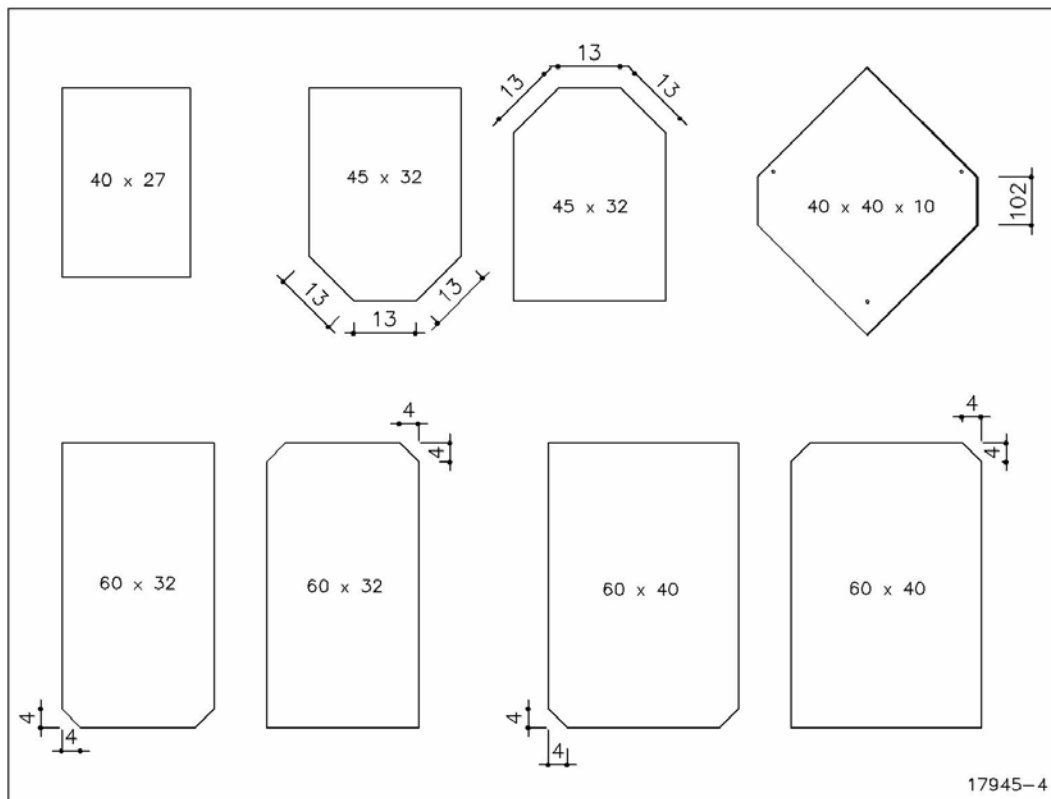
| Dimension (cm) | Square ALTERNA slates | | | | Diamond slates |
|----------------|-----------------------|-------|-------|-------|----------------|
| | 40x27 | 45x32 | 60x32 | 60x40 | 40x40 |
| Overlap (cm) | (*) | (*) | (*) | (*) | 10 |
| Holes | - | - | - | - | 3 |
| cut corners | - | 2 | 2 | 2 | 2 |

(*) variable – see installation instructions

Table 2: Weight

| Dimension (cm) | Weight (kg) |
|----------------|-------------|
| 40x27 | 0.92 kg |
| 45x32 | 1.23 kg |
| 60x32 | 1.63 kg |
| 60x40 | 2.05 kg |
| 40x40 | 1.36 kg |

Fig. 2: Dimensions



1. Colours and finishing layers²

ALTERNA slates have a triple finishing layer at the face and a double one at the back.

Face

On top of the pigmented final layer, as part of the production of the base sheet, a double protective top coat is applied. It consists of a primer and a finishing coat. The latter is a synthetic acrylic resin containing pigments that determine the final colour of the ALTERNA slates. Also the edges of the ALTERNA slates are treated with the same resin.

In relation to the slate format, the following colours are available:

Table 3: Colours

| Dimension (cm) | 40 x 27 | 45 x 32 | 60 x 32 | 60 x 40 | 40 x 40 x 10 |
|-----------------|---------|---------|---------|---------|--------------|
| Dark grey | * | * | * | * | * |
| Midnight purple | * | * | * | | |
| Hainault's blue | * | * | * | | |
| Havana brown | | * | * | | |
| Heath purple | | * | * | | |
| Zinc grey | | * | | | |

Back

To increase the dimensional stability of the slate, a protective synthetic acrylic resin is also applied on the back. The goal of this multiple coating is a better sealed surface to considerably reduce water absorbency. Finally the back of the slate is provided with a wax to avoid the slates sticking together in the stack and to prevent infiltration of moisture between the slates.

1. Mechanical and physical characteristics (average values)

Table 4: Mechanical characteristics

| Bending strength (saturated) | Value |
|------------------------------|----------------------|
| parallel to the fibers | 25 N/mm ² |
| perpendicular to the fibers | 16 N/mm ² |
| average bending moment | 52 Nm/m |

Table 5: Physical characteristics

| Physical Characteristics | Value | Remark |
|--------------------------------|-----------------------------------|---|
| Density | 1850 kg/m ³ (min 1750) | Oven dry |
| Moisture expansion coefficient | 3.3 mm/m | From oven dry to saturated for an unfinished slate |
| Thermal expansion coefficient | 10*10 ⁻⁶ m/mK | Oven dry (between -20° and +80°C) |
| Maximum water absorption | 15% | After 24 h immersed in water – starting from an oven dry, unfinished slate. |
| Frost resistance | - 30 °C | Continuous |

² It is advised to request a sample for an illustration of the colours.

1. Advantages, properties and performances

- High mechanical strength
- Easy to work
- Insensitive to atmospheric influences
- Chemical stability
- Reaction to fire according to EN 13501-1 : A2
- Good biological resistance
- Light weight
- Compatible with other standard building materials
- High flexibility to all types of architectural design
- Attractive colour range and formats

1. Applications (not exhaustive)

- Roof covering:
- Double cover
 - Horizontal single cover
 - Diamond pattern cover

8. Normalization and approvals

The ALTERNA slates meet the requirements of the European norm EN 492 and are CE-marked.

9. Working guidelines

The most used tools for working fiber cement slates are:



Fig. 3: Guillotine shear



Fig. 4: Hand shear



Fig. 5: Slater's hammer



Fig. 6: Break iron



Fig. 7: Scoring knife

10. MAINTENANCE AND CLEANING

In function of the location of the roof, it is recommended to remove fungae, mosses etc. when required. Also regular inspection of the roof is recommended to check the physical condition of the slates as well as the fixing.

For more details on cleaning procedures, please consult EURO PANELS OVERSEAS.

11. TRANSPORT AND STORAGE

ALTERNA slates are stacked on pallets and covered with corrugated cardboard. The pallet is further secured with a protective shrink-wrapping and metal straps. The slates have to be stored in a dry and well-ventilated space on a flat surface. On site, the corrugated cardboard and the shrink-wrapping need to be removed from the pallet. From then on, the stacked slates should be covered by a tarpaulin.

12. GUARANTEE

The guarantee and the guarantee conditions are available on request from EURO PANELS.



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