

# MANTO STONE WOOL and R<sup>+</sup>



It is an unfaced stone wool boards that is produced specially with respect to TS EN 13500 standards. It is utilized at external thermal insulation composite systems for thermal insulation, sound insulation and fire safety purposes.

## Application

First of all, the surface to be used in the application should be checked to ensure that it is smooth and dry. If the surface is rough and with scrapes it should be cleaned by brushing. Unevenness, major defects and cracks should be repaired by means of plaster. The boards can be adhered to the surface using cement based fixing mortar by different methods. The boards should be laid down without any gap side by side on the wall surface shortly after spreading fixing mortar over the boards. The adhesive should not be spread near the edges of the board in order to prevent the adhesive getting into the joints. The boards are laid down in an alternating pattern at the facades and the corners. When the fixing mortar is completely dry (approximately after 24 hours) the anchoring process can be started. Special insulation fastening anchors are used which are chosen with respect to the wall properties. Tiled surfaces or surfaces with old plaster are not suitable for anchoring. After anchoring process, reinforced layer is formed. Cement based undercoat plaster is applied to the surface by trowel. Afterwards, an alkali resistant, glass fiber based reinforcement mesh is placed on top by trowel in such a manner that the edges are overlapped by 10 cm. Consequently, second coat plaster is applied on the mesh and the reinforced layer comes to an end. When the reinforced layer is completely dry; permeable, solvent-free decorative cladding material with the desired texture is applied to the reinforced layer using a trowel or roller and the process is completed. Exterior cladding thickness and the quantity to be applied depend on the plaster type. Different surface forms can be achieved on the finishing plaster by different polishing methods. This application is correct in terms of that it removes thermal bridges by insulating wall surfaces as well as it protects the building from atmospheric conditions and prevents physical changes which occur in building components such as expansion or contraction due to temperature change. For the insulation applications of exterior walls from the exterior, using Manto Stone Wool boards provides sound insulation and fire safety as well as thermal insulation.



| Thickness (cm) | Width x Length (cm) | Package (m <sup>2</sup> ) |
|----------------|---------------------|---------------------------|
| 3              | 60 x 120            | 3,60                      |
| 4              | 60 x 120            | 2,88                      |
| 5              | 60 x 120            | 2,16                      |
| 6              | 60 x 120            | 1,44                      |
| 8              | 60 x 120            | 1,44                      |
| 10             | 60 x 120            | 1,44                      |
| 12             | 60 x 120            | 0,72                      |

- Thermal insulation
- Fire safety
- Sound insulation
- Easy to apply



# TECHNICAL DATA SHEET

## izocam Manto Stone Wool and Manto Stone Wool R<sup>+</sup>

| Properties                                      | Symbol  | Unit              | Description        |          |         |      |                                 |          |      |      | Tolerance | Standard           |   |           |
|---|---|-------------------|--------------------|----------|---------|------|---------------------------------|----------|------|------|-----------|--------------------|---|-----------|
| Material  | -   | -                 | Stone Wool         |          |         |      |                                 |          |      |      | -         | TS EN 13162        |   |           |
| Material Type                                   | -   | -                 | Manto Stone Wool   |          |         |      | Manto Stone Wool R <sup>+</sup> |          |      |      | -         | -                  |   |           |
| Density   | $\rho$  | kg/m <sup>3</sup> | 150                |          |         |      | 130                             |          |      |      | +/- % 7   | -                  |   |           |
| Width   | w   | mm                | 600                |          |         |      |                                 |          |      |      | +/-1,5%   | TS EN 822          |   |           |
| Length  | l   | -                 | 1200               |          |         |      |                                 |          |      |      | +/-2%     | TS EN 822          |   |           |
| Thickness                                       | t   | mm                | 30                 | 40       | 50      | 60   | 80                              | 100      | 120  | T5 * | TS EN 823 |                    |   |           |
| Pulling Strength                                | MT  | $\sigma_{mt}$     | kPa                | min. 7,5 | min. 10 |      |                                 | min. 7,5 |      |      | -         | TS EN 1607         |   |           |
|   | MT R <sup>+</sup>   |                   |                    | min. 7,5 |         |      |                                 |          |      |      |           |                    |   |           |
| Compressive Strength                            | MT  | $\sigma_{10}$     | kPa                | min. 25  | min. 30 |      |                                 |          |      |      |           |                    | - | TS EN 826 |
|   | MT R <sup>+</sup>   |                   |                    | min. 10  | min. 20 |      |                                 |          |      |      |           |                    |   |           |
| Facing  | -   | -                 | Unfaced            |          |         |      |                                 |          |      |      | -         | -                  |   |           |
| Reaction to fire                                | -   | -                 | A1                 |          |         |      |                                 |          |      |      | -         | TS EN 13501-1      |   |           |
| Squareness                                      | S <sub>b</sub>  | mm/m              | max.5              |          |         |      |                                 |          |      |      | -         | TS EN 824          |   |           |
| Flatness  | S <sub>max</sub>  | mm                | max.6              |          |         |      |                                 |          |      |      | -         | TS EN 825          |   |           |
| Dimensional Stability                           | $\Delta\epsilon_d$  | %                 | max.1              |          |         |      |                                 |          |      |      | -         | TS EN 1604         |   |           |
| Declared Thermal Conductivity (10°C)            | $\lambda_D$   | W/mK              | 0,039              |          |         |      | 0,037                           |          |      |      | -         | TS EN 12667/12939  |   |           |
| Thermal Resistance                              | MT  | R <sub>D</sub>    | m <sup>2</sup> K/W | 0,75     | 1,00    | 1,25 | 1,50                            | 2,05     | 2,55 | 3,05 | -         | TS EN 13162        |   |           |
|   | MT R <sup>+</sup>   |                   |                    | 0,80     | 1,05    | 1,35 | 1,60                            | 2,15     | 2,70 | 3,20 |           |                    |   |           |
| Water Vapor Diffusion Resistance Coefficient ** | $\mu$   | -                 | 1                  |          |         |      |                                 |          |      |      | -         | TS EN 12086        |   |           |
| Long Term Water Absorption                      | W <sub>lp</sub>   | kg/m <sup>2</sup> | max. 3             |          |         |      |                                 |          |      |      | -         | TS TS EN ISO 16535 |   |           |
| Short Term Water Absorption                     | W <sub>p</sub>  | kg/m <sup>2</sup> | max. 1             |          |         |      |                                 |          |      |      | -         | TS TS EN ISO 29767 |   |           |
| Packaging Material                              | -   | -                 | PE Film            |          |         |      |                                 |          |      |      | -         | -                  |   |           |
| Other Information                               | Manto Stone Wool insulation boards are manufactured regarding to the technical specifications of insulation boards stated in TS EN 13500 for "Mineral wool (stone wool) based external thermal insulation composite systems" and in compliance with TS 901-1 EN 13162 standard. |                   |                    |          |         |      |                                 |          |      |      |           |                    |   |           |

\* T5: -1% or -1 mm; +3 mm. The biggest value is chosen at minus tolerance, the smallest value is chosen at plus tolerance.

\*\* Literature value.

### Safety Reminders for Loading, Unloading, Shipping and Storing

- These operations should be done indoors in case of rainy weather conditions.
- Loading and unloading should be done by (at least) two people.
- Products should be wrapped by a waterproof cover even if the shipping distance is short.
- Products should not be superposed with pallets.
- Products should not be put into upright position.
- Products should not be stepped on and should not be used as steps.
- Products should not be pulled by their package.
- Products should be in packages (10 each) and maximum 6 packages can be superposed.
- Before binding, hard cardboards (minimum 20 x 50 cm) should be put on the corners of packages to protect against possible damages by ropes.
- Storage area should be protected against any wet threats such as rain, float, etc. Indoor spaces should be preferred.
- The packages should be put on the floor with extra care so the corners of the product especially is not damaged by a hit.

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