

# Isover TF Thermo

## Stone wool insulation



### TECHNICAL SPECIFICATION

Insulating slabs made of Isover mineral wool with longitudinal fibres. Production is based on drawing the mineral composition melt with other additives and ingredients. The mineral fibres produced are processed into the final slab shape on the production line. The entire fibre surface is hydrophobic and has longitudinal orientation. The slabs in the construction have to be protected suitably (layers of the contact wall insulation system).



### APPLICATION

Isover TF Thermo facade slabs with longitudinal fibre are suitable for external thermal insulation composite systems (ETICS), where they are glued and mechanically bonded to a sufficiently coherent and sound wall surface. The layers of contact insulating systems are applied on the slabs: bond, reinforcement grid, penetration, plaster, and paint. Bonding of the slabs can be performed with the glue being applied along the edge and at the patches in centre of the slab. It is necessary to use anchor plates, their type and amount will be arranged according to the instructions of the certified insulating system manufacturer.

### BENEFITS

- Very good thermal insulation performance ( $\lambda_D = 0.035 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ ).
- Fire resistance.
- Low vapour resistance – good water vapour penetrability.
- Environmentally friendly and hygienic.
- Completely hydrophobic.
- Long life span.
- Resistant to wood-destroying pests, rodents, and insects.
- Easy workability – can be cut, drilled into, glued, etc.

### PACKAGING, TRANSPORT, WAREHOUSING

Isover TF Thermo insulation slabs are packed into the PE film covered packets or as packets on a pallet. Isover TF Thermo is standardly delivered on wooden pallet. Material has to be transported and stocked under conditions preventing wetting or other degradation.

### DIMENSIONS AND PACKAGING

| Thickness<br>[mm] | Length × width<br>[mm] | Volume per package |                   |                   | Quantity per pallet<br>[m <sup>2</sup> ] | Declared thermal resistance<br>R <sub>D</sub> [m <sup>2</sup> ·K·W <sup>-1</sup> ] |
|-------------------|------------------------|--------------------|-------------------|-------------------|--|--|
|                   |                        | [pcs]              | [m <sup>2</sup> ] | [m <sup>3</sup> ] |  |  |
| 50                | 1 000 × 600            | 5                  | 3.00              | 0.150             | 60.0                                     | 1.40   |
| 60                | 1 000 × 600            | 5                  | 3.00              | 0.180             | 48.0                                     | 1.70   |
| 80                | 1 000 × 600            | 3                  | 1.80              | 0.144             | 36.0                                     | 2.25   |
| 100               | 1 000 × 600            | 3                  | 1.80              | 0.180             | 28.8                                     | 2.85   |
| 120               | 1 000 × 600            | 3                  | 1.80              | 0.216             | 25.2                                     | 3.40   |
| 140               | 1 000 × 600            | 2                  | 1.20              | 0.168             | 21.6                                     | 4.00   |
| 150               | 1 000 × 600            | 2                  | 1.20              | 0.180             | 21.6                                     | 4.25   |
| 160               | 1 000 × 600            | 2                  | 1.20              | 0.192             | 19.2                                     | 4.55   |
| 180               | 1 000 × 600            | 2                  | 1.20              | 0.216             | 16.8                                     | 5.10   |
| 200               | 1 000 × 600            | 2                  | 1.20              | 0.240             | 14.4                                     | 5.70   |
| 220               | 1 000 × 600            | 1                  | 0.60              | 0.132             | 13.2                                     | 6.25   |
| 240               | 1 000 × 600            | 1                  | 0.60              | 0.144             | 12.0                                     | 6.85   |
| 250               | 1 000 × 600            | 1                  | 0.60              | 0.150             | 12.0                                     | 6.25   |
| 260               | 1 000 × 600            | 1                  | 0.60              | 0.156             | 12.0                                     | 7.40   |
| 280               | 1 000 × 600            | 1                  | 0.60              | 0.168             | 10.8                                     | 8.00   |
| 300               | 1 000 × 600            | 1                  | 0.60              | 0.180             | 9.6                                      | 8.55   |

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## TECHNICAL PARAMETERS

| Parameter  | Unit                                   | Methodology   | Value                                   | Designation code   |
|--|--|---|---|--|
| <b>Geometric shape</b>   |  |   |   |  |
| Length <i>l</i>  | [% , mm]                               | EN 822  | ±2%                                     |  |
| Width <i>b</i>   | [% , mm]                               | EN 822  | ±1,5%                                   |  |
| Thickness <i>d</i>   | [% , mm]                               | EN 823  | -1% nebo -1 mm <sup>1)</sup><br>a +3 mm | Class of thickness tolerances<br>T5  |
| Deviation from squareness of the edge on length and width <i>S<sub>e</sub></i>                               | [mm·m <sup>-1</sup> ]                  | EN 824  | 5                                       |  |
| Deviation from flatness <i>S<sub>max</sub></i>   | [mm]                                   | EN 825  | 6                                       |  |
| Relative change in length $\Delta\epsilon_l$ , in width $\Delta\epsilon_b$ , in thickness $\Delta\epsilon_d$ | [%]                                    | EN 1604   | 1                                       | Dimensional stability under the specified temperature and humidity conditions<br>DS(70/90) |
| <b>Thermal technical properties</b>  |  |   |   |  |
| Declared value of thermal conductivity coefficient $\lambda_{D3}$  | [W·m <sup>-1</sup> ·K <sup>-1</sup> ]  | Declaration according to EN 13162+A1<br>Measurement according to EN 12667 | 0.035                                   |  |
| Design thermal conductivity $\lambda_{D4}$   | [W·m <sup>-1</sup> ·K <sup>-1</sup> ]  | ČSN 73 0540-3   | 0.038                                   |  |
| Specific heat capacity <i>c<sub>d</sub></i>  | [J·kg <sup>-1</sup> ·K <sup>-1</sup> ] | ČSN 73 0540-3   | 800                                     |  |
| <b>Mechanical properties</b>   |  |   |   |  |
| Compressive stress at 10% deformation $\sigma_{10}$  | [kPa]                                  | Declaration according to EN 826   | 20                                      | Declared level of compressive stress at 10% deformation<br>CS(10)20                        |
| Tensile strength perpendicular to faces $\sigma_{mt}$  | [kPa]                                  | Declaration according to EN 1607  | 7.5                                     | Declared level of tensile strength perpendicular to faces<br>TR7,5                         |
| <b>Fire safety properties</b>  |  |   |   |  |
| Reaction to fire class   | [-]                                    | Declaration according to EN 13501-1+A1                                    | A1                                      |  |
| Maximum temperature for use  | [°C]                                   |   | 200                                     |  |
| Melting temperature <i>t<sub>t</sub></i>   | [°C]                                   | DIN 4102 part 17  | ≥ 1000                                  |  |
| <b>Hydrothermal properties</b>   |  |   |   |  |
| Short-term water absorption <i>W<sub>p</sub></i>   | [kg·m <sup>-2</sup> ]                  | Declaration according to EN 13162+A1<br>Measurement according to EN 1609  | 1                                       | Declared level for short-term water absorption<br>WS                                       |
| Long-term water absorption by partial immersion <i>W<sub>ip</sub></i>  | [kg·m <sup>-2</sup> ]                  | Declaration according to EN 13162+A1<br>Measurement according to EN 12087 | 3                                       | Declared level for long-term water absorption by partial immersion<br>WL(P)                |
| Water vapour diffusion resistance factor $\mu$   | [-]                                    | Declaration according to EN 13162+A1<br>Measurement according to EN 12086 | 1                                       | Declared value for water vapour diffusion resistance factor<br>MU1                         |
| <b>Other properties</b>  |  |   |   |  |
| Density <sup>4)</sup>  | [kg·m <sup>-3</sup> ]                  | EN 1602   | 80–120 <sup>4)</sup>                    |  |

<sup>1)</sup> Value with greatest numerical tolerance.

<sup>2)</sup> Declared values were set under the following conditions: (reference temperature 10 °C, humidity  $u_{dry}$  reached by drying) according to EN ISO 10456.

<sup>3)</sup> Valid for typical use in construction with risk of condensation. In the case of construction without any risk of condensation, it is possible to use the declared value of thermal conductivity.

<sup>4)</sup> The density is not constant and varies with the thickness of the product.

## RELATED DOCUMENTS

- Declaration of Performance CZ0001-047
- Certificate of constancy of performance
- Environmental Product Declaration
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

### More about the product

[www.isover.cz/en/products/isover-tf-thermo](http://www.isover.cz/en/products/isover-tf-thermo)



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