



Isover TOPSIL

Mineral insulation from stone wool

TECHNICAL SPECIFICATION

Insulating slabs made of Isover mineral wool. The production method is based on fibering mineral composition melt and other additives and ingredients. The mineral fibres produced are processed into the final slab shape in the production line. The entire fibre surface is water repellent. The slabs in the construction should be protected in a suitable manner (outer sheathing, alternatively diffusion foil).

APPLICATION

Isover TOPSIL slabs provide for versatile application in all types of ventilated façades, wooden buildings, walls and pitched roofs and ceilings. The material is suitable for fire protection system structures where the volume density $60 \geq \text{kg}\cdot\text{m}^{-3}$ is required.

Superior thermal insulation material with $\lambda_D = 0.033 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$.

PACKAGING, TRANSPORT, WAREHOUSING

Isover TOPSIL insulation slabs are packed in PE foil with the maximum package height of 0.5 m. The slabs have to be transported in covered vehicles under conditions preventing their wetting or other degradation. They can also be delivered on pallets 1200 x 2400 mm. The products are stored indoors or outdoors depending on the conditions specified in the current ISOVER price list.

BENEFITS

- very good thermal insulation performance
- fire-resistant
- excellent acoustic properties in terms of noise absorption
- low vapour resistance - good water vapour penetrability
- environmentally friendly and hygienic
- completely hydrophobic
- long life span
- resistant to wood-destroying pests, rodents, and insect
- easy workability - can be cut, drilled into, etc.
- dimensional stability during temperature change



DIMENSIONS AND PACKAGING

| Thickness | [mm] | 40 | 50 | 60 | 80 | 100 | 120* | 140 | 160 |
|--|--------------------------------------|------------|--------|--------|-------|-------|-------|-------|-------|
| Length x width | [mm] | 1200 x 600 | | | | | | | |
| Volume per package | [ks] | 12 | 10 | 8 | 6 | 5 | 4 | 3 | 3 |
| Quantity per palette | [m ²] | 8.64 | 7.20 | 5.76 | 4.32 | 3.60 | 2.88 | 2.16 | 2.16 |
| | [m ³] | 0.35 | 0.36 | 0.35 | 0.35 | 0.36 | 0.35 | 0.30 | 0.35 |
| Declared thermal resistance R _D | [m ² ·K·W ⁻¹] | 198.72 | 165.60 | 132.48 | 99.36 | 82.80 | 66.24 | 49.68 | 49.68 |
| Declared thermal resistance R _D | [m ² ·K·W ⁻¹] | 1.20 | 1.50 | 1.80 | 2.40 | 3.00 | 3.65 | 4.25 | 4.85 |

* It is necessary to consult with the producer for the terms of delivery.

TECHNICAL PARAMETERS

| Parameter | Unit | Methodology | Value | Designation code |
|---|--|---|---|---|
| Geometric shape | | | | |
| Length <i>l</i> | [% , mm] | EN 822 | ±2 % | |
| Width <i>b</i> | [% , mm] | EN 822 | ±1.5 % | |
| Thickness <i>d</i> | [% , mm] | EN 823 | -3 % or -3 mm ¹⁾ and +5 % or 5 mm ²⁾ | Class of thickness tolerances T4 |
| Deviation from squareness of the edge on length and width S _b | [mm·m ⁻¹] | EN 824 | 5 | |
| Deviation from flatness S _{max} | [mm] | EN 825 | 6 | |
| Relative change in length Δε _l in width Δε _b in thickness Δε _d | [%] | EN 1604 | 1 | Dimensional stability under the specified temperature and humidity conditions DS (23,90) |
| Thermal technical properties | | | | |
| Declared value of the thermal conductivity coefficient λ _D ³⁾ | [W·m ⁻¹ ·K ⁻¹] | Declaration according to EN 13162+A1 Measurement according to EN 12667 | 0.033 | |
| Design thermal conductivity λ ⁴⁾ | [W·m ⁻¹ ·K ⁻¹] | ČSN 73 0540-3 | 0.035 | |
| Specific heat capacity c _d | [J·kg ⁻¹ ·K ⁻¹] | ČSN 73 0540-3 | 800 | |
| Fire safety properties | | | | |
| Reaction to fire class | [-] | Declaration according to EN 13501-1+A1 | A1 | |
| Maximum temperature for use | [°C] | | 200 | |
| Melting temperature t _f | [°C] | DIN 4102 part 17 | ≥ 1000 | |
| Hydrothermal properties | | | | |
| Water vapour diffusion resistance factor μ | [-] | EN 13162+A1 | 1 | Declared value for water vapour diffusion resistance factor MU1 |
| Other properties | | | | |
| Density | [kg·m ⁻³] | EN 1602 | 60 | |

¹⁾ Whichever gives the greatest numerical tolerance.

²⁾ Whichever gives the smallest numerical tolerance.

³⁾ Declared values were set under the following conditions (reference temperature 10 °C, humidity u_{dry}, which is reached by drying) according EN ISO 10456.

⁴⁾ It is 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.

RELATED DOCUMENTS

- Declaration of Performance CZ0001-043
- Environmental Product Declaration
- Certificate of constancy of performance 1390-CPR-0305/11/P
- ISO 9001, ISO 14001, ISO 18001, ISO 50001



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| Parameter | Unit | Methodology | Value | Designation code | | | |
|---|---|---|--|------------------|------------|---------|---------|
| Acoustic properties | | | | | | | |
| The practical sound absorption coefficient α_p | [-] | Declaration according to EN 13162+A1 | Declared level of practical sound absorption coefficient | AP | | | |
| | | Declaration according to EN ISO 11654 | | | | | |
| | | Measurement according to EN ISO 354 | | | | | |
| | Frequency | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz |
| | Thickness | 40 mm | 0.16 | 0.47 | 0.86 | 1.00 | 1.00 |
| 60 mm | | 0.27 | 0.92 | 1.00 | 1.00 | 1.00 | 1.00 |
| 80 mm | | 0.50 | 1.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| 100 mm | | 0.50 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 |
| Weighted sound absorption coefficient α_w | [-] | Declaration according to EN ISO 11654 (for NRC according ASTM C423) | Declared level of weighted sound absorption coefficient | AW | | | |
| | | Single number value | | | α_w | | |
| | Thickness | 40 mm | 0.75 (MH) | | | | |
| | | 60 mm | 1.00 | | | | |
| | | 80 mm | 1.00 | | | | |
| 100 mm | | 1.00 | | | | | |
| Specific air flow resistivity r | | Declaration according to EN 13162+A1 | Level of air flow resistivity | AFr | | | |
| | [mm] | Measurement according to EN 29053 | | | | | |
| | [kPa·s·m ⁻²] | | 60 | | | | |
| Environmental properties / impacts | | | | | | | |
| Volume of Pre-consumer recycled content for production | [%] | ČSN ISO 14021 | 55 | | | | |
| Volume of Post-consumer recycled content for production | [%] | ČSN ISO 14021 | 0 | | | | |
| Non-hazardous waste disposed ⁵⁾ | [kg /FU ⁶⁾] | EN 15804+A1, ČSN ISO 14025 | 2.6 | NHWD | | | |
| Total use of non-renewable primary energy resources | [MJ /FU] | EN 15804+A1, ČSN ISO 14025 | 190 | PENRT | | | |
| Global Warming Potential | [kg CO ₂ ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 14 | GWP | | | |
| Ozone Depletion | [kg CFC 11 ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 4.5 E-07 | ODP | | | |
| Acidification potential | [kg SO ₂ ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 0.91 | AP | | | |
| Eutrophication potential | [kg PO ₄ ³⁻ ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 0.0054 | EP | | | |
| Photochemical ozone creation | [kg C ₂ H ₄ ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 0.0047 | POPC | | | |
| Abiotic depletion potential for non-fossil resources | [kg Sb ekv. /FU] | EN 15804+A1, ČSN ISO 14025 | 2.2 E-06 | ADP-elements | | | |
| Abiotic depletion potential for fossil resources | [MJ (Calorific value) /FU] | EN 15804+A1, ČSN ISO 14025 | 220 | ADP-fossil fuels | | | |

⁵⁾ In this case it is standard mixed waste.

⁶⁾ FU = functional unit (1 m² of insulation by 100 mm thick for live cycle phases A1-A3).


Example of product application Isover TF PROFI

1. 9. 2017 The information is valid up to date of publishing. The manufacturer reserves right to change the data.