

Isover R

Stone wool insulation



TECHNICAL SPECIFICATION

Insulating slabs made of Isover mineral wool. The production is based on defibring method of the minerals composition melt and additional additives and ingredients. The mineral fibres produced are processed into the final slab shape on the production line. The entire fibre surface is hydrophobic. The slabs in the construction have to be protected suitably (vapour-proof foil, water-proofing, flat roof bearing layer, etc.)



APPLICATION

Isover R slabs are designed for thermal, acoustic and fire insulation of the flat warm decks. The slabs are entirely used as an underlayer to another spreading thermal insulative course, e.g. Isover S. Slabs are to be laid on vapour barrier, supporting construction or gravity flow system. The gravity flow system is possible to create from Isover SD gravity flow slabs or as well as from Isover DK double gravity flow wedge blocks in gravity flow up to 15%. Whole structure is recommended to complete with Isover AK attic wedge blocks which helps to better change the horizontal direction of the water-proofing into the perpendicular direction.

BENEFITS

- Very good thermal insulation performance.
- Fire resistance.
- 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 insects.
- Easy workability – can be cut, drilled into, etc.

PACKAGING, TRANSPORT, WAREHOUSING

Isover R insulating slabs are packed into the PE foil to the maximum high 1.3 m. The slabs have to be transported in covered vehicles under conditions preventing their wetting or other degradation. They should be stored flat in sheltered space to maximum layer height of 2 m.

DIMENSIONS AND PACKAGING

| Thickness [mm] | Length × width [mm] | Transport packaging [m ³] | Volume per package [m ³] | Declared thermal resistance R _D [m ² ·K·W ⁻¹] |
|-------------------|------------------------|--|---|--|
| 40 | 2 000 × 1 200 | 2.880 | 72.0 | 1.10 |
| 50 | 2 000 × 1 200 | 3.000 | 60.0 | 1.35 |
| 60 | 2 000 × 1 200 | 3.024 | 50.4 | 1.65 |
| 80 | 2 000 × 1 200 | 3.072 | 38.4 | 2.20 |
| 100 | 2 000 × 1 200 | 3.120 | 31.2 | 2.75 |
| 120 | 2 000 × 1 200 | 3.168 | 26.4 | 3.30 |
| 140 | 2 000 × 1 200 | 2.688 | 21.6 | 3.85 |
| 160 | 2 000 × 1 200 | 3.072 | 19.2 | 4.40 |

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 T5 |
| Deviation from squareness of the edge on length and width <i>S_e</i> | [mm·m ⁻¹] | EN 824 | 5 | |
| Deviation from flatness <i>S_{max}</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 DS(70,90) |

TECHNICAL PARAMETERS

| Parameter | Unit | Methodology | Value | Designation code |
|--|--|---|---------|---|
| Thermal technical properties | | | | |
| Declared value of thermal conductivity coefficient λ_D ³⁾ | [W·m ⁻¹ ·K ⁻¹] | Declaration according to EN 13162+A1 Measurement according to EN 12667 | 0.036 | |
| Design thermal conductivity λ_D ⁴⁾ | [W·m ⁻¹ ·K ⁻¹] | ČSN 73 0540-3 | 0.037 | |
| Specific heat capacity c_d | [J·kg ⁻¹ ·K ⁻¹] | ČSN 73 0540-3 | 800 | |
| Mechanical properties | | | | |
| Compressive stress at 10% deformation σ_{10} | [kPa] | Declaration according to EN 826 | 30 | Declared level of compressive stress at 10% deformation CS(10)30 |
| Tensile strength perpendicular to faces σ_{nt} | [kPa] | Declaration according to EN 1607 | 1 | Declared level of tensile strength perpendicular to faces TR1 |
| 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 | | | | |
| Short-term water absorption W_p | [kg·m ⁻²] | Declaration according to EN 13162+A1 Measurement according to EN 1609 | 1 | Declared level for short-term water absorption WS |
| Long-term water absorption by partial immersion W_{fp} | [kg·m ⁻²] | Declaration according to EN 13162+A1 Measurement according to EN 12087 | 3 | Declared level for long-term water absorption by partial immersion WL(P) |
| Water vapour diffusion resistance factor μ | [-] | Declaration according to EN 13162+A1 Measurement according to EN 12086 | 1 | Declared value for water vapour diffusion resistance factor MU1 |
| Other properties | | | | |
| Density ⁵⁾ | [kg·m ⁻³] | EN 1602 | 100-142 | |

¹⁾ Value with greatest numerical tolerance.

²⁾ Value with lowest numerical tolerance.

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

⁴⁾ 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.

⁵⁾ The apparent density is only informative in connection with logistics and static needs.

RELATED DOCUMENTS

- Declaration of Performance
- 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-r



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