

# Isover SH (Super Hard)

Stone wool insulation



## TECHNICAL SPECIFICATION

Insulation boards made of basalt mineral wool, the production of which is based on the method of pulping the melt of a mixture of rocks, recycle and other admixtures. The resulting mineral fibres are processed into the final shape of the boards on a production line. These boards are hydrophobized throughout and have a predominantly longitudinal fibre orientation. It is necessary to protect the boards in the structure in a suitable way (vapour barrier, waterproofing, spreading layer of the flat roof, etc.).



## APPLICATION

Isover SH boards are primarily intended as the top layer of the thermal insulation layer of flat roofs with above-average requirements for compressive strength, point loads and safety, especially for roofs with higher operational loads, such as terraces or green roofs. They ensure quality load distribution with minimal deformation of waterproofing, together with high resistance to being dented by treading during installation or maintenance. They can be combined with Isover T, Isover R, Isover LAM 70, 50 and 30 boards, which are laid as a bottom layer, with the Isover SD and Isover DK gradient system, and with Isover AK attic wedges, which help the waterproofing transition from horizontal to vertical. A waterproofing layer system, usually anchored or weighted, is usually applied directly to the Isover SH boards.

## BENEFITS

- Very high compressive strength of 80 kPa.
- Very high point load capacity 800 N.
- Very good thermal insulation performance.
- High 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 SH insulation boards are packed in PE film up to a maximum height of 1.3 m. The boards must be transported in covered means of transport under conditions that prevent them from getting wet or otherwise deteriorating. They are to be stored in covered, dry areas, lying flat up to a maximum layer height of 2 m.

## DIMENSIONS AND PACKAGING

Thickness [mm]	Length × width [mm]	Transport packaging [m <sup>3</sup> ]	Volume per package [m <sup>2</sup> ]	Declared thermal resistance R <sub>b</sub> [m <sup>2</sup> ·K·W <sup>-1</sup> ]
60	2 000 × 1 200	3.024	50.4	1.50
80	2 000 × 1 200	3.072	38.4	2.05
100	2 000 × 1 200	3.120	31.2	2.55
120	2 000 × 1 200	3.170	26.4	3.05

## 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 % or -1 mm <sup>1)</sup> and +3 mm	Class of thickness tolerances T5
Deviation from squareness of the edge on length and width <i>S<sub>b</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 DS(70,-)

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<b>Thermal technical properties</b>				
Declared value of thermal conductivity coefficient $\lambda_D^{2)}$	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.039	
Design thermal conductivity $\lambda_D^{3)}$	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	0.040	
Specific heat capacity $c_d$	[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	80	Declared level of compressive stress at 10% deformation CS(10)80
Tensile strength perpendicular to faces $\sigma_{nt}$	[kPa]	Declaration according to EN 1607	15	
The point load at a given deformation $F_p$	[N]	Declaration according to EN 12430	800	Declared level of point load for 5 mm deformation PL(5)800
<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 $t_i$	[°C]	DIN 4102 part 17	≥ 1000	
<b>Hydrothermal properties</b>				
Short-term water absorption $W_p$	[kg·m <sup>-2</sup> ]	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 <sup>-2</sup> ]	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 $\mu$	[-]	Declaration according to EN 13162+A1 Measurement according to EN 12086	1	Declared value for water vapour diffusion resistance factor MU1
<b>Other properties</b>				
Density <sup>4)</sup>	[kg·m <sup>-3</sup> ]	EN 1602	160–190	

<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 apparent density is only informative in connection with logistics and static needs.

## RELATED DOCUMENTS

- Declaration of Performance
- Certificate of constancy of performance
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

1/4/2025 The information provided herein is valid at the time of publication. The manufacturer reserves the right to change the data.