

Isover S

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 S slabs are designed for thermal, acoustic and fire insulation of the flat roofs. They are usually laid in one top layer, that covers bottom slabs. There is a suitable combination with Isover T or Isover R slabs which are to be laid as an underlayer with gravity flow systems Isover SD and Isover DK as well as with Isover AK attic wedge blocks which help to change the horizontal direction of the water-proofing into the perpendicular direction. Waterproofing membrane can be applied directly on the Isover S-i slabs (glued, mechanically attached or with a load). If there is an expectation of an increased activity on the roof (due to often roof inspection, technological devices servis,...), solidifying paths is a must, for roof damage prevention.

PACKAGING, TRANSPORT, WAREHOUSING

Isover S insulating slabs are packed on the pallets in height up to 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 ²]	Declared thermal resistance R _D [m ² ·K·W ⁻¹]
30	2 000 × 1 200	3.024	100.8	0.80
40	2 000 × 1 200	2.880	72.0	1.05
50	2 000 × 1 200	3.000	60.0	1.35
60	2 000 × 1 200	3.024	50.4	1.60
70	2 000 × 1 200	3.024	43.2	1.85
80	2 000 × 1 200	3.072	38.4	2.15
100	2 000 × 1 200	3.120	31.2	2.55
120	2 000 × 1 200	3.168	26.4	3.05
140	2 000 × 1 200	2.688	19.2	3.55
160	2 000 × 1 200	3.072	19.2	4.10

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	-1 % or -1 mm ¹⁾ and +3 mm	Class of thickness tolerances T5
Deviation from squareness of the edge on length and width S _e	[mm·m ⁻¹]	EN 824	5	
Deviation from flatness S _{max}	[mm]	EN 825	6	
Relative change in length Δε _l , in width Δε _w , in thickness Δε _d	[%]	EN 1604	1	Dimensional stability under the specified temperature and humidity conditions DS(70,-)

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code
Thermal technical properties				
Declared value of thermal conductivity coefficient $\lambda_p^{2)}$	[W·m ⁻¹ ·K ⁻¹]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.037 THK < 100 mm 0.039 THK 100 mm and more	
Design thermal conductivity $\lambda_v^{3)}$	[W·m ⁻¹ ·K ⁻¹]	ČSN 73 0540-3	0.038 tl. < 100 mm 0.040 tl. 100 mm and more	
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	70	Declared level of compressive stress at 10% deformation CS(10)70
Tensile strength perpendicular to faces σ_m	[kPa]	Declaration according to EN 1607	15	Declared level of tensile strength perpendicular to faces TR15
Shear strength τ	[kPa]	Declaration according to EN 12090	20	Level of shear strength SS20
The point load at a given deformation F_p	[N]	Declaration according to EN 12430	600	Declared level of point load for 5 mm deformation PL(5)600
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 $W_{p,i}$	[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 ⁴⁾	[kg·m ⁻³]	EN 1602	147-175	
Environmental properties/impacts				
Volume of pre-consumer recycled content for production ⁵⁾	[%]	ČSN ISO 14021	70	
Volume of post-consumer recycled content for production ⁵⁾	[%]	ČSN ISO 14021	0	
Non-hazardous waste disposed ⁶⁾	[kg /FU ⁷⁾]	EN 15804+A1, ČSN ISO 14025	2.64	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	129	PENRT
Global warming potential	[kg CO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	13.6	GWP
Ozone depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	7.31 E-07	ODP
Acidification potential	[kg SO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0979	AP
Eutrophication potential	[kg PO ₄ ³⁻ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00926	EP
Photochemical ozone creation	[kg C ₂ H ₄ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0135	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	8.16 E-07	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	122	ADP-fossil fuels

¹⁾ Value with greatest numerical tolerance.

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

³⁾ 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.

⁴⁾ The apparent density is only informative in connection with logistics and static needs.

⁵⁾ According to EN ISO 14021, part 7.8 – Recycled content.

⁶⁾ In this case it is standard mixed waste.

⁷⁾ FU = functional unit (1 m² of insulation at a thickness of 80 mm for life cycle phases A1-A3).

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-s



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