

Isover Topsil

Stone wool insulation



TECHNICAL SPECIFICATION

Insulating slabs made of Isover mineral wool. The production method 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 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 on 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 film 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 $1200 \times 2400 \text{ mm}$. 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 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.
- Dimensional stability during temperature change.

DIMENSIONS AND PACKAGING

Thickness [mm]	Length × width [mm]	Volume per package			Quantity per pallet [m ²]	Declared thermal resistance R_D [m ² ·K·W ⁻¹]
		[pcs]	[m ²]	[m ³]		
40	1200 × 600	12	8.64	0.35	198.72	1.20
50	1200 × 600	10	7.20	0.36	165.60	1.50
60	1200 × 600	8	5.76	0.35	132.48	1.80
80	1200 × 600	6	4.32	0.35	99.36	2.40
100	1200 × 600	5	3.60	0.36	82.80	3.00
120	1200 × 600	4	2.88	0.35	66.24	3.60
140	1200 × 600	3	2.16	0.30	56.16	4.20
160*	1200 × 600	3	2.16	0.35	49.68	4.80
180*	1200 × 600	x	x	x	16.80	5.45

* Non-standard product, delivery terms on request.

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code	
Geometric shape					
Length l	[% , mm]	EN 822	±2%		
Width b	[% , mm]	EN 822	±1,5%		
Thickness d	[% , mm]	EN 823	-3% or -3 mm ¹⁾ and +5 mm 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 $\Delta\epsilon_l$, in width $\Delta\epsilon_b$, in thickness $\Delta\epsilon_d$	[%]	EN 1604	1	Dimensional stability under the specified temperature and humidity conditions	DS (23/90)

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code				
Thermal technical properties								
Declared value of thermal conductivity coefficient $\lambda_0^{3)}$	[W·m ⁻¹ ·K ⁻¹]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.033					
Design thermal conductivity $\lambda_d^{4)}$	[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_i	[°C]	DIN 4102 part 17	≥ 1000					
Hydrothermal properties								
Water vapour diffusion resistance factor μ	[-]	Declaration according to EN 13162+A1	1	Declared value for water vapour diffusion resistance factor			MU1	
Other properties								
Density	[kg·m ⁻³]	EN 1602	60					
Acoustic properties ⁵⁾								
Practical sound absorption coefficient α_p	[-]	EN 13162+A1	Level of practical sound absorption coefficient				AP	
		EN ISO 11654						
		Declaration 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	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	[-]	EN ISO 11654 (for NRC according ASTM C423)	Level of weighted sound absorption coefficient				AW	
	Single number value		α_w					
	40 mm	0.75 (MH)						
	Thickness	60 mm	1.00					
		80 mm	1.00					
		100 mm	1.00					
Specific air flow resistivity r		EN 13162+A1	Level of air flow resistivity				AFr	
	[mm]	Measurement according to EN ISO 9053-1	60					
	[kPa·s·m ⁻²]		22.1					
Environmental properties/impacts								
Volume of pre-consumer recycled content for production ⁶⁾	[%]	ČSN ISO 14021	55					
Volume of post-consumer recycled content for production ⁶⁾	[%]	ČSN ISO 14021	0					
Non-hazardous waste disposed ⁷⁾	[kg /FU ⁸⁾]	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				

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⁾ Informative non-declared value beyond the scope of CPR, obtained by specific tests.

⁶⁾ According to EN ISO 14021, part 7.8 – Recycled content.

⁷⁾ In this case it is standard mixed waste.

⁸⁾ FU = functional unit (1 m² of insulation at a thickness of 100 mm for life cycle phases A1–A3).

RELATED DOCUMENTS

- Declaration of Performance
- Environmental Product Declaration (EPD)
- ISO 9001, ISO 14001, ISO 45001, ISO 50001



23/8/2023 The information provided herein is valid at the time of publication. The manufacturer reserves the right to change the data.