



Isover Aku

Stone wool insulation

TECHNICAL SPECIFICATION

Insulating slabs made of Isover mineral wool. The production is based on the defibring method of the mineral 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 should be protected suitably against the weather.



APPLICATION

Isover Aku slabs are suitable for plasterboard wall systems with 625 mm spacing as an acoustic and thermal insulation. The material is suitable for fire protection partition walls where the density $\geq 40 \text{ kg}\cdot\text{m}^{-3}$ is required.

PACKAGING, TRANSPORT, WAREHOUSING

Isover Aku insulation slabs are packed into the PE foil with package height up to 0.5 m. The slabs have to be transported in covered vehicles under conditions preventing their wetting or other degradation. The products are stored indoors or outdoors depending on the conditions specified in the current Isover price list.

BENEFITS

- Fire resistance.
- Very good thermal insulation performance.
- 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	1 000 × 625	12	7.500	0.30	150.00	1.10
50	1 000 × 625	10	6.250	0.31	137.50	1.40
60	1 000 × 625	8	5.000	0.30	100.00	1.70
70	1 000 × 625	6	3.750	0.26	97.50	2.00
80	1 000 × 625	6	3.750	0.30	75.00	2.25
90	1 000 × 625	5	3.125	0.28	68.75	2.55
100	1 000 × 625	5	3.125	0.30	68.75	2.85

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 mm or +5 mm ²⁾	Class of thickness tolerances	T4
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,-)

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		0.035					
Design thermal conductivity $\lambda_u^{4)}$	[W·m ⁻¹ ·K ⁻¹]	ČSN 73 0540-3		0.038					
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		40					
Acoustic properties ⁵⁾									
Practical sound absorption coefficient α_p	[-]	EN 13162+A1		Level of practical sound absorption coefficient				AP	
		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	0.15	0.40	0.85	0.95	0.95	1.00
			60 mm	0.25	0.70	1.00	1.00	1.00	1.00
			80 mm	0.35	0.95	1.00	1.00	1.00	1.00
		100 mm	0.45	1.00	1.00	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		α_{str}		NCR		
Sound Absorption Average α_{sw}	Thickness		40 mm	0.70 (MH)		0.79		0.80	
Noise reduction coefficient NRC			60 mm	1.00		0.93		0.95	
			80 mm	1.00		1.01		1.00	
			100 mm	1.00		1.05		1.05	
Specific air flow resistivity r	[kPa·s·m ⁻²]	EN 13162+A1		Level of air flow resistivity				AFr	
		Measurement according to EN ISO 9053-1		12.3					
Environmental properties/impacts									
Volume of pre-consumer recycled content for production ⁶⁾	[%]	ČSN ISO 14021		73-83					
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		0.841		NHWD			
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025		39		PENRT			
Global warming potential	[kg CO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025		4.53		GWP			
Ozone depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025		2.34E-07		ODP			
Acidification potential	[kg SO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025		0.0329		AP			
Eutrophication potential	[kg PO ₄ ³⁻ ekv. /FU]	EN 15804+A1, ČSN ISO 14025		0.00282		EP			
Photochemical ozone creation	[kg C ₂ H ₄ ekv. /FU]	EN 15804+A1, ČSN ISO 14025		0.00442		POPC			
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025		6.89E-08		ADP-elements			
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025		37.2		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. ⁵⁾ Interpolated and extrapolated values. ⁶⁾ According to EN ISO 14021, part 7.8 – Recycled content.

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
- 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-aku



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