

# ISOVER Woodsil

Mineral insulation from stone wool

## 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 should be protected suitably against the weather effects (outer sheathing, alternatively diffusion foil).

## APPLICATION

ISOVER Woodsil slabs are suitable for insulation of the outer or inner walls of wood houses and prefabricated construction.

**Especially the energy saving insulation type  $\lambda_0 = 0,035 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ .**

## PACKAGING, TRANSPORT, WAREHOUSING

ISOVER Woodsil 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

- very good thermal insulation performance
- fire-resistant
- 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 insect
- easy workability – can be cut, drilled into, etc.
- dimensional stability during temperature change



## DIMENSIONS AND PACKAGING

Thickness	[mm]	60	80	100	120	140	160	180
Length × width	[mm]	1200 × 580						
	[pcs]	8	6	5	4	3	3	2
Volume per package	[m <sup>2</sup> ]	5.57	4.18	3.48	2.78	2.09	2.09	1.39
	[m <sup>3</sup> ]	0.33	0.33	0.35	0.33	0.29	0.33	0.25
Quantity per palette	[m <sup>2</sup> ]	128.06	96.05	80.04	64.03	54.29	48.02	40.37
Declared thermal resistance R <sub>D</sub>	[m <sup>2</sup> ·K·W <sup>-1</sup> ]	1.70	2.25	2.85	3.40	4.00	4.55	5.10

## 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	-3 % or -3 mm <sup>1)</sup> and +5 % or 5 mm <sup>2)</sup>	Class of thickness tolerances T4
Deviation from squareness of the edge on length and width S <sub>e</sub>	[mm·m <sup>-1</sup> ]	EN 824	5	
Deviation from flatness S <sub>max</sub>	[mm]	EN 825	6	
Relative change in length Δε <sub>l</sub> , in width Δε <sub>b</sub> , in thickness Δε <sub>d</sub>	[%]	EN 1604	1	Dimensional stability under the specified temperature and humidity conditions DS (23,90)
Thermal technical properties				
Declared value of the thermal conductivity coefficient λ <sub>0</sub> <sup>3)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.035	
Design thermal conductivity λ <sub>D</sub> <sup>4)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	0.038	
Specific heat capacity c <sub>d</sub>	[J·kg <sup>-1</sup> ·K <sup>-1</sup> ]	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 <sub>f</sub>	[°C]	DIN 4102 part 17	≥ 1000	
Hydrothermal properties				
Water vapour diffusion resistance factor μ	[-]	EN 13162+A1	1	Declared value for water vapour diffusion resistance factor MU1
Other properties				
Density	[kg·m <sup>-3</sup> ]	EN 1602	37	
Acoustic properties <sup>5)</sup>				
Specific air flow resistivity <i>r</i>		EN 13162+A1		Level of air flow resistivity AFr
	[kPa·s·m <sup>-2</sup> ]	Measurement according to EN ISO 9053-1	≥ 5	

<sup>1)</sup> Whichever gives the greatest numerical tolerance.

<sup>2)</sup> Whichever gives the smallest numerical tolerance.

<sup>3)</sup> Declared values were set under the following conditions (reference temperature 10 °C, humidity *u<sub>dry</sub>*, which is reached by drying) according EN ISO 10456.

<sup>4)</sup> It is 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>5)</sup> Informative non-declared value beyond scope of CPR, obtained by concrete tests.

## RELATED DOCUMENTS

- Declaration of Performance CZ0001-034
- Environmental Product Declaration
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

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Parameter	Unit	Methodology	Value	Designation code
<b>Environmental properties / impacts</b>				
Volume of Pre-consumer recycled content for production	[%]	ČSN ISO 14021	55	
Volume of Post-consumer recycled content for production	[%]	ČSN ISO 14021	0	
Non-hazardous waste disposed <sup>6)</sup>	[kg /FU <sup>7)</sup> ]	EN 15804+A1, ČSN ISO 14025	1,09	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	58,4	PENRT
Global Warming Potential	[kg CO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	6,13	GWP
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	3,06 E-07	ODP
Acidification potential	[kg SO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0,0443	AP
Eutrophication potential	[kg PO <sub>4</sub> <sup>3-</sup> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0,0037	EP
Photochemical ozone creation	[kg C <sub>2</sub> H <sub>4</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0,00579	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	9,36 E-08	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	54,2	ADP-fossil fuels

<sup>6)</sup> In this case it is standard mixed waste.

<sup>7)</sup> FU = functional unit (1 m<sup>2</sup> of insulation by 100 mm thick for live cycle phases A1-A3).



Example of product application ISOVER Woodsil