



# Isover MULTIMAX 30

Mineral fibreglass insulation

## TECHNICAL SPECIFICATION

Insulating slabs made of Isover fibreglass wool. The production method is based on the fibering of glass melt and other 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 cassette sheathing, diffusion and vapour-proof foil).

## APPLICATION

A glass mineral wool slabs, Isover MULTIMAX are suitable for insulation of the outer walls of ventilated facade systems and are to be inserted into the grid under the cladding, or mechanically bonded into the multi-layer masonry. The slabs can be mechanically bond using the clamps for soft MW insulations. Insulating slabs are not glued to the surface. When the material is used to insulate ceilings, it is also necessary to use metal dowel pins with respect to fire security that cannot be positioned at the edge of the slab.

Especially the energy saving insulation type,  $\lambda_D = 0,030 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ .

## PACKAGING, TRANSPORT, WAREHOUSING

A glass mineral wool slabs, Isover MULTIMAX, 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-resistant
- 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 insect
- easy workability - can be cut, drilled into, etc.
- dimensional stability during temperature change



## DIMENSIONS AND PACKAGING

Thickness	[mm]	30	50	100	150*
Length x width	[mm]	1200 x 600			
Volume per package	[ks]	18	11	5	4
	[m <sup>2</sup> ]	12.96	7.92	3.60	2.88
	[m <sup>3</sup> ]	0.39	0.40	0.36	0.43
Quantity per palette	[m <sup>2</sup> ]	155.52	95.04	43.20	34.56
Declared thermal resistance R <sub>D</sub>	[m <sup>2</sup> ·K·W <sup>-1</sup> ]	1.00	1.65	3.30	5.00

\* It is necessary to consult with the producer for the terms of delivery.

## 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 S <sub>b</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)
<b>Thermal technical properties</b>				
Declared value of the thermal conductivity coefficient λ <sub>D</sub> <sup>2)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0,030	
Design thermal conductivity λ <sub>D</sub> <sup>3)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	CSN 73 0540-3	0,034	
Specific heat capacity c <sub>p</sub>	[J·kg <sup>-1</sup> ·K <sup>-1</sup> ]	CSN 73 0540-3	840	
<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 <sub>f</sub>	[°C]	DIN 4102 part 17	< 1000	
<b>Hydrothermal properties</b>				
Short term water absorption W <sub>p</sub>	[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 <sub>p</sub>	[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 μ	[-]	EN 13162+A1	1	Declared value for water vapour diffusion resistance factor MU1
<b>Other properties</b>				
Density	[kg·m <sup>-3</sup> ]	EN 1602	40	

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

<sup>2)</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>3)</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.

## RELATED DOCUMENTS

- Declaration of Performance 053-WS2-DoP-14-w2
- Environmental Product Declaration
- ISO 9001, ISO 14001, OHSAS 18001



## TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code			
<b>Acoustic properties<sup>4)</sup></b>							
The practical sound absorption coefficient $\alpha_p$	[-]	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	30 mm	0.05	0.40	0.85	0.90	0.95	1.00
	50 mm	0.25	0.90	1.00	0.95	0.95	1.00
	100 mm	1.00	0.95	0.95	1.00	0.95	0.95
Weighted sound absorption coefficient $\alpha_w$	[-]	EN ISO 11654 (for NRC according ASTM C423)	Level of weighted sound absorption coefficient	AW			
		Single number value			$\alpha_w$	$\alpha_{str}$	NCR
Sound Absorption Average $\alpha_{str}$	Thickness	30 mm	0.70 (H)	0.69	0.80		
Noise Reduction Coefficient NRC		50 mm	1.00	0.86	0.95		
		100 mm	1.00	1.00	0.95		
Specific air flow resistivity $r$	[kPa·s·m <sup>-2</sup> ]	EN 13162+A1	Level of air flow resistivity	AFr			
		Measurement according to EN 29053			12,3		
<b>Environmental properties / impacts</b>							
Volume of Pre-consumer recycled content for production	[%]	ČSN ISO 14021	-				
Volume of Post-consumer recycled content for production	[%]	ČSN ISO 14021	-				
Non-hazardous waste disposed <sup>5)</sup>	[kg /FU <sup>6)</sup> ]	EN 15804+A1, ČSN ISO 14025	1.61	NHWD			
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	135	PENRT			
Global Warming Potential	[kg CO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	8.16	GWP			
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	2.40 E-07	ODP			
Acidification potential	[kg SO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0799	AP			
Eutrophication potential	[kg PO <sub>4</sub> <sup>3-</sup> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00723	EP			
Photochemical ozone creation	[kg C <sub>2</sub> H <sub>4</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0214	POPC			
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	5.44 E-06	ADP-elements			
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	161	ADP-fossil fuels			

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

<sup>5)</sup> In this case it is standard mixed waste.

<sup>6)</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 MULTIMAX 30