

# Isover Orsik

## 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 should be protected suitably against the weather effects, increased relative inner humidity and condensate (diffusion and vapour-proof foil).



### APPLICATION

Isover Orsik slabs are suitable for unloaded thermal, acoustic and fire insulation of pitch roofs especially with insertion between rafters and additional frame as well, into partition walls, wood ceilings insulations, false ceilings, and cavities.

### PACKAGING, TRANSPORT, WAREHOUSING

Isover Orsik 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 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.

### DIMENSIONS AND PACKAGING

Thickness [mm]	Length × width [mm]	Volume per package			Quantity per pallet [m <sup>2</sup> ]	Declared thermal resistance R <sub>D</sub> [m <sup>2</sup> ·K·W <sup>-1</sup> ]
		[pcs]	[m <sup>3</sup> ]	[m <sup>2</sup> ]		
40	1200 × 625	12	9.00	0.36	207.00	1.05
50	1200 × 625	10	7.50	0.38	165.00	1.35
60	1200 × 625	8	6.00	0.36	138.00	1.60
70	1200 × 625	6	4.50	0.32	117.00	1.85
80	1200 × 625	6	4.50	0.36	103.50	2.15
90	1200 × 625	4	3.00	0.27	87.00	2.40
100	1200 × 600	5	3.60	0.36	82.80	2.70
120	1200 × 600	4	2.88	0.35	66.24	3.20
140	1200 × 600	4	2.88	0.40	57.60	3.75
160	1200 × 600	3	2.16	0.35	49.68	4.30
180	1200 × 600	3	2.16	0.39	43.20	4.85
200	1200 × 600	2	1.44	0.29	37.44	5.40

### TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code	
<b>Geometric shape</b>					
Length /	[%, mm]	EN 822	±2 %		
Width <i>b</i>	[%, mm]	EN 822	±1,5 %		
Thickness <i>d</i>	[%, mm]	EN 823	-5 % or -5 mm <sup>1)</sup> and +15 % or +15 mm <sup>2)</sup>	Class of thickness tolerances	T2
Deviation from squareness of the edge on length and width <i>S<sub>e</sub></i>	[mm·m <sup>-1</sup> ]	EN 824	5		
Deviation from flatness <i>S<sub>max</sub></i>	[mm]	EN 825	6		

### TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code										
<b>Thermal technical properties</b>														
Declared value of thermal conductivity coefficient $\lambda_0$ <sup>3)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.037											
Design thermal conductivity $\lambda_e$ <sup>4)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	0.039											
Specific heat capacity $c_p$	[J·kg <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	800											
<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 $t_f$	[°C]	DIN 4102 part 17	≥ 1000											
<b>Hydrothermal properties</b>														
Water vapour diffusion resistance factor $\mu$	[-]	Declaration according to 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	30											
<b>Acoustic properties<sup>5)</sup></b>														
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		40 mm	60 mm	80 mm	100 mm								
			0.15	0.20	0.30	0.45	0.40	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Weighted sound absorption coefficient $\alpha_w$ Sound Absorption Average $\alpha_{w,av}$ Noise reduction coefficient NRC	[-]	EN ISO 11654 (for NRC according to ASTM C423)	Level of weighted sound absorption coefficient					AW						
		Single number value												
	Thickness		40 mm	0.70 (H)										
			60 mm	0.95										
			80 mm	1.00										
		100 mm	1.00											
Specific air flow resistivity $r$	[kPa·s·m <sup>-2</sup> ]	EN 13162+A1	Level of air flow resistivity					AFr						
		Measurement according to EN ISO 9053-1	≥ 5											
<b>Environmental properties/impacts</b>														
Volume of pre-consumer recycled content for production <sup>6)</sup>	[%]	ČSN ISO 14021	65.5-75.5											
Volume of post-consumer recycled content for production <sup>6)</sup>	[%]	ČSN ISO 14021	0											
Non-hazardous waste disposed <sup>7)</sup>	[kg /FU <sup>8)</sup> ]	EN 15804+A1, ČSN ISO 14025	0.64				NHWD							
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	31.5				PENRT							
Global warming potential	[kg CO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	3.45				GWP							
Ozone depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	1.77E-07				ODP							
Acidification potential	[kg SO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.025				AP							
Eutrophication potential	[kg PO <sub>4</sub> <sup>3-</sup> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00215				EP							
Photochemical ozone creation	[kg C <sub>2</sub> H <sub>4</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00338				POPC							
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	5.53E-08				ADP-elements							
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	29.6				ADP-fossil fuels							

<sup>1)</sup> Value with greatest numerical tolerance.

<sup>2)</sup> Value with lowest numerical tolerance.

<sup>3)</sup> Declared values were set under the following conditions: (reference temperature 10 °C, humidity  $u_{dry}$  reached by drying) according to EN ISO 10456.

<sup>4)</sup> 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 the scope of CPR, obtained by specific tests.

<sup>6)</sup> According to EN ISO 14021, part 7.8 - Recycled content.

<sup>7)</sup> In this case it is standard mixed waste.

<sup>8)</sup> FU = functional unit (1 m<sup>2</sup> 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-orsik](http://www.isover.cz/en/products/isover-orsik)



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