

# ISOVER T-N

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 should be protected in the heavy floating floor construction by a separating PE foil when the "wet process" is used.

## APPLICATION

ISOVER T-N slabs are suitable for improving of impact and airborne sound reduction in heavy floating floors, especially with anhydrite screeding, or for locations with higher imposed load. (Residential buildings, offices, classrooms, lecture halls). The imposed load can not exceed 4 kN/m<sup>2</sup>.

## PACKAGING, TRANSPORT, WAREHOUSING

ISOVER T-N insulating slabs are packed into the PE foil in height up to 0.5 m. The slabs have to be transported in covered vehicles under conditions preventing their wetting or other degradation. They should be stored flat in sheltered space to maximum layer height of 2 m.

## 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 insect
- easy workability – can be cut, drilled into, etc.



## DIMENSIONS AND PACKAGING

Thickness	[mm]	25	30	40	50
Length × width	[mm]	1200 × 600			
Volume per package	[m <sup>3</sup> ]	0.14	0.15	0.17	0.14
Quantity per palette	[m <sup>2</sup> ]	69.12	60.48	43.20	34.56
Declared thermal resistance R <sub>D</sub>	[m <sup>2</sup> ·K·W <sup>-1</sup> ]	0.65	0.80	1.10	1.35

## 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	-5 % or -1 mm <sup>1)</sup> and +15 % or +3 mm <sup>1)</sup>	Class of thickness tolerances T6
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	
Thermal technical properties				
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	0.036	
Design thermal conductivity λ <sub>D</sub> <sup>2)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	0.037	
Specific heat capacity c <sub>D</sub>	[J·kg <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	800	
Mechanical properties				
Compressibility <i>c</i>	[mm]	Declaration according to EN 13162+A1 Measurement according to ČSN 12431	≤ 3	Declared level for compressibility Declared level of tensile strength perpendicular to faces CP3
Hydrothermal properties				
Water vapour diffusion resistance factor μ	[-]	Declaration according to EN 13162+A1 Measurement according to EN 12086	1	Declared value for water vapour diffusion resistance factor MU1
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>m</sub>	[°C]	DIN 4102 part 17	≥ 1000	
Other properties				
Density	[kg·m <sup>-3</sup> ]	EN 1602	125-140	

<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 CZ0001-010
- Certificate of constancy of performance 1023-CPR-1173 P
- Environmental Product Declaration
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

# ISOVER T-N

Mineral insulation from stone wool

Parameter	Unit	Methodology	Value	Designation code			
<b>Acoustic properties<sup>4)</sup></b>							
Dynamic stiffness $s'$	[mm]	Declaration according to EN 13162+A1	Declared value of dynamic rigidity				SD
	[MN·m <sup>-3</sup> ]	Measurement according to ČSN ISO 9052-1 (idt. EN 29052-1)	25.0	20.4	19.5	50	
<b>Additional Acoustic properties</b>							
	[mm]		25	30	40	50	
Decrease the level of impact noise $\Delta L_w$ <sup>5)</sup>	[dB]	EN ISO 717-2	24	25	26	28	
Compressibility $K$	[%]	ČSN 730532	2.6	2.6	1.7	1.6	
Elasticity $\epsilon$	[%]	ČSN 730532	87.4	86.9	82.3	86.5	
Loss factor $\eta$	[-]	ČSN ISO 9052-1	0.09	0.10	0.08	0.08	
<b>Environmental properties / impacts</b>							
Volume of Pre-consumer recycled content for production <sup>6)</sup>	[%]	ČSN ISO 14021	65.5-72.5				
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	0.775	NHWD			
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	39.8	PENRT			
Global Warming Potential	[kg CO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	3.93	GWP			
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	2.07E-07	ODP			
Acidification potential	[kg SO <sub>2</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.028	AP			
Eutrophication potential	[kg PO <sub>4</sub> <sup>3-</sup> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0026	EP			
Photochemical ozone creation	[kg C <sub>2</sub> H <sub>4</sub> ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00407	POPC			
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	7.41E-08	ADP-elements			
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	37	ADP-fossil fuels			

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

<sup>5)</sup> Determined by a calculation made for a heavy floating floor upon a standard 120 mm reinforced concrete ceiling slab and 40 mm anhydrite screeding.

<sup>6)</sup> According to ČSN 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 by 25 mm thick for live cycle phases A1-A3).



Example of product application ISOVER T-N