

# Isover N

## 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 have to be protected suitably (separating PE foil).



### APPLICATION

Isover N slabs are suitable for improving impact and airborne sound reduction in heavy floating floors under reinforced concrete slab (thicker slab can be also used in walls as an airborne sound insulation). Improvement in impact sound reduction in floors depends on use of the Isover N/PP insulating strips. The approved flatness of the underlay surface, when laying the flooring material, is 2 mm/2 m. The slabs are suitable for habitable rooms especially in family and apartment houses, imposed load  $\leq 2\text{ kN/m}^2$ .

### PACKAGING, TRANSPORT, WAREHOUSING

Isover N 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. 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 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>0</sub> [m <sup>2</sup> ·K·W <sup>-1</sup> ]
		[pcs]	[m <sup>2</sup> ]	[m <sup>3</sup> ]		
20	1 200 × 600	16	11.52	0.23	161.28	0.55
25	1 200 × 600	12	8.64	0.22	138.24	0.70
30	1 200 × 600	10	7.20	0.22	115.20	0.85
40	1 200 × 600	8	5.76	0.23	80.64	1.10
50	1 200 × 600	6	4.32	0.22	69.12	1.40

### 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 <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		
Thermal technical properties					
Declared value of thermal conductivity coefficient <i>λ<sub>0</sub></i> <sup>2)</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 <i>λ<sub>d</sub></i> <sup>3)</sup>	[W·m <sup>-1</sup> ·K <sup>-1</sup> ]	ČSN 73 0540-3	0.036		
Specific heat capacity <i>c<sub>d</sub></i>	[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	≤ 5	Declared level for compressibility Declared level of tensile strength perpendicular to faces	CP5
		Measurement according to ČSN 12431			

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Hydrothermal properties									
Water vapour diffusion resistance factor $\mu$	[-]	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 $t_f$	[°C]	DIN 4102 part 17		≥ 1000					
Acoustic properties <sup>4)</sup>									
Practical sound absorption coefficient $\alpha_p$	[-]	Declaration according to EN 13162+A1		Level of practical sound absorption coefficient					AP
		Declaration according to EN ISO 11654							
		Measurement according to EN ISO 354							
	Frequency		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
	Thickness	20 mm	0.05	0.20	0.55	0.85	0.95	1.00	
	40 mm	1.00	0.80	0.95	1.00	1.00	0.95		
Weighted sound absorption coefficient $\alpha_w$	[-]	Declaration according to EN ISO 11654		Level of weighted sound absorption coefficient					AW
	Single number value		$\alpha_w$						
	Thickness	20 mm	0,50						
		40 mm	0,80						
Dynamic stiffness $s'$		Declaration according to EN 13162+A1		Declared value of dynamic rigidity					SD
	[mm]			20	25	30	40	50	
		[MN·m <sup>-3</sup> ]	Measurement according to ČSN ISO 9052-1 (idt. EN 29052-1)		25.7	22.9	18.3	9.3	8.4
Additional acoustic properties									
	[mm]			20	25	30	40	50	
Decrease the level of impact noise $\Delta L_w$ <sup>5)</sup>	[dB]	EN ISO 717-2		24	27	28	34	35	
Compressibility $K$	[%]	ČSN 730532		4.4	2.4	3.0	2.6	2.6	
Elasticity $\varepsilon$	[%]	ČSN 730532		85.4	88.0	83.4	87.7	88.5	
Loss factor $\eta$	[-]	ČSN ISO 9052-1		0.10	0.10	0.09	0.09	0.08	
Other properties									
Density	[kg·m <sup>-3</sup> ]	ČSN EN 1602		100-110					

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

<sup>2)</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>3)</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>4)</sup> Informative non-declared value beyond the scope of CPR, obtained by specific 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.

### 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-n](http://www.isover.cz/en/products/isover-n)



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