

TECHNICAL SPECIFICATION

Insulating slabs made of ISOVER mineral wool with longitudinal fibres. 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 and have longitudinal orientation. The slabs in the construction have to be protected suitably (layers of the contact wall insulation system).

APPLICATION

ISOVER TF Thermo facade slabs with longitudinal fibre are suitable for external thermal insulation composite systems (ETICS), where they are glued and mechanically bonded to a sufficiently coherent and sound wall surface. The layers of contact insulating systems are applied on the slabs: bond, reinforcement grid, penetration, plaster, and paint. Bonding of the slabs can be performed with the glue being applied along the edge and at the patches in centre of the slab. It is necessary to use anchor plates, their type and amount will be arranged according to the instructions of the certified insulating system manufacturer.

PACKAGING, TRANSPORT, WAREHOUSING

ISOVER TF Thermo insulation slabs are packed into the PE foil covered packets or as the packets on a pallet. ISOVER TF Thermo is standardly delivered on pallets (on EPS scantlings). Material have to be transported and stocked under conditions preventing their wetting or other degradation.



BENEFITS

- very good thermal insulation performance ($\lambda_D = 0,035 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$)
- fire resistance
- 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, glued, etc.

DIMENSIONS AND PACKAGING

Thickness	[mm]	100	120	140	150	160	180	200
Length x width	[mm]	1000 x 600						
Volume per package	[pcs]	2	2	2	2	2	1	1
	[m ²]	1.20	1.20	1.20	1.20	1.20	0.60	0.60
	[m ³]	0.120	0.144	0.168	0.180	0.192	0.108	0.120
Quantity per palette	[m ²]	31.20	26.40	21.60	21.60	19.20	18.00	15.60
Declared thermal resistance R _D	[m ² ·K·W ⁻¹]	2.85	3.40	4.00	4.25	4.55	5.10	5.70

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Hodnota	Designation code	
Geometric shape					
Length l	[%, mm]	EN 823	±2 %		
Width b	[%, mm]	EN 822	±1,5 %		
Thickness d	[%, mm]	EN 822	-1 % or -1 mm ¹⁾ and +3 mm	Class of thickness tolerances	T5
Deviation from squareness of the edge on length and width S _D	[mm·m ⁻¹]	EN 824	5		
Deviation from flatness S _{max}	[mm]	EN 825	6		
Relative change in length Δε _l in width Δε _b in thickness Δε _d	[%]	EN 1604	1	Dimensional stability under the specified temperature and humidity conditions	DS(70,90)
Thermal technical properties					
Declared value of the thermal conductivity coefficient λ _D ²⁾	[W·m ⁻¹ ·K ⁻¹]	Declaration according to EN 13162+A1 Measurement according to EN 12667	0.035		
Design thermal conductivity λ _D ³⁾	[W·m ⁻¹ ·K ⁻¹]	ČSN 73 0540-3	0.038		
Specific heat capacity c _D	[J·kg ⁻¹ ·K ⁻¹]	ČSN 73 0540-3	800		
Mechanical properties					
Compressive stress at 10% deformation σ ₁₀	[kPa]	Declaration according to EN 826	20	Declared level of compressive stress at 10% deformation	CS(10)20
Tensile strength perpendicular to faces σ _{mt}	[kPa]	Declaration according to EN 1607	7,5	Declared level of tensile strength perpendicular to faces	TR7,5
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		
Hydrothermal properties					
Short term water absorption W _p	[kg·m ⁻²]	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 _p	[kg·m ⁻²]	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	[-]	Declaration according to EN 13162+A1 Measurement according to EN 12086	1	Declared value for water vapour diffusion resistance factor	MU1
Other properties					
Density	[kg·m ⁻³]	EN 1602	80-100 ⁴⁾		

¹⁾ Whichever gives the greatest numerical tolerance.

²⁾ Declared values were set under the following conditions (reference temperature 10 °C, humidity u_{dry} which is reached by drying) according EN ISO 10456.

³⁾ 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.

⁴⁾ The density is not constant and varies with the thickness of the product.

RELATED DOCUMENTS

- Declaration of Performance CZ0001-047
- Environmental Product Declaration
- Certificate of constancy of performance 1390-CPR-312/11/P
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code
Environmental properties / impacts				
Non-hazardous waste disposed ⁵⁾	[kg /FU ⁶⁾]	EN 15804+A1, ČSN ISO 14025	2.97	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	160	PENRT
Global Warming Potential	[kg CO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	15.4	GWP
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	7.96 E-07	ODP
Acidification potential	[kg SO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.109	AP
Eutrophication potential	[kg PO ₄ ³⁻ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0101	EP
Photochemical ozone creation	[kg C ₂ H ₄ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0156	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	2.82 E-07	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	148	ADP-fossil fuels

⁵⁾ In this case it is standard mixed waste.

⁶⁾ FU = functional unit (1 m² of insulation by 120 mm thick for live cycle phases A1-A3).



Example of product application ISOVER TF Thermo