ISOVER SAINT-GOBAIN
Assurance in insulation

Identification code of the product-type: S01 04
SVT code: 431
Specification code: MW EN 13 162 - T5 - DS(TH) -CS(10)30 - TR10 - WS - WL(P)- MU1

Isover TF PROFI

Mineral insulation from stone wool

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 PROFI 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. The number of the anchors for machanically anchoring is usually 5 to 6 pc/m^2, the exact number to be specified by the designer. The anchors will be arranged according to the instructions of the certified insulating system manufacturer. Appropriate also for flush mounting systems.

PACKAGING, TRANSPORT, WAREHOUSING

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

BENEFITS

- quality class A
- system certification
- very good thermal insulation performance (λ_D = 0,036 W·m^{-1}·K^{-1})
- 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, glued, etc.

DIMENSIONS AND PACKAGING

Thickness	[mm]	30	40	50	60	70*	80	100	120	140	150	160	180	200	220	240	260*	280*	300*
Length × width	[mm]	1000 × 600																	
Volume per package	[ks]	8	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1
	[m^2]	4.80	2.40	2.40	1.80	1.80	1.80	1.20	1.20	1.20	1.20	1.20	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	[m^3]	0.144	0.096	0.120	0.108	0.126	0.144	0.120	0.144	0.168	0.180	0.192	0.108	0.120	0.132	0.144	0.156	0.168	0.180
Quantity per palette	[m^2]	105.60	81.60	62.40	54.00	43.20	39.60	31.20	26.40	21.60	21.60	19.20	18.00	15.60	14.40	13.20	12.00	10.80	10.80
Declared thermal resistance R_D	[m^2·K·W^{-1}]	0.80	1.10	1.35	1.65	1.90	2.20	2.75	3.30	3.85	4.15	4.40	5.00	5.55	6.10	6.65	7.20	7.75	8.30

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

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	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_b	[mm·m^{-1}]	EN 824	5		
Deviation from flatness S_{max}	[mm]	EN 825	6		
Relative change in length $\Delta\varepsilon_l$, in width $\Delta\varepsilon_b$, in thickness $\Delta\varepsilon_d$	[%]	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	0.036		
Design thermal conductivity λ_u[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	30	Declared level of compressive stress at 10% deformation	CS(10)30
Tensile strength perpendicular to faces σ_{mt}	[kPa]	Declaration according to EN 1607	10	Declared level of tensile strength perpendicular to faces	TR10
Fire safety properties					
Reaction to fire class	[-]	Declaration according to EN 13501-1+A1	A1		
Maximum temperature for use	[°C]		200		
Melting temperature t_t	[°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_{lp}	[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	80-150[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 CZ0001-022
- Environmental Product Declaration
- Quality class A
- Certificate of constancy of performance 1390-CPR-312/11/P
- ISO 9001, ISO 14001, ISO 18001, ISO 50001

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TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Hodnota	Designation code
Acoustic properties				
The practical sound absorption coefficient α_p	[-]	EN 13162+A1 EN ISO 11654 Measurement according to EN ISO 354	Level of practical sound absorption coefficient	AP

Frequency		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Thickness	60 mm	0.30	0.90	1.00	1.00	1.00	1.00
	100 mm	0.55	1.00	1.00	1.00	1.00	1.00
	140 mm	0.65	0.95	1.00	1.00	1.00	1.00

Weighted sound absorption coefficienti α_w	[-]	EN ISO 11654	Level of weighted sound absorption coefficient	AW
	Single number value		α_w	
	Thickness 60 mm		1.00	
	Thickness 100 mm		1.00	
	Thickness 140 mm		1.00	

Specific air flow resistivity *r*		EN 13162+A1	Level of air flow resistivity						
	[mm]	Measurement according to EN 29053	100	120[5]	140[5]	150[5]	160	180[5]	200[5]
	[kPa·s·m^{-2}]		23.8	23.0	22.2	21.8	21.4	20.6	19.8

Dynamic rigidity *s'*	[MN·m^{-3}]	EN 13162+A1	Value of dynamic rigidity						SD
	[mm]		100	120[5]	140[5]	150[5]	160	180[5]	200[5]
	[MN·m^{-3}]	Measurement according to ČSN ISO 9052-1 (idt. EN 29052-1	9.2	9.2	9.3	9.3	9.3	9.3	9.4

Environmental properties / impacts				
Volume of Pre-consumer recycled content for production	[%]	ČSN ISO 14021	55	
Volume of Post-consumer recycled content for production	[%]	ČSN ISO 14021	0	
Non-hazardous waste disposed[5]	[kg /FU[7]]	EN 15804+A1, ČSN ISO 14025	4.4	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	330	PENRT
Global Warming Potential	[kg CO_2 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	24	GWP
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	7.4 E-07	ODP
Acidification potential	[kg SO_2 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.15	AP
Eutrophication potential	[kg PO_4^{3-} ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0091	EP
Photochemical ozone creation	[kg C_2H_4 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0079	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	3.6 E-06	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	380	ADP-fossil fuels

[5] Interpolated and extrapolated values.
[6] In this case it is standard mixed waste.
[7] FU = functional unit (1 m^2 of insulation by 120 mm thick for live cycle phases A1–A3).

Example of product application Isover TF PROFI

1. 8. 2018 The information is valid up to date of publishing. The manufacturer reserves right to change the data.

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