Specification code: MW-EN 13 162-T4-DS(70,-)-CS(10)50-TR50-WS-WL(P)-MU1
Identification code of the product-type: CZ0001-0036
SVT code: 8810

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ISOVER
SAINT-GOBAIN
Assurance in insulation

CERTIFIED
ISO 9001 · ISO 14001
ISO 45001 · ISO 50001

EPD VERIFIED

CE

ISOVER Lam 50
Mineral insulation from stone wool

TECHNICAL SPECIFICATION

These large-format lamellas are made of ISOVER mineral stone wool with perpendicular 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 lamella´s shape on the production line. The entire fibre surface is hydrophobic. The lamellas in the construction have to be protected suitably (vapour-proof foil, water-proofing, flat roof bearing layer, etc.)

APPLICATION

Large-format lamellas can fully replace standard slabs, that are mostly used in flat roof insulation systems. Due to their unique properties, they meet obligations to mechanical resistance with much less densities than regular slabs. They can be used as bottom or middle layer into multiple layer systems. It is necessary to combine them with covering top layer e.g. ISOVER S (or others). For safe rainwater transport, there is a suitable combination with gravity flow systems ISOVER SD and ISOVER DK as well as with ISOVER AK attic wedge blocks which help to change the horizontal direction of the waterproofing into the perpendicular direction.

PACKAGING, TRANSPORT, WAREHOUSING

ISOVER Lam 50 large-format lamellas are packed into the PE foil in height up to 1.3 m. They 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

- significant lower weight than slabs, that implies less demands on the roof construction statics
- better and simpler workability
- keeping machanical properties as using slabs
- fully compatible with ISOVER fire-rating assurance
- 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]	100	110	120	130	140	150	160	180	220	240	300
Length × width	[mm]	2000 × 360										
Volume per package	[m²]	28.08	25.92	23.76	21.60	19.44	17.28	17.28	15.12	12.96	10.80	8.64
Declared thermal resistance R_D	[m²·K·W⁻¹]	2.40	2.65	2.90	3.15	3.40	3.65	3.90	4.25	5.35	5.85	7.30

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code	
Geometric shape					
Length l	[%, mm]	EN 822	±2 %		
Width b	[%, mm]	EN 822	±1.5 %		
Thickness d	[%, mm]	EN 823	-3 % or -3 mm[1] and +5 % or 5 mm[2]	Class of thickness tolerances	T4
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 $\Delta\varepsilon_h$, in width $\Delta\varepsilon_b$, in thickness $\Delta\varepsilon_d$	[%]	EN 1604	1	Dimensional stability under the specified temperature and humidity conditions	DS(70,-)
Thermal technical properties					
Declared value of the thermal conductivity coefficient λ_D[3]	[W·m⁻¹·K⁻¹]	Declaration according to EN 13162+A1	0.041		
		Measurement according to EN 12667			
Design thermal conductivity λ_u[4]	[W·m⁻¹·K⁻¹]	ČSN 73 0540-3	0.043		
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	50	Level of compressive stress at 10% deformation	CS(10)50
Tensile strength perpendicular to faces σ_{mt}	[kPa]	Declaration according to EN 1607	50	Level of tensile strength perpendicular to faces	TR50
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	1	Level for short term water absorption	WS
		Measurement according to EN 1609			
Long term water absorption by partial immersion W_{lp}	[kg·m⁻²]	Declaration according to EN 13162+A1	3	Level for long term water absorption by partial immersion	WL(P)
		Measurement according to EN 12087			
Water vapour diffusion resistance factor μ	[-]	Declaration according to EN 13162+A1	1	Value for water vapour diffusion resistance factor	MU1
		Measurement according to EN 12086			
Other properties					
Density [5]	[kg·m⁻³]	EN 1602	70–90		

[1] Whichever gives the greatest numerical tolerance.
[2] Whichever gives the smallest numerical tolerance.
[3] Declared values were set under the following conditions (reference temperature 10 °C, humidity u_{dry} which is reached by drying) according EN ISO 10456.
[4] 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.
[5] The apparent density is only informative in connection with logistic and static needs.

RELATED DOCUMENTS

- Declaration of Performance CZ0001-0036
- Certificate of constancy of performance 1390-CPR-377/2013/P
- Environmental Product Declaration
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

SAINT-GOBAIN

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TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code
Environmental properties / impacts				
Volume of Pre-consumer recycled content for production[6]	[%]	ČSN ISO 14021	68.5 - 73.5	
Volume of Post-consumer recycled content for production[6]	[%]	ČSN ISO 14021	0	
Non-hazardous waste disposed[7]	[kg /FU[8]]	EN 15804+A1, ČSN ISO 14025	2.37	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	116	PENRT
Global Warming Potential	[kg CO_2 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	11.7	GWP
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	6.28E-07	ODP
Acidification potential	[kg SO_2 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.083	AP
Eutrophication potential	[kg PO_4^{3-} ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00796	EP
Photochemical ozone creation	[kg C_2H_4 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0124	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	2.25E-07	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	109	ADP-fossil fuels

[6] According to ČSN EN ISO 14021 part 7.8 Recycled content.
[7] In this case it is standard mixed waste.
[8] FU = functional unit (1 m^2 of insulation by 120 mm thick for live cycle phases A1–A3).

Example of product application ISOVER Lam