ISOVER SAINT-GOBAIN
Assurance in insulation

CERTIFIED
ISO 9001 · ISO 14001
OHSAS 18001 · ISO 50001

TEPELNĚ IZOLAČNÍ SYSTÉMY EVROPSKÁ KVALITA

EPD VERIFIED

Identification code of the product-type: CZ0004-014
Specification code:
EPS-EN 13 163-T1-L2-W2-S2-P3-BS115-DS (N)2-DS(70,-)1-TR100-MU40-WL(T)5

SVT code: 439

Isover EPS GreyWall

Gray facade boards with increased insulation effect

TECHNICAL SPECIFICATION

GreyWall insulation boards are the latest type of EPS boards using nanotechnology for professional thermal insulation. Millions of cells of the insulation material with a trace addition of graphite effectively reflect heat back to its source as a result of which the insulation properties are increased considerably. GreyWall insulation boards are made using the latest technologies without any contents of CFCs and HCFCs (known as freons). The modern technology ensures constant quality and minimum power demands of production, which provides the boards with the excellent price/output ratio. All EPS Isover boards are made in fire-self-extinguishing design with increased fire safety.*

APPLICATION

Isover GreyWall insulation boards are designed above all for external thermal insulating systems ETICS with the maximum requirements for the insulation effectiveness, i.e. for insulation layers of power saving buildings (low-energy and passive houses) with the common insulation thickness varying from 200 to 500 mm. At the same time GreyWall insulation materials are used for a quality thermal insulation of existing buildings, e.g. within the Green Savings programme. When they are applied, the technological procedure of a particular system must be used, e.g. including shielding network shields or use of special adhesives and putties.

PACKAGING, TRANSPORT, WAREHOUSING

EPS Isover insulation boards with the size of 1000 x 500 mm are packed in PE foil in packets with the maximum height of 500 mm. Non-standard sizes, e.g. 1000 x 2000 mm, are tied with a tape. Boards must be transported and stored under the conditions preventing from damage. They must not be stored in a direct sun.

BENEFITS

- excellent thermal insulation properties
- excellent mechanical properties
- suitable also for ETICS with the thickness from 200 to 350 mm
- minimum weight
- simple processing
- long service life
- harmless to the environment and human health
- permanent resistance to humidity
- biologically neutral
- economical

DIMENSIONS AND PACKAGING

Thickness	[mm]	20	30	40	50	60	80	100	120	140	150	160	180	200	220	240	260	280	300
Length × width	[mm]	1000 × 500																	
Volume per package	[ks]	25	16	12	10	8	6	5	4	3	3	3	2	2	2	2	1	1	1
	[m^2]	12.5	8	6	5	4	3	2.5	2	1.5	1.5	1.5	1	1	1		0.5	0.5	0.5
	[m^3]	0.250	0.240	0.240	0.250	0.240	0.240	0.250	0.240	0.210	0.225	0.240	0.180	0.200	0.220	0.240	0.130	0.140	0.150
Declared thermal resistance R_D	[$m^2 \cdot K \cdot W^{-1}$]	0.60	0.90	1.25	1.55	1.85	2.50	3.10	3.75	4.35	4.65	5.00	5.60	6.25	6.85	7.50	8.10	8.75	9.35

Subject to prior agreement, the products may be supplied in different thicknesses and sizes.

EDGES

Standard boards have straight edges; rabbet edges are available at special surcharge (up to max. thickness of 240 mm, the coverage size will be reduced by the rabbet dimension, i.e. 15 mm).

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code	
Geometric shape					
Length tolerance	[%, mm]	EN 822	±2 mm	Class of length tolerances	L2
Width tolerance	[%, mm]	EN 822	±2 mm	Class of width tolerances	W2
Thickness tolerance	[%, mm]	EN 823	±1 mm	Class of thickness tolerances	T1
Deviation from squareness of the edge on length and width S_b	[mm·m^{-1}]	EN 824	±2	Class of squareness on length and width	S2
Deviation from flatness S_{max}	[mm]	EN 825	3	Class of flatness	P3
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)1
			±0.2	Class od dimensional stability under constant normal laboratory conditions	DS(N)2
			1	Dimensional stability under the specified temperature and humidity conditions	DS (70,-)1
Thermal technical properties					
Declared value of the thermal conductivity coefficient λ_D[1)]	[W·m^{-1}·K^{-1}]	Declaration according to EN 13163+A1	0.032		
		Measurement according to EN 12667			
Design thermal conductivity λ_u[2)]	[W·m^{-1}·K^{-1}]	ČSN 73 0540-3	0.033		
Specific heat capacity c_d	[J·kg^{-1}·K^{-1}]	ČSN 73 0540-3	1270		
Mechanical properties					
Tensile strength perpendicular to faces σ_{mt}	[kPa]	EN 1607	100	Level of tensile strength perpendicular to faces	TR100
Bending strength σ_b	[kPa]	EN 12089	115	Level of bending strength	BS115
Shear modulus *GMi*	[kPa]	EN 12090	1000	Value of shear modulus	GMi
Fire safety properties					
Reaction to fire class	[-]	Declaration according to EN 13501-1+A1	E**		
Long-term thermal resistance	[°C]		70		
Hydrothermal properties					
Long-term water absorption by partial immersion W_{lp}	[kg·m^{-2}]	Declaration according to EN 13163+A1	0.5	Level of long-term water absorption by partial immersion	WL(P)0,5
		Measurement according to EN 12087			
Long term water absorption by total immersion W_{lt}	[%]	EN 12087	5	Level of long-term water absorption by total immersion	WL(T)5
Water vapour diffusion resistance factor μ	[-]	EN 13163+A1	20-40	Value for water vapour diffusion resistance factor	MU40
Other properties					
Density	[kg·m^{-3}]	EN 1602	13.5-15***		

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

* Self-extinguishing properties of EPS are ensured using a polymer-based flame retardant. The insulation boards do not contain HBCD.
** Fire safety of buildings has to be classified for complete structures and systems, the EPS is not used without fire-resistant coatings.
*** The specific density is indicative only and is especially intended for the statics and fire load calculation.

Note: The specific application must meet general requirements of Saint-Gobain Construction Products CZ, Ltd., Isover division, technical materials, valid technical norms, and the specific project.

RELATED DOCUMENTS

- Declaration of Performance CZ0004-014
- Environmental Product Declaration
- Quality class A
- ISO 9001, ISO 14001, OHSAS 18001, ISO 50001

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TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	Designation code
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[6]]	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] In this case it is standard mixed waste.
[6] FU = functional unit (1 m² of insulation by 100 mm thick for live cycle phases A1–A3).

Example of product application Isover EPS GreyWall

4. 7. 2019 The information is valid up to date of publishing. The manufacturer reserves right to change the data.

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