

TECHNICAL SPECIFICATION

Slabs of hydrophilic mineral wool are made of a mixture of igneous rocks (basalt, diabase, etc.), which melts at high temperatures, tears to fibres and the individual fibres are bonded to one another by a binder. Unlike in the hydrophobised wools, production of the mineral wool involves no hydrophobic agent that would repel water, so that the slabs are able to hold water and allow it to move freely in the slab.

APPLICATION

ISOVER Flora is a substrate slab which partially replaces the soil in structures of green roofs. The slab is lightweight and airy, in addition to the greening of new buildings it is also suitable for refurbishment. It has excellent water permeability, and as such can be used in single-layer extensive arrangements where it drains excessive rainwater in its entire volume. However, there is a certain amount of water remaining in the slabs so that the rooftop plants can reliably live on the ISOVER panels even in the periods without precipitation. If combined with the soil, the slab is used as a substrate of the vegetation strata. In the semi-intensive system or where a frequent traffic is expected on the roof, it is appropriate to supplement the Flora slabs with a reinforcing layer „Intense“.

PACKAGING, TRANSPORT, WAREHOUSING

ISOVER Flora slabs are packed in PE foil. The slabs have to be transported in covered vehicles under conditions preventing their excessive wetting or other degradation. They should be stored flat in sheltered dry premises, up to the maximum layer height of 2 m.

BENEFITS

- significantly lower load on the roof
- high draining capacity for rainwater
- good hydro-accumulative properties
- high porosity - more air for roots
- heat-insulating effect even if wet
- health, environmentally friendly and recyclable



DIMENSIONS AND PACKAGING

Thickness	[mm]	30	50	100
Length x width	[mm]	1000 x 600		
Volume per package	[pcs]	10	8	4
	[m ²]	6	4.8	2.4
Quantity per palette	[m ²]	0.18	0.24	0.24
	[m ³]	48	28.8	14.4
	[m ³]	1.44		

TECHNICAL PARAMETERS

Parameter	Unit	Methodology	Value	
Thermal technical properties				
Thermal conductivity coefficient at dry state λ_D	[W·m ⁻¹ ·K ⁻¹]	EN 12667	0.0373	
Thermal conductivity coefficient at max. humidity λ_{wmax} (78 % obj.)	[W·m ⁻¹ ·K ⁻¹]	EN 12664	0.513	
Specific heat capacity c_p	[J·kg ⁻¹ ·K ⁻¹]	ČSN 73 0540-3	800	
Fire safety properties				
Reaction to fire class	[-]	EN 13501-1+A1	A1	
Maximum temperature for use	[°C]		200	
Melting temperature t_f	[°C]	DIN 4102 part 17	≥ 1000	
Hydrothermal properties				
Water permeability mod. K_f	[mm·min ⁻¹]	FLL 2008	227	
Maximum water capacity WK_{max}	[vol.%]	FLL 2008	92.7	
Water flow capacity in their plane at inclination at roof pitch $q_{s,g}$	[l·m ⁻¹ ·s ⁻¹]	EN ISO 12958	inclination 0°	1.48
			inclination 2°	1.53
			inclination 35°	1.79
Other properties				
Volume weight dry	[kg·m ⁻³]	EN 1602	76-100 ¹⁾	
Volume weight at maximum water capacity	[kg·m ⁻³]	EN 1602	100.3	

1) Bulk density varies with product thickness. Exact values on request.

RELATED DOCUMENTS

- Certificate CO/CV - 0121b - 2016/P, CSI Praha
- ISO 9001, ISO 14001, ISO 45001, ISO 50001

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 ¹⁾	[kg /FU ²⁾]	EN 15804+A1, ČSN ISO 14025	0.927	NHWD
Total use of non-renewable primary energy resources	[MJ /FU]	EN 15804+A1, ČSN ISO 14025	51.4	PENRT
Global Warming Potential	[kg CO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	4.69	GWP
Ozone Depletion	[kg CFC 11 ekv. /FU]	EN 15804+A1, ČSN ISO 14025	2.28 E-07	ODP
Acidification potential	[kg SO ₂ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.033	AP
Eutrophication potential	[kg PO ₄ ³⁻ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.0031	EP
Photochemical ozone creation	[kg C ₂ H ₄ ekv. /FU]	EN 15804+A1, ČSN ISO 14025	0.00495	POPC
Abiotic depletion potential for non-fossil resources	[kg Sb ekv. /FU]	EN 15804+A1, ČSN ISO 14025	9.66 E-08	ADP-elements
Abiotic depletion potential for fossil resources	[MJ (Calorific value) /FU]	EN 15804+A1, ČSN ISO 14025	47.3	ADP-fossil fuels

¹⁾ In this case it is standard mixed waste.

²⁾ FU = functional unit (1 m² of insulation by 50 mm thick for live cycle phases A1-A3).



Example of product application ISOVER Flora



A detailed description of the product and its application can be found in the Green roof catalog ISOVER

1. 8. 2021 The information is valid up to date of publishing. The manufacturer reserves right to change the data.