



||ekover||

basalt insulation

*Saving energy.
Taking care of nature.*



PRODUCT CATALOGUE





World Bank and CENEF (Energy Efficiency Centre) studies revealed that the average power consumption by heating systems in the most part of blocks of flats in Russia was

229 kWh/m²,

which does not meet the modern requirements to energy efficiency.*

Significant increase in energy efficiency (over 50 percent reduction of heat loss) can be achieved by using EKOVER[®], high performance heat insulation. Overall reduction of energy consumption is up to 25% or

170 kWh/m²
per year.*

* Energy Efficiency in Russia: Hidden Reserves, World Bank study in cooperation with CENEF.

FIRE SAFETY



Every day 40 people

become fire victims in Russia.

More than 85%

victims are intoxicated by products of combustion of synthetic polymeric materials that are of low firing temperature and frequently used for insulation of buildings.**



EKOVER® insulating materials are manufactured on the basis of group of gabbro and basalt rocks. Basalt fibre can resist temperature of more than

1000°C

providing high fireproofing of the structures.

** Russian Federation Fire Statistics for 2008-2009, Russian Federation Emergency Ministry.



Today, the further development of mankind depends largely on how it could solve the global problems of natural resources depletion, environmental protection, and human survival amidst the environment crippled by human.



Scientific studies have confirmed causal relationship between lifestyle, environment, and human health. Here are just a few factors that contribute to the development of the environmental crisis:

- Destructive attitude to nature, making profit at all hazards while natural resources are limited;
- Imperfection of technological processes, when only 10 percent extracted natural substance is used effectively and the remainder is returned to nature resulting in air and soil pollution;
- Ecological illiteracy of the society and ignorance of the environmental laws;
- Low environmental protection funding.

But even in such a difficult situation it can be settled - the solution is based on the fact that the environment is capable of self-maintenance and self-regulation without targeted assistance by people.

Sometimes restraint and frugality in the use of natural resources are fair enough to allow the nature to restore itself and again have **POSITIVE** effect on both the individual and all humanity as a whole.



EKOVER® Company is modern high-tech manufacturer of the effective heat and sound basalt insulating materials.

The manufacturer is located in the close vicinity to the deposit of quality raw material (Asbest, Sverdlovsk region); it has all the resources for production of insulating material of both the best technical parameters and attractive competitive price.

Product quality is the priority task for EKOVER® Company.

Thanks to involvement of highly skilled specialists and availability of the most up-to-date production line and advanced scientific research base we are able to control all the production cycles and achieve sustainably high quality of products.

**SAVING ENERGY AND TAKING CARE OF NATURE
is the key principle of EKOVER® Company.**

This principle is incorporated in the design development phase of EKOVER® Company production line and implemented in the installation of the effective treatment system which allows no release of hazardous substances into the atmosphere at all production stages.

The products of EKOVER® Company fully comply with sanitary and hygiene standards and manufactured on the basis of environmentally friendly rocks and are safe to human health.

Use of EKOVER® insulating material reduces energy consumption, which enables reduction of emission of CO₂, greenhouse gas. This allows the people to fulfill the task of environmental friendliness.

A variety of insulating materials inevitably places consumer with the complicated choice to make. Today's construction market is presented as wide range of different types of insulating materials - organic insulating materials (PPS, PPU, etc.) and non-organic insulating materials (mineral wool products, fiberglass, foam concrete, etc.), which, in turn, vary in properties, price, and quality.

EKOVER[®] Company has developed a range of modern insulating materials made of rock wool based on group of gabbro and basalt rocks.

EKOVER[®] insulating material is designed for use in living spaces, public, and industrial buildings. The range of EKOVER[®] products includes both conventional civil plates for insulation of any unloaded structures and plates designed for use in specific building systems within the framework of targets at different levels of complexity.

EKOVER[®] basalt insulation represents:



HIGH HEAT-INSULATING CAPACITY

EKOVER[®] basalt insulation has one of the lowest thermal conductivity ($\lambda=0,035$ W/mK) and, consequently, high insulating capacity. It reduces up to 50 percent heat loss in buildings.



HIGH FIRE-RESISTANCE

The basis for EKOVER[®] mineral wool plates are the group of gabbro and basalt rocks. Depending on the degree of flammability, EKOVER[®] insulation is attributed to Non-Combustible group (non-flammable). The melting point of basalt insulation is over 1000°C.



HIGH SOUND-INSULATING CAPACITY

Due to its fibrous structure, EKOVER[®] basalt insulation has high coefficient of sound absorption ($\alpha_w=0.85$) and it can reduce the level of airborne noise up to 15 dB and the level of impact noise up to 36 dB.



RESISTANCE TO DEFORMATION

EKOVER[®] basalt insulation retains high insulating properties under triaxial compression and carries the load of up to 7 ton/m².



ENVIRONMENTAL SAFETY

EKOVER[®] insulating material is made of basalt rocks and is environmentally safe.

EKOVER® STANDARD CIVIL INSULATION

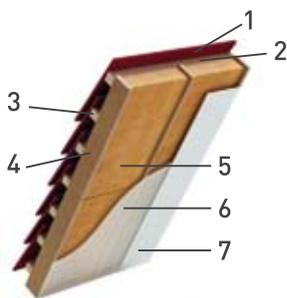


- EKOVER® LIGHT UNIVERSAL
- EKOVER® LIGHT
- EKOVER® STANDARD

EKOVER® standard civil insulation - light-weight hydrophobically-modified heat-insulating plates on synthetic binder, made of rock wool on the basis of group of gabbro and basalt rocks.

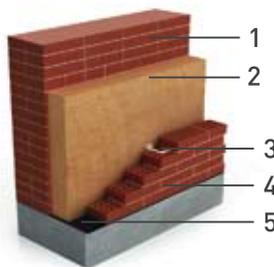
Plate type	Application
EKOVER® LIGHT UNIVERSAL EKOVER® LIGHT	Used as heat and sound insulating layer of unloaded structures of all types of buildings: pitched roofs, walls, attic rooms, camp ceilings, internal partitions, floors of all types of covering on bearing joists by laying insulation between joists, ventilation and heating systems, tanks, piping, air ducts and industrial equipment with temperature of the insulated surface up to 400°C, as well as a lower (inner) layer in two-layer thermal insulation in combination with EKOVER® VENT-FACADE plates in the structures of ventilated facades.
EKOVER® STANDARD	Used as heat and sound insulating layer of unloaded structures of all types of buildings: pitched roofs, walls, attic rooms, camp ceilings, internal partitions, floors of all types of covering on bearing joists by laying insulation between joists, as well as a heat-insulating layer in three-layer sandwich (hollow) masonry and a lower (inner) layer in two-layer thermal insulation in combination with EKOVER® VENT-FACADE plates in the structures of ventilated facades.

Heat and sound insulation of an attic room



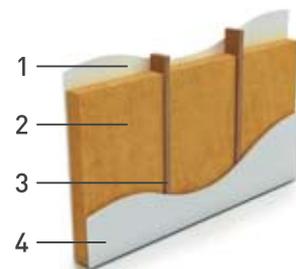
- 1 — roofing
- 2 — diffusion membrane
- 3 — counter-lathing
- 4 — rafter
- 5 — EKOVER® heat-insulating layer (LIGHT UNIVERSAL, LIGHT, STANDARD)
- 6 — vapour-sealing layer
- 7 — inside lining

Insulation in three-layer sandwich masonry



- 1 — wall
- 2 — EKOVER® heat-insulating layer (STANDARD)
- 3 — flexible binding
- 4 — lining
- 5 — waterproof layer

Heat and sound insulation of a partition



- 1 — lining
- 2 — EKOVER® heat-insulating layer (LIGHT UNIVERSAL, LIGHT, STANDARD)
- 3 — wooden (or metal) frame
- 4 — lining

EKOVER® Standard Civil Insulation. Specification

Description	Unit of measure	LIGHT UNIVERSAL	LIGHT		STANDARD	
Plate length	mm	1000				
Plate width	mm	600				
Plate thickness	mm	50-250				
Nominal density	kg/m ³	28	35	45	50	60
Heat-conductivity factor at 10°C/25°C	W/mK, max.	0.037/0.039	0.035/0.037	0.035/0.036	0.035/0.036	0.035/0.036
Design heat-conductivity factor under A/B application conditions	W/mK, max.	0.041/0.043	0.039/0.041	0.040/0.045	0.038/0.040	0.040/0.045
Compressibility	%, max.	-	15	10	10	8
Water absorption	% vol., max.	2.5	2.0	1.5	1.5	1.5
Humidity	% mass, max.	0.5	0.5	0.5	0.5	0.5
Organic substances mass content	%, max.	2.8	3.0		3.0	
Acoustic absorptivity	-	-	0.85	-	-	-
Inflammability	group	Non-Combustible				

Geometrical characteristics and logistics recommendations

Plate thickness, mm	Number of plates per package, pcs	Total area of plates per package, m ²	Total amount of plates per package, m ³	Total amount of plates per pallet (2,400x1,000x140 mm), m ³	Loading rate, vehicle cargo capacity 92 m ³ , m ³
	LIGHT UNIVERSAL, LIGHT, STANDARD	LIGHT UNIVERSAL, LIGHT, STANDARD	LIGHT UNIVERSAL, LIGHT, STANDARD	LIGHT UNIVERSAL, LIGHT, STANDARD	LIGHT UNIVERSAL, LIGHT, STANDARD
50	12	7.2	0.360	5.760	74.88
80	6	3.6	0.288	5.760	74.88
100	6	3.6	0.360	5.760	74.88
150	4	2.4	0.360	5.760	74.88

Based on the agreement with the customer, the plates of other sizes can be produced: minimum thickness for this commodity group - 50 mm, maximum possible - 250 mm, pace - 10 mm.

For storage and transportation, EKOVER® plates are stacked on pallets, wrapped in polyethylene film, which helps reduce labour costs for loading and unloading products significantly, and improve their safety at temporary open air storage.

Number of pallets for all types of insulation in the vehicle of cargo capacity of 92 m³ is 13 pcs. During storage, transportation, and installation, it is necessary to protect the materials from moisture.

EKOVER® FACADE INSULATION

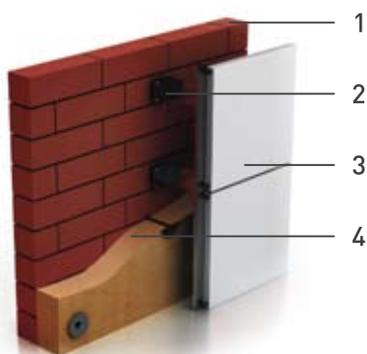


- EKOVER® VENT-FACADE
- EKOVER® FACADE-DECOR
- EKOVER® FACADE-DECOR OPTIMA

EKOVER® facade insulation - hard hydrophobically-modified heat-insulating plates on synthetic binder, made of rock wool on the basis of group of gabbro and basalt rocks.

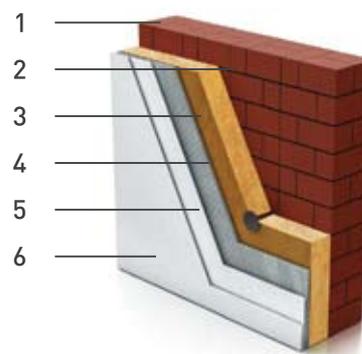
Plate type	Application
EKOVER® VENT-FACADE	Used as heat and sound insulating layer of facade systems with air gap in single-layer insulation, as well as upper (outer) insulating layer in two-layer insulation. Recommended for use in combination with EKOVER® LIGHT UNIVERSAL, EKOVER® LIGHT and EKOVER® STANDARD plates
EKOVER® FACADE-DECOR EKOVER® FACADE-DECOR OPTIMA	Used for heat and sound insulation in facade external insulation systems with subsequent plastering on reinforcing grid.

Heat insulation of facade systems
with air gap



- 1 — outside wall
- 2 — metal frame
- 3 — facade tile
- 4 — EKOVER® heat-insulating layer (VENT-FACADE)

Heat insulation of facade systems
with thin plaster



- 1 — outside wall
- 2 — adhesive
- 3 — EKOVER® heat-insulating layer (FACADE-DECOR, FACADE-DECOR OPTIMA)
- 4 — adhesive layer with reinforcing grid
- 5 — plaster
- 6 — painting

EKOVER® Facade Insulation. Specification

Description	Measurement unit	VENT-FACADE			FACADE-DECOR OPTIMA	FACADE-DECOR
Plate length	mm	1000				
Plate width	mm	600				
Plate thickness	mm	50-250	50-200	50-200		
Nominal density	kg/m ³	80	90	120	135	150
Heat-conductivity factor at 10°C/25°C	W/mK, max.	0.035/ 0.036	0.035/ 0.037	0.035/ 0.037	0.035/ 0.037	0.037/ 0.039
Design heat-conductivity factor under A/B application conditions	W/mK, max.	0.038/ 0.040	0.038/ 0.040	0.041/ 0.046	0.039/ 0.041	0.041/ 0.043
Compression resistance at 10% deformation	kPa, min.	10	18	20	45	50
Layer breakoff point	kPa, min.	3	7	8	15	15
Water absorption	% vol., max.	1.5			1.5	1.5
Humidity	% mass, max.	0.5			0.5	0.5
Organic substances mass content	%, max.	3.0	3.5	4.0	4.0	4.0
Inflammability	group	Non-Combustible				

Geometrical characteristics and logistics recommendations

Plate thickness, mm	Number of plates per package, pcs			Total area of plates per package, m ²			Total amount of plates per package, m ³			Total amount of plates per pallet (2400x1000x140 mm), m ³			Loading rate, vehicle cargo capacity 92 m ³ , m ³		
	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR
50	12	8	6	7.2	4.8	3.6	0.360	0.240	0.180	5.760	5.760	5.760	74.88	74.88	74.88
100	6	4	3	3.6	2.4	1.8	0.360	0.240	0.180	5.760	5.760	5.760	74.88	74.88	74.88
150	4	2	2	2.4	1.2	1.2	0.360	1.180	0.180	5.760	5.760	5.760	74.88	74.88	74.88

Based on the agreement with the customer, the plates of other sizes can be produced: minimum thickness for this commodity group - 50 mm, maximum possible - 250 mm, pace - 10 mm.

For storage and transportation, EKOVER® plates are stacked on pallets, wrapped in polyethylene film, which helps reduce labour costs for loading and unloading products significantly and improve their safety at temporary open air storage.

Number of pallets for all types of insulation in the vehicle of cargo capacity of 92 m³ is 13 pcs. During storage, transportation, and installation, it is necessary to protect the materials from moisture.

EKOVER® ROOF INSULATION

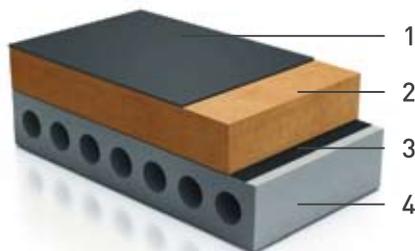


- EKOVER® KROVLYA
- EKOVER® KROVLYA NIZ
- EKOVER® KROVLYA VERH

EKOVER® roof insulation - hard hydrophobically-modified heat-insulating plates on synthetic binder, made of rock wool on the basis of group of gabbro and basalt rocks.

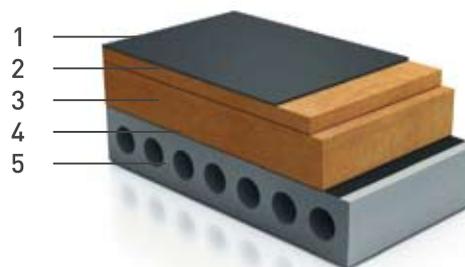
Plate type	Application
EKOVER® KROVLYA	Used as heat and sound insulating layer of coverings including roofing with or without cement lining, as heat insulation of camp ceilings, coverings over cold floors or passages.
EKOVER® KROVLYA NIZ	Used for heat and sound insulation in single-layer coverings of flat roof, as well as bottom (inside) layer in two-layer systems of flat roof. Recommended for use in combination with EKOVER® KROVLYA VERH plates.
EKOVER® KROVLYA VERH	Used for heat and sound insulation in two-layer systems of flat roof. Recommended for use in combination with EKOVER® KROVLYA NIZ plates.

Single-layer heat insulation of flat roofing



- 1 — waterproof layer
- 2 — EKOVER® heat-insulating layer (KROVLYA)
- 3 — vapour-sealing layer
- 4 — reinforced concrete slab

Two-layer heat insulation of flat roofing



- 1 — waterproof layer
- 2 — EKOVER® heat-insulating layer (KROVLYA VERH)
- 3 — EKOVER® heat-insulating layer (KROVLYA NIZ)
- 4 — vapour-sealing layer
- 5 — reinforced concrete slab

EKOVER® Roof Insulation. Specification

Description	Measurement unit	KROVLYA			KROVLYA NIZ		KROVLYA VERH		
Plate length	mm	1000							
Plate width	mm	600							
Plate thickness	mm	50-200	50-180	50-250	50-210	30-100			
Nominal density	kg/m ³	135	150	100	120	175	190		
Heat-conductivity factor at 10°C/25°C	W/mK, max.	0.038/ 0.039	0.038/ 0.039	0.035/ 0.037	0.036/ 0.038	0.038/ 0.040	0.038/ 0.040		
Design heat-conductivity factor under A/B application conditions	W/mK, max.	0.040/ 0.042	0.043/ 0.049	0.039/ 0.041	0.040/ 0.042	0.042/ 0.045	0.044/ 0.050		
Compression resistance at 10% deformation	kPa, min.	45	50	30	35	60*/70**	70*/80**		
Layer breakoff point	kPa, min.	10	12	7	10	15	16		
Water absorption	% vol., max.	1.5			1.5		1.5		
Humidity	% mass, max.	0.5			0.5		0.5		
Organic substances mass content	%, max.	4.0	4.5	4.0		4.5			
Inflammability	group	Non-Combustible							

* for thickness < 50 mm; ** for thickness ≥ 50 mm.

Geometrical characteristics and logistics recommendations

Plate thickness, mm	Number of plates per package, pcs			Total area of plates per package, m ²			Total amount of plates per package, m ³			Total amount of plates per pallet (2,400x1,000x140 mm), m ³			Loading rate, vehicle cargo capacity 92 m ³ , m ³		
	KROVLYA	KROVLYA NIZ	KROVLYA VERH	KROVLYA	KROVLYA NIZ	KROVLYA VERH	KROVLYA	KROVLYA NIZ	KROVLYA VERH	KROVLYA	KROVLYA NIZ	KROVLYA VERH	KROVLYA	KROVLYA NIZ	KROVLYA VERH
40	-	-	7	-	-	4.2	-	-	0.168	-	-	5.376	-	-	69.89
50	8	8	6	4.8	4.8	3.6	0.240	0.240	0.180	5.760	5.760	5.760	74.88	74.88	74.88
60	6	8	-	3.6	4.8	-	0.216	0.288	-	5.184	5.760	-	67.39	74.88	-
70	3	3	-	1.8	1.8	-	0.126	0.126	-	5.544	5.544	-	72.07	72.07	-
80	5	6	-	3.0	3.6	-	0.240	0.288	-	5.760	5.760	-	74.88	74.88	-
90	2	5	-	1.2	3.0	-	0.108	0.270	-	5.616	5.400	-	73.01	70.20	-
100	4	4	-	2.4	2.4	-	0.240	0.240	-	5.760	5.760	-	74.88	74.88	-

Based on the agreement with the customer, the plates of other sizes can be produced: minimum thickness for this commodity group - 30 mm, maximum possible - 250 mm, pace - 10 mm.

For storage and transportation, EKOVER® plates are stacked on pallets, wrapped in polyethylene film, which helps reduce labour costs for loading and unloading products significantly and improve their safety at temporary open air storage.

Number of pallets for all types of insulation in the vehicle of cargo capacity of 92 m³ is 13 pcs. During storage, transportation, and installation, it is necessary to protect the materials from moisture.

EKOVER® Insulation for Acoustic Floating Floors



- EKOVER® STEP
- EKOVER® STEP PLUS

EKOVER® insulation for Acoustic Floating Floors - hard hydrophobically-modified heat-insulating plates on synthetic binder, made of rock wool on the basis of group of gabbro and basalt rocks.

Plate type	Application
EKOVER® STEP EKOVER® STEP PLUS	Used as elastic foundation for acoustic floating floors and as thermal and sound insulation of floor decks, basement floors and heated floors when concrete or sand cement screed is laid directly on thermal insulation. Characterized by acoustic properties that comply with noise level requirements and is graded as high-performance soundproof lining material for any types of buildings.

Insulation arrangement of acoustic floating floors



- 1 — Finishing floor covering
- 2 — Reinforced sand cement screed
- 3 — Separating waterproof layer
- 4 — Thermal and sound insulation layer EKOVER® (STEP, STEP PLUS)
- 5 — Reinforced concrete floor slab

EKOVER® Insulation for Acoustic Floating Floors. Specification

Description	Measurement unit	STEP	
Plate length	mm	1000	
Plate width	mm	600	
Plate thickness	mm	30-150	
Nominal density	kg/m ³	125	150
Heat-conductivity factor at 10°C/25°C	W/mK, max.	0.035/0.037	0.037/0.039
Design heat-conductivity factor under A/B application conditions	W/mK, max.	0.041/0.046	0.043/0.049
Compression resistance at 10% deformation	kPa, min.	35*	50*
Water absorption	% vol., max.	1.5	1.5
Humidity	% mass, max.	0.5	0.5
Organic substances mass content	%, max.	4.0	4.5
Inflammability	group	Non-Combustible	

*for thickness \geq 50 mm; for thickness < 50 mm – 30 and 45 kPa

Acoustic performance of EKOVER® STEP insulation

Plate thickness	Dynamic modulus of elasticity (E_d), MPa and compression strain ratio (ϵ_d) when load-testing a sample, N/m ²				Impact sound insulation reduction index with EKOVER STEP plates laid under the screed, dB
	2000		5000		
	E_d	ϵ_d	E_d	ϵ_d	
30	0,52	0,02	1,30	0,05	33
50	0,48	0,02	1,40	0,04	36

Geometrical characteristics and logistics recommendations

Plate thickness, mm	Number of plates per package, pcs		Total area of plates per package, m ²		Total amount of plates per package, m ³		Total amount of plates per pallet (2,400x1,000x140 mm), m ³		Loading rate, vehicle cargo capacity 92 m ³ , m ³	
	STEP	STEP PLUS	STEP	STEP PLUS	STEP	STEP PLUS	STEP	STEP PLUS	STEP	STEP PLUS
30	6	6	3.6	3.6	0.108	0.108	5.616	5.616	73.01	73.01
40	8	8	4.8	4.8	0.192	0.192	5.376	5.376	69.89	69.89
50	8	6	4.8	3.6	0.240	0.180	5.760	5.760	74.88	74.88

Based on the agreement with the customer, the plates of other sizes can be produced: minimum thickness for this commodity group - 30 mm, maximum possible - 150 mm, pace - 10 mm.

For storage and transportation, EKOVER® plates are stacked on pallets, wrapped in polyethylene, which helps reduce labour costs for loading and unloading products significantly and improve their safety at temporary open air storage.

Number of pallets for all types of insulation in the vehicle of cargo capacity of 92 m³ is 13 pcs. During storage, transportation, and installation, it is necessary to protect the material from moisture.

EKOVER® PRODUCTS. SPECIFICATION

Description	EKOVER® plate type									
	LIGHT UNIVERSAL	LIGHT	LIGHT	STANDARD	STANDARD	VENT-FACADE	VENT-FACADE	VENT-FACADE	FACADE-DECOR OPTIMA	FACADE-DECOR
Nominal density, kg/m ³	28	35	45	50	60	80	90	120	135	150
Heat-conductivity at 10°C/25°C, W/mK, max.	0.037/0.039	0.035/0.037	0.035/0.036	0.035/0.036	0.035/0.036	0.035/0.036	0.035/0.037	0.035/0.037	0.035/0.037	0.037/0.039
Design heat-conductivity under A/B application conditions, W/mK, max.	0.041/0.043	0.039/0.041	0.040/0.045	0.038/0.040	0.040/0.045	0.038/0.040	0.038/0.040	0.041/0.046	0.039/0.041	0.041/0.043
Compressibility, %, max.	-	15	10	10	8	-	-	-	-	-
Compression resistance at 10% deformation, kPa, min.	-	-	-	-	-	10	18	20	45	50
Layer breakoff point, kPa, min.	-	-	-	-	-	3	7	8	15	15
Water absorption, % vol., max.	2.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Organic substances mass content, % mass, max.	2.8	3.0	3.0	3.0	3.0	3.0	3.5	4.0	4.0	4.0
Humidity, % mass, max.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Inflammability group	Non-Combustible									

Description	EKOVER® plate type							
	KROVLYA NIZ	KROVLYA NIZ	KROVLYA	KROVLYA	KROVLYA VERH	KROVLYA VERH	STEP	STEP PLUS
Nominal density, kg/m ³	100	120	135	150	175	190	125	150
Heat-conductivity at 10°C / 25°C, W/mK, max.	0,035/ 0,037	0,036/ 0,038	0,038/ 0,039	0,038/ 0,039	0,038/ 0,040	0,038/ 0,040	0,035/ 0,037	0,037/ 0,039
Design heat-conductivity under A/B application conditions, W/mK, max.	0,039/ 0,041	0,040/ 0,042	0,040/ 0,042	0,043/ 0,049	0,042/ 0,045	0,044/ 0,050	0,041/ 0,046	0,043/ 0,049
Compression resistance at 10% deformation, kPa, min.	30	35	45	50	60*/70**	70*/80**	30*/35**	45*/50**
Layer breakoff point, kPa, min.	7	10	10	12	15	16	-	-
Water absorption, % vol., max.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Organic substances mass content, % mass, max.	4.0	4.0	4.0	4.5	4.5	4.5	4.0	4.5
Humidity, % mass, max.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Inflammability group	Non-Combustible							

* for thickness < 50 mm

**for thickness ≥ 50 mm



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