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COMPANY PHILOSOPHY

Maximum satisfaction of our clients' demands in materials for roofing of houses, offices, design constructions of home and other buildings, providing them service of the highest level.

The basic philosophy of our business is partnership with clients. We understand partnership as cooperation where the more you give, the more you get.

Together we go to our common aim. Uniting our efforts and possibilities we find the best solutions for achieving the best results.

We consolidate business partnership and build it on a long-term basis aiming not only at fulfilling the tasks we have, but we also try to offer our partners ways and means for maximum realization of their projects.

We work together with our partners; extend the horizons of business, together we achieve new heights of success.

We try to solve completely the difficulties of our partners without wasting their time and money and by that we make their life easier.

Strategy:

Development of functional, effective, competitive roofing materials business, which is oriented on a client, with respect to clients and employees and taking into account their demands.

The products manufactured by our company are meant for application on different objects:

We produce roofing materials of high quality with the extended life period, which are used on large and important objects, where you need high reliability and additional guarantees. These materials have deserved perfect reputation with construction companies.

You can make a reliable roof with standard materials, which are widely applied on many objects around the country. Their reliability is proved by many years of application experience on different roofing structures. It is convenient to work with them and the technical support of our specialists provides an opportunity to correctly design the roof and apply the material.

Medium-priced roofing materials find their market with budget organizations and private clients. Their application doesn't demand much money and usage of expensive equipment, but the quality of these materials allows making a reliable roof.

We improve our activities every day in order to be tomorrow better than we were yesterday. As a result we have three basic advantages:

Client orientation:

We offer products with the best value for money and we are centered on satisfaction of our partners' demands.

Competence:

We are in contact with Russian and foreign companies manufacturing similar products, we constantly share out work experience with them. Our staff is being educated and trained for improving their professional level.

Reliability:

We have been working for 50 years already and our work is the tradition.



Meerevich Evgeny Konstantinovich
General Director

VALUES:

- Always keep in step with time, implement innovations and newest technologies;
- never stop on what you have achieved, improve yourself constantly;
 - strive for company's growth and extension;
 - prove and support the company's image, as a respectable member of business society.



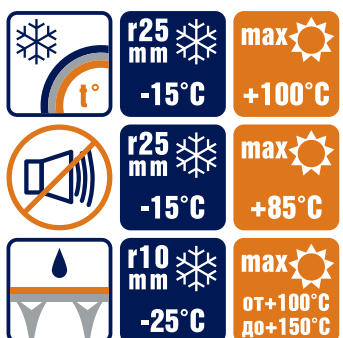
MATERIALS AND PRODUCTS

Diversified Industrial Company «KRZ»



ROLL ROOFING AND WATERPROOFING MATERIALS

-30°C -25°C -20°C -15°C -10°C -5°C -5°C	+110°C +100°C +95°C +85°C +85°C +85°C +120°C	15-25 Years	IV GENERATION	ELASTOIZOL, ELABIT, ROOFSHIELD VALLEY MEMBRANE, NEOIZOL	Bitumen- polymer membranes on a rot-proof fiberglass and polyester basement
0°C	+85°C +80°C +70°C	15 Years	III GENERATION	HYDROSTEKLOIZOL, HYDROBARIER, STEKLOMAST, HYDROIZOL, ELASTOIZOL ECO	Torch-applied membranes of oxidized bitumen on a rot-proof fiberglass and polyester basement
+5°C	+70°C	7 Years	II GENERATION	RUBEMAST	Torch-applied membranes of oxidized bitumen on a cardboard basement
+5°C	+80°C	7 Years	I GENERATION	RUBEROID, ASPHALT PAPER PERGAMIN	Traditional membranes of oxidized bitumen on a cardboard basement



FOLGOIZOL	It is meant for making the top layer of the roof covering of buildings and constructions and the outer protecting layer of insulation on heating mains, pipelines, water supply systems air conduits.
ELASTOIZOL-ACOUSTIC	It is the sound-vibration-waterproofing membrane. It is meant for making the sound-stroke-proofing inserted floors, as well as for vibration insulation of installations in buildings and constructions.
MOSTOIZOL	It is meant for making waterproofing of a reinforced-concrete slab of the traffic area, for making the protecting-engaging layer on a steel orthotropic slab of bridgework superstructures, as well as for making one-layer waterproofing of buildings and constructions.

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Diversified Industrial Company «KRZ»



BITUMEN SHINGLE ROOFSHIELD

ROAD CEMENT

ROAD VISCOUS OIL ASPHALT BND 60\90, BND 90\130

POLYMER-BITUMEN BONDER PBV 60, 40 BITUMEN MODIFIED WITH RUBBER CRUMBS

WATERPROOFING MASTIC AND BITUMEN

BITUMEN-RUBBER MASTIC FOR COLD APPLICATION MBR-H AND HOT APPLICATION MBR

BITUMEN-POLYMER MASTIC FOR COLD APPLICATION MBP-H AND HOT APPLICATION MBP

ROOFING HOT BITUMEN MASTIC MBKG

CONSTRUCTION OIL ASPHALT BN 70/30, BN 90/10

BITUMEN-POLYMER MASTIC OF ADVANCED RELIABILITY FIX

PAPER, CARDBOARD

ROOFING CARDBOARD

CARDBOARD FOR FLAT LAYERS

CONTAINER BOX CARDBOARD KTK, HONEYCOMBED CARDBOARD

PAPER FOR CORRUGATING

WRAPPING PAPER

CORRUGATED CARDBOARD AND CONTAINERS

CORRUGATED CARDBOARD BRAND T-21, T-22, T-23 ACCORDING TO RUSSIAN STATE STANDARD (GOST) WITH BROWN AND WHITE TOP LAYER

CORRUGATED CARDBOARD BOXES WITH 4 FLAPS ACCORDING TO RUSSIAN STATE STANDARD (GOST) AND OF NON-STANDARD SIZES, AND OF TWO-COLOR FLEXOPRINT

CONSUMERGOODS

BASIS FOR SANITARY-HYGIENIC PAPER AND CUSTOMER ROLLS. TOWELS



ELASTOIZOL

Technical Specifications 5774-012-00287912-2007

Up-to-date bitumen-polymer roofing and waterproofing torch-applied membrane.

Intended use: Damp proofing for buildings, including basement tanking, roof waterproofing, used as top layers with permanent heavy surface protection, intermediate layers and underlayers.

Application area:

- Roof covering of buildings and constructions of all types.
- Waterproofing of building constructions: footings, tunnels etc.

Coating type:

- P- polymer film
- K- large-grained mineral granules

Basement type:

- H – glass-fiber mat
- T – glassfiber
- E - Polyester

Fire performance classes:

- External fire performance: BROOF
- Reaction to fire - F

Installation:

- Elastoizol is glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material.
- Gas burner or other burners can be used for welding.
- Roofing is possible in any seasons except snowy or rainy weather.



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CHARACTERISTICS			Elastoizol ELIT		Elastoizol PREMIUM		Elastoizol BUSINESS		Elastoizol PROF		Elastoizol STANDARD		Elastoizol OPTIM		Elastoizol TROPIC		Elastoizol ECO	
Conventional designation	Base:	Glass-fiber mat (H)	HKP	HPP	HKP	HPP	HKP	HPP	HKP	HPP	HKP	HPP	HKP	HPP	HKP	HPP	HKP	HPP
		Fiberglass (T)	TKP	TPP	TKP	TPP	TKP	TPP	TKP	TPP	TKP	TPP	TKP	TPP	TKP	TPP	TKP	TPP
		Polyester (E)	EKP	EPP	EKP	EPP	EKP	EPP	EKP	EPP	EKP	EPP	EKP	EPP	EKP	EPP	EKP	EPP
	Coating type, top/bottom		k/p	p/p	k/p	p/p	k/p	p/p	k/p	p/p	k/p	p/p	k/p	p/p	k/p	p/p	k/p	p/p
Mass of 1 m2, kg			3,0-7,0															
Mass of the cement from the torchable side, kg/m2, not less			2,0		2,0		2,0		2,0		1,5		1,5		1,5		2,0	
Longitudinal/transverse tensile strength, N, not less	Glass-Fiber mat		400/250 (±100)												400/300 (±100)			
	Fiberglass		900/1000 (±100)						700 (±100)									
	Polyester		800/700 (±200)	800/600 (±200)						600/500 (±100)				600/400 (±100)		600/450 (±150)		
Brittle temperature of the cement, °C, not higher			-40		-35		-30		-25		-20		-15		-15		-15	
Flexibility	by testing on a beam with the radius, mm		10		10		25		25		25		25		10		10	
	there should be no cracks on the surface of the sample at temperature, °C, not higher		-30		-25		-20		-15		-10		-5		-5		0	
Adhesion of granules, g/sample of loss, not more			1,0															
Heat stability during 2 hours at temperature, °C, not less			+110		+100		+95		+85		+85		+85		+120		+80	
Water absorption during 24 hours, mass %, not more			1,0															

CE-marking

In compliance with Council Directive 93/68/EEC and Regulation 305/2011/EU

Meets the requirements of the standards:

EN 13707:2004 + A2:2009

EN 13969:2004 + A1:2006



ELABIT

Technical Specifications 5770-528-00284718-94

BITUMEN-POLYMER SBS-MODIFIED TORCH-APPLIED ROOFING AND WATERPROOFING MEMBRANE

APPLICATION AREA:

- Roof covering of buildings and constructions of all types.

Coating type:

P - polymer film

K- large-grained mineral granules

Basement type:

H – glass-fiber mat

T – glassfiber

E - Polyester

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F

APPLICATION METHOD:

- Elabit is glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material.
- Gas burner or other burners can be used for welding.
- Roofing can be made in all seasons, excluding snowy or rainy weather.



			TKP	TPP	XKP	XPP	EKP	EPP	
Weight of 1 m2 of the material, kg			Elabit-25	4,5-5,0	3,0-4,0	4,5-5,0	3,0-4,0	4,5-5,0	3,0-4,4
			Elabit-15	4,0-5,0	3,0-3,5	4,0-5,0	3,0-3,5	4,0-5,0	3,0-3,5
Base			Fiberglass		Glass-fiber mat		Polyester		
Roof covering layer			Top	Bottom	Top	Bottom	Top	Bottom	
Coating type, top/bottom			K/P	P/P	K/P	P/P	K/P	P/P	
Mass of the cement from the torchable side, kg/m², not less			2,0						
Tensile strength, N (kgf), not less			784(80)	784(80)	294(30)	294(30)	343(35)	343(35)	
Flexibility	by testing on a beam with the radius, mm	Elabit-25	10						
		Elabit-10	25						
	there should be no cracks on the surface of the sample at temperature,°C, not higher	Elabit-25	-25						
		Elabit-10	-15						
Waterproofness, under pressure of 0,01 kgf/cm2 during 72 hours			Absolute						
Heat resistance during 2 hours at temperature,°C, not less		Elabit-25	+100						
		Elabit-10	+85						
Water absorption during 24 hours, mass %, not higher			1,5						

Guarantee storage time:
12 months from production date.

ADVANTAGES:

- Advanced flexibility at temperatures below zero
- High level of flexibility, resistance to punching and elasticity
- Advanced resistance to low and high temperatures
- High-technology torch-application
- Low estimated cost of roofing works



HYDROSTEKLOIZOL

Technical Specifications 5774-011-00287912-2008

ROLL ROOFING AND WATERPROOFING MEMBRANE ON GLASS BASEMENT (GLASS-FIBER MAT, FIBERGLASS) OR POLYESTER BASEMENT

It is meant for roof covering of buildings and constructions and waterproofing of building constructions.

HYDROSTEKLOIZOL K

With large-grain or scaly granules on the top surface and powder dressing compound or polymer film on the bottom side of the mat; it is applied for making the top layer of the roof covering.

HYDROSTEKLOIZOL P

With powder or small-grain dressing compound on the both sides of the mat, it is allowed to use polymer film instead of the dressing compound; it is applied for making the top layer of roof covering with the protective layer and the bottom layers of the roofing mat; for waterproofing of building constructions.

Basement type:

H – glass-fiber mat

T – glassfiber

E - Polyester

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F



Diversified Industrial Company «KRZ»

		HKP	HPP	TKP	TPP	EKP	EPP
Base		Glass-fiber mat		Fiberglass		Polyester	
Coating type, top/bottom		K/P	P/P	K/P	P/P	K/P	P/P
Weight of 1 m2 of the material, kg		2,5; 3,0; 3,5; 4,0; 4,5; 5,0; 5,5					
Mass of the cement from the torchable side, kg/m2, not less		1,5					
Allowed deviation from the nominal value, kg, not higher		+0,250-0,249					
Tensile strength, N (kgf), not less		363(37)		800		343(35)	
Brittle temperature of the cement, °C, not higher		258 (minus 15)					
Flexibility	by testing on a beam with the radius, mm	25					
	there should be no cracks on the surface of the sample at temperature, °C, not higher	0					
Waterproofness	There should be no traces of water penetration under pressure, kgf/cm²	0,01					
	During at least, hours	72					
	For marks HPP/TPP/EPP under pressure not less, kgf/cm²	2					
	During at least, hours	2					
Heat resistance during 2 hours at the temperature, °C		+85					
Adhesion of granules, g/sample of loss, not more , for hydrostekloizol with large-grain dressing compound		1					

APPLICATION METHOD:

Hydrostekloizol is glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material.

Gas burner or other burners can be used for welding.

Guarantee storage period:

12 months from the production date.

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HYDROIZOL

Technical Specifications 5774-011-00287912-2011

ROLL ROOFING AND WATERPROOFING TORCH-APPLIED MEMBRANE ON GLASS BASEMENT

It is meant for roof covering of buildings and constructions and waterproofing of building constructions.

HYDROIZOL K

With large-grain or scaly granules on the top surface and powder dressing compound or polymer film on the bottom side of the mat; it is applied for making the top layer of the roof covering.

HYDROIZOL P

With powder or small-grain dressing compound on the both sides of the mat, it is allowed to use polymer film instead of the dressing compound; it is applied for making the top layer of roof covering with the protective layer and the bottom layers of the roofing mat; for waterproofing of building constructions.

Basement type:

H – glass-fiber mat

T – glassfiber

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F



			Hydroizol Extra		Hydroizol Classic		Hydroizol	
Conventional designation	Base:	Glass-fiber mat (H)	HKP	HPP	HKP	HPP	HKP	HPP
		Fiberglass (T)	TKP	TPP	TKP	TPP	TKP	TPP
	Coating type, top/bottom		k/p	p/p	k/p	p/p	k/p	p/p
Weight of 1 m2 of the material, kg, within			2,5-5,0		2,5-5,0		3,0-4,5	2,0-3,5
Mass of the cement from the torchable side, kg/m2, not less			1,5		1,5		1,5	
Weight of the basement, g/m2, not higher			250		250		250	
Water absorption during 24 hours, mass %, not higher			1,5		1,5		1,5	
Brittle temperature of the cement, K (°C), not higher			258 (-15)		258 (-15)		258 (-15)	
Adhesion of granules, g/sample of loss, not more			2,0		2,0		2,0	
Tensile strength, N (kgf), not less	Glass-fiber mat		294(30)					
	Fiberglass		588(60)					
Allowed deviation from the nominal value, kg, not higher			+0,250 -0,249		+0,250 -0,249		+0,250 -0,249	
Heat resistance during 2 hours at the temperature, °C			+85		+80		+70	
Flexibility. By testing on a beam with the radius at most 25 mm, there should be no cracks on the surface of the sample at temperature, °C, not higher			0					
Waterproofness. There should be no traces of water penetration under pressure of 0,001 MPa during, hours, not less			72					
Note: * It is allowed for Hydroizol of all types by the weight of m2 with the powder dressing compound P 2-2,5 kg, with the large-grain granules K 3,0-3,5 kg to hold the bottom side, at least 1,0 kg.								

APPLICATION METHOD:

- Hydroizol is glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material. Gas burner or other burners can be used for welding.

Guarantee storage time:
12 months from production date.



HYDROBARIER, STEKLOMAST

Technical Specifications 5774-015-00287912-2013

21-5744710-519-92

ROLL ROOFING AND WATERPROOFING TORCH-APPLIED MEMBRANE ON GLASS BASEMENT

Roll roofing and waterproofing materials on glass basement with plasticizing agent.

HYDROBARIER

On the basis of glass-fiber mat.

STEKLOMAST

On the basis of fiberglass.

HYDROBARIER HPP, STEKLOMAST TPP

Covered with the easy-to-melt film on the both sides and are meant for making top with the protective layer and bottom layers of the roof covering.

HYDROBARIER HKP, STEKLOMAST TKP

Covered with large-grain granules on the top and with the easy-to-melt film on the bottom and are meant for making the top layer of the roofing mat.



HYDROBARIER

STEKLOMAST

HKP

HPP

TKP

TPP

TECHNICAL CHARACTERISTICS

Base		Fiberglass		Glass-fiber mat	
Coating type, top/bottom		K/P	P/P	K/P	P/P
Tensile strength, kgf, not less		30	30	85	85
Flexibility	by testing on a beam with the radius, mm	25			
	there should be no cracks on the surface of the sample at temperature, °C, not higher	0			
Waterproofness under pressure of 0,01 kgf/cm ² during 72 hours		absolute			
Heat resistance during 2 hours at the temperature, °C, not lower		+80			
Application area	Bottom layer of the roof covering	+	-	+	-
	Top layer of roof covering	-	+	-	+
	Connections of roofs and waterproofing	-	+	-	+
	Waterproofing	+	-	+	-

ADVANTAGES:

- Non-rotting basis.
- Bio-resistance
- Compatibility with old roofing materials by repair
- High-technology torch-application
- Low estimated cost of the roofing works

K – large-grain mineral granules.

P – protective polymer film.

H – glass-fiber mat.

T – fiberglass.

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F

APPLICATION METHOD:

- Glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material. Gas burner or other burners can be used for welding.
- Non-rotting basis and the bitumen coating with the plasticizing agent applied to it make this material irreplaceable in construction. (At air temperatures below zero).

Guarantee storage period:

12 months from the production date.



RUBEMAST (ON PAPERBOARD BASIS)

Technical Specifications 21-5744710-505-90

ROLL ROOFING TORCH-APPLIED MEMBRANE, PRODUCED BY MEANS OF TWO-SIDE APPLICATION OF THE COATING AND DRESSING COMPOUND ON THE ROOFING PAPER IMPREGNATED WITH BITUMEN

RNK-350-1,5; RNK-400-1,5

On the top side – large-grain granules, on the bottom – the powder dressing compound. Applied for making the top layer of the roof covering.

RNP-400-1,5, RNP-350-1,5

Film, powder or small-grain dressing compound on the both sides. Applied for making the top layer of the roof covering with the protective layer and the bottom layers of the roof covering.

**TECHNICAL CHARACTERISTICS****RNK-350-1,5
RNK-400-1,5****RNP-350-1,5
RNP-400-1,5**

Tensile strength, kgf, not less	32; 34 (in fact 40)	28 (in fact 40)
Water absorption during 24 hours, %, not higher	1,5	
Weight of the coating, g/m ² , not lower, including the bottom side	2100	1500
Brittle temperature of the coating, °C, not higher	-15	
Adhesion of granules, g/sample of loss, not more	3	-
Flexibility. By testing on a beam with the radius 25 mm, there should be no cracks on the surface of the sample at temperature, °C, not higher	5	
Waterproofness under the pressure of 0,01 kgf/cm ² , hours, not lower	72	
Heat resistance during 2 hours at the temperature, °C, not lower	70	
Roll area, m ²	7,5 ±0,5	10 ±0,5

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F

APPLICATION METHOD:

- Rubemast is glued to the prepared surface by welding the cover layer from the bottom side overlapping freely supporting material. Gas burner or other burners can be used for welding.
- Application of Rubemast excludes the usage of adhesive mastics by performing roofing works, it decreases the cost of materials by roofing for 25%, decreases working hours in 2-3 times.



RUBEROID

Russian State Standard (GOST) 10923-93

ROLL ROOFING AND WATERPROOFING MEMBRANE, PRODUCED BY MEANS OF ROOFING PAPER IMPREGNATION WITH OIL BITUMEN, WITH APPLICATION OF COATING BITUMEN WITH THE FILLER AND A DRESSING COMPOUND TO THE BOTH SIDES OF THE MAT.

APPLICATION AREA:

- RKK-350, RKK-400 for the top layer of the roof covering.
- RKP-350 for the top layer of the roof covering with the protective layer and for the bottom layers of the roof covering.
- RPP-300 for the bottom layers of the roof covering.

APPLICATION METHOD:

Ruberoid is adhered with cold or hot bitumen mastic onto the prepared basis.



TECHNICAL CHARACTERISTICS

		With large-grain granules on the top side RKK-350, RKK-400	With powder dressing compound on both sides RKP-350 RPP-300	
Coating compound weight, g/m ² , not lower		800	800	500
Tensile strength, kgf, not less		32, 34	28	22
Flexibility	by testing on a beam with the radius, mm	25		
	there should be no cracks on the surface of the sample at temperature, °C, not lower	5		
Heat resistance during 2 hours, °C, not lower		80		
Adhesion of granules, g/sample of loss, not more		3	-	-
Waterproofness under the pressure of 0,01 kgf/cm ² , hour, not lower		72		
Roll area, m ²		10±0,5	15±0,5	15±0,5; 20±0,5

PERGAMIN (ASPHALT PAPER)

NON-COATED ROLL MATERIAL, PRODUCED BY MEANS OF ROOFING PAPER IMPREGNATION WITH OIL BITUMEN

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F



TECHNICAL CHARACTERISTICS

		P-350 Roofing asphalt paper Russian State Standard (GOST) 2697-83	P-250, P-300 Lining asphalt paper Technical Specifications 5774-008-00287912-00
Weight of the basis, g/m ²		350	250,300
Tensile strength, kgf, not less		27	
Water absorption for 24 hours, %, not higher		20	
Waterproofness under the pressure of 0,01 kgf/cm ² , hour, not lower		10 min.	
Flexibility	by testing on a beam with the radius, mm	25	5
	there should be no cracks on the surface of the sample at temperature, °C, not higher	5	18

APPLICATION METHOD:

- It is applied as lining material for bottom layers of the roof covering. It is also applied as the packing material for the equipment in machine building and heavy industry, for the sake of protection from dampness during storage and transportation.

Roll area 20 m², 30 m².
Width 1000 mm.



MOSTOIZOL

Technical Specifications 5774-014-00287912-2009

ROLL TORCH-APPLIED WATERPROOFING BITUMEN-POLYMER MEMBRANE.

Mostoizol is produced by means of two-side application on the glass basement or polyester non-woven mat the bitumen-polymer bonder, which consists of bitumen, polymer modifiers and the filler.

For bitumen modification we apply butadiene-styrene thermo-elastolayer, isotactic polypropylene, atactic polypropylene and amorphous poly-alpha-olefin «Vestoplast».

MOSTOIZOL 100.

EMP - On the basis of polyester non-woven mat; TMP - on the fiberglass basis - for waterproofing of building constructions, foundations, bridges of underground constructions (tunnels, galleries).

MOSTOIZOL 130 AND MOSTOIZOL 140

For making waterproofing of reinforced concrete slabs of traffic area and the protective-bonding layer on a steel orthotropic plate of bridge superstructures, as well as for waterproofing of other constructions.



TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS		MOSTOIZOL 140 EMP	MOSTOIZOL 130 EMP	MOSTOIZOL 100 EMP	TMP
Weight of 1 m2 of the material, kg, not lower		5,5	5,5	5,5	5,0
Basement type		Polyester non-woven mat			Fiberglass
Mass of the cement from the torchable side, kg/m2, not less		2,5	2,5	2,0	2,0
Mat thickness, mm, not lower		5,2	5,2	5,0	4,5
Tensile strength, N, not less	In longitudinal direction	1000	1000	600	1000
	in transversal direction	900	900	600	900
Relative elongation by breaking, defined in longitudinal and transversal directions,%, not lower		40	40	40	-
Testing for resistance to static punching with the force of 250H during 24 hours.		corresponds			
Brittle temperature of the cement, °C, not higher		-32	-32	-35	
Heat resistance during at least 2 hours at the temperature, t °C, not lower		+140	+130	+100	
Flexibility. By testing on a beam with the radius 10 mm and 25 mm, there should be no cracks on the surface of the sample at temperature, °C, not higher		-25			
Waterproofness under the pressure of 0,2 MPa during 24 hours on the surface of the sample there should be no traces of water penetration		corresponds			
Water resistance. After keeping the material in water at the temperature of 20 °C during 7 days the sample should pass the flexibility test on beams		corresponds			
Water absorption during 24 hours, mass %, not higher		1,0			

APPLICATION AREA

The material is meant for making waterproofing of reinforced concrete slabs of traffic area and the protective-bonding layer on a steel orthotropic plate of bridge superstructures, as well as for making one-layer waterproofing of buildings and constructions.



FOLGOIZOL

Technical Specifications 5774-010-00287912-2008

FOIL-COATED TORCH-APPLIED SBS-MODIFIED ROOFING AND WATERPROOFING MEMBRANE.

The material is not exposed to corrosion, rotting and influence of ultra-violet irradiation.

The two sorts are produced:

FOLGOIZOL

With the top layer of aluminum foil.

FOLGOIZOL - OPTIM

With the top layer of metallized film.

APPLICATION AREA:

It is applied for making the top layer of the roof covering of buildings and constructions and the outer protective layer of insulation of heating mains, pipelines, water supply systems and air conduits.



TECHNICAL CHARACTERISTICS

Folgoizol

Folgoizol -Optim

Heat resistance during 2 hours, °C		+100	+85
Flexibility	by testing on a beam with the radius, mm	25	25
	there should be no cracks on the surface of the sample at temperature, °C, not higher	-15	-5
Tensile strength, kgf, not less	Glass-fiber-mat	30	30
	Fiberglass	82	61
Waterproofness under the pressure of 0,1 MPa (1kgf/cm ²) during 72 hours		absolute	absolute

ELASTOIZOL-ACOUSTIC

Technical Specifications
5763-015-00287912-2009

NOISE-IMPACT-VIBRATION INSULATING BITUMEN-POLYMER WATERPROOFING MATERIAL

APPLICATION AREA:

- For sound-insulation laying in engineering constructions by making "floating" floors and in other constructions for improving sound insulation, waterproofing, as well as for vibration insulation of engineering equipment of buildings and constructions.
- It is developed according to the requirements of Construction Norms and Regulations of the Russian Federation (SNiP)23-03-2002 "Protection from Noise". It allows meeting normative values for impact noise in buildings of comfort class "A" (elite houses).



APPLICATION METHOD:

By making the «floating» strainer «Elastoizol-Acoustic» with the border is applied under the strainer with the sound-insulation mat to the bottom and the bitumen surface to the top. The material sheets are unrolled on the surface of floor slabs with an overlap, joints are melted with a construction drier or stuck with adhesive tape. To eliminate the contact of concrete strainer with the walls' surface the material sheets are led out to the walls a little bit higher than the level of the strainer. «Elastoizol-Acoustic», without a border, the sheets are laid butt-to-butt and stuck with adhesive tape.

Heat resistance during 2 hours, °C		+85
Flexibility	by testing on a beam with the radius, mm	25
	there should be no cracks on the surface of the sample at temperature, °C, not higher	-15
Tensile strength, kgf, not lower		30
Waterproofness under the pressure of 0,2 MPa (2 kgf/cm ²) for 2 hours		absolute
Dynamic modulus of elasticity under the load of 2 kPa, MPa, not higher		0,50
Impact noise level decrease index $\Delta L_n > \text{dB}$, not lower		23



BITUMEN SHINGLE ROOFSHIELD

Technical Specifications 5774-009-00287912-2012

**ROOFING AND WATERPROOFING MATERIAL IN
SHEETS BITUMEN SHINGLE ROOFSHIELD.**

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F

FIRE SECURITY INDEXES (EN 544):

- External fire performance: BROOF (t1)

- Reaction to fire: E Class



TECHNICAL CHARACTERISTICS

		SHINGLE				HIP&RIDGE SHINGLE "ROOFSHIELD"
		ELITE	PREMIUM	CLASSIC	FAMILY	
Heat resistance, °C		130	100	110	110	100
Flexibility. By testing on a beam with the radius 25 mm, there should be no cracks on the surface of the sample at temperature, °C, not higher		minus 20	minus 10	10	10	minus 10
Bitumen type		Modified bitumen		Oxidized bitumen		Modified bitumen
Tensile strength, N/50 mm, not less	Longitudinal direction	600	600	600	600	600
	Transversal direction	400	400	400	400	400
Basis		Fiberglass mat				
Top layer		Color stone granules				
Bottom layer		Self-adhesive modified bitumen				



NEOIZOL

ROLL WATERPROOFING BITUMEN-POLYMER SELF-ADHESIVE MATERIAL.

APPLICATION AREA:

It is meant for making waterproofing of building constructions, operated in all climatic regions according to Construction Norms and Regulations of the Russian Federation (SNiP)23-01, including roofs, foundations of buildings and constructions, as the lining layer by making pitched roofing with bitumen shingles.

NEOIZOL OS

It has a non-rotting basis, on each side of which there is bitumen-polymer bonder with polymer film or sand on the top side of the mat and anti-adhesive polymer film or paper on the bottom side of the mat.



NEOIZOL OS

Weight of 1 sq.m. of the material, kg, within the limits		1,0-5,0
Weight of the basis, g/sq.m., not lower		40
Resistance to tear of adhesive joint, kN/m(kgf/cm)		0,5 (0,5)
Brittle temperature of the bonder, K(°C), not higher		248 (minus 25)
Heat resistance during 2 hours, at the temperature, °C		+85
Water absorption during 24 hours, mass %, not higher		1
Flexibility	by testing on a beam with the radius, mm	25
	there should be no cracks on the surface of the sample at temperature, °C, not higher	-15
Adhesion strength MPa (kgf/cm), not lower	- with concrete	0,2 (2,0)
	- with steel	0,2 (2,0)
Tensile strength N (kgf), not less Polyester non-woven mat		343 (35)
Shear strength of the adhesive joint, kN/m (kgf/cm)		2 (2)



VALLEY MEMBRANE ROOFSHIELD

Technical Specifications 5774-010-00287912-2012

VALLEY MEMBRANE ROOFSHIELD – ROLL BITUMEN-POLYMER ROOFING AND WATERPROOFING MATERIAL.

It is used for making junctions and valley on pitched roofs. Valley mat can be with large-grain or scaly dressing compound on the top side and powder or small-grain dressing compound on the bottom side of the mat.



TECHNICAL CHARACTERISTICS

VALLEY MEMBRANE ROOFSHIELD PREMIUM

VALLEY MEMBRANE ROOFSHIELD

Weight of 1 sq.m. of the material, kg, within	4,0-6,0	4,0-6,0
Weight of the basis, g/sq.m., not lower	50	50
Heat resistance during 2 hours, at the temperature, °C	+100	+100
Water absorption during 24 hours, mass %, not higher	1	1
Tensile strength N (kgf), not less Polyester non-woven mat	333 (34)	333 (34)
Adhesion of granules, g/sample of loss, not more	0,5	0,5

MASTIC FIX

BITUMEN-POLYMER MASTIC OF THE ADVANCED RELIABILITY FIX

It is a many-component mixture, consisting of SBS-modified roofing oil asphalt and organic solvent. It is meant for making and repairing roll roofing, sticking of piece roofing and waterproofing materials (flexible tiling), sticking of roll roofing and waterproofing materials.

MASTIC FIX

The mastic is ready for application, it is in a liquid condition, before application the mastic should be carefully stirred, then apply onto a dry cleaned surface by any paint tools (brush, roller, pallet), pouring and then flattening it, dipping for getting the layer of the necessary thickness in a few passes with interlayer drying during 1-3 hours. It is applied in all climatic areas according to Construction Norms and Regulations of the Russian Federation (SNiP)23-01.



TECHNICAL CHARACTERISTICS

MASTIC FIX

Needle penetration depth at 25 °C, 0,1 mm not lower		50
Bonding strength with the basis, MPa, at 20°C	With concrete	0,5
	With steel	0,8
Resistance to tear of adhesive joint kN/m, not lower		2
Shear strength of the adhesive joint, kN/m, not lower		4
Brittle temperature, (°C), not higher		-30
Heat resistance during 5 hours, at the temperature, °C		+110
Water absorption during 24 hours, mass %, not higher		1
Mass concentration of nonvolatile substances,%, not lower		75
Time of one layer drying, hours		12-24
Bonding strength between the layers, MPa, not lower	Roll material - roll material	0,5
	Roll material - concrete	0,5



BITUMEN-POLYMER MASTIC MBP

Technical Specifications 5775-004-00287912-2007

**IT IS A MANY-COMPONENT MIXTURE, CONSISTING OF
SBS-MODIFIED ROOFING OIL ASPHALT
AND THE FILLER**

APPLICATION AREA:

- It is meant for making and repairing roll mastic roofs, armored with glass materials, as well as for waterproofing of underground constructions, construction and repair of road covering by the repair of cracks and patchwork, sealing of deformation joints of engineering constructions;
- It is applied by making water drain holes; for coating of steel and concrete blocks, columns, which are in contact with the ground;
- Also for insulation of steel constructions and pipelines. It is applied in a hot state.



TECHNICAL CHARACTERISTICS

		MBP-90	MBP-100
Softening temperature, °C, not lower		90	100
Needle penetration depth at 25 °C, 0,1 mm		25-50	25-50
Bonding strength with the basis, MPa, at 20 °C	With concrete	0,1	0,1
	With steel	0,15	0,15
Bonding strength between the layers, MPa, not lower	Roll material - roll material	0,15	0,15
	Roll material - concrete	0,1	0,1
Shear strength of the adhesive joint, N/m, not lower		1000	1000
Water absorption during 24 hours, mass %, not higher		1,5	1,5

APPLICATION METHOD:

- The mastic is heated to the temperature of 170-190 °C by constant stirring and applied in a liquid state onto surfaces, previously coated with the primer, with the help of a pallet, a brush or by pouring and flattening. After hardening you get a reliable elastic coating.
- It is forbidden to keep the mastic heated to the temperature above 90 °C for more than 24 hours.
- The mastic is packed into sacks of 36 kg with an anti-adhesive internal coating.

Guarantee storage period – layer
12 months from the production date.



BITUMEN-POLYMER MASTIC OF COLD APPLICATION

Technical Specifications 5775-005-00287912-2007

IT IS A MANY-COMPONENT MIXTURE OF SBS-MODIFIED ROOFING OIL ASPHALT AND AN ORGANIC SOLVENT

APPLICATION AREA:

It is meant for making and repairing roll mastic roofs, armored with glass materials, as well as for waterproofing of underground constructions.

APPLICATION METHOD:

- It is used in a cold state.
- The mastic should be stirred before application, if necessary, dilute it with a dissolvent (solvent, gasoline, toluene) in the demanded correlation to its weight.
- It is recommended to apply the mastic onto a dry cleaned surface with any painting tool (brush, roll, pallet), by means of pneumatic and airless spraying, or by pouring and flattening with special manifold blocks, getting the layer of the necessary thickness in a few layers with interlayer drying during 1-3 hours.
- Consumption of the mastic by making waterproofing - from 2 up to 3 kg for 1m².



Diversified Industrial Company «KRZ»

TECHNICAL CHARACTERISTICS

		MBP-H 90	MBP-H 100
Softening temperature, °C, not lower		90	100
Needle penetration depth at t=25 °C, 0,1 mm		25-50	25-50
Bonding strength with the basis, MPa, at 20°C	With concrete	0,1	0,1
	With steel	0,15	0,15
Bonding strength between the layers, MPa, not lower	Roll material - roll material	0,15	0,15
	Roll material - concrete	0,1	0,1
Shear strength of the adhesive joint, N/m, not lower		1000	1000
Water absorption during 24 hours, mass %, not higher		1,5	1,5
Mass concentration of nonvolatile substances, %, not lower		50	50
Time of one layer drying, hours		12-24	12-24



BITUMEN-RUBBER INSILATING MASTIC MBR

Russian State Standard (GOST) 15836-79

IT IS A MANY-COMPONENT MIXTURE, CONSISTING OF OIL ASPHALT, FILLER AND A PLASTICIZER

APPLICATION AREA:

- It is meant for making roll roofs with armoring, coating cars' bottoms for anti-corrosion and noise-protection.
- It exceeds the bitumen-roofing hot mastic in quality and it can be applied not only for ruberoid sticking and mastic roofing making, but also for waterproofing of foundations, cellars and other ferroconcrete constructions.



TECHNICAL CHARACTERISTICS

	MARK 85	MARK 75	MARK 90	MARK 100
Softening temperature by RAB, °C, not lower	65	75	90	100
Needle penetration depth at t=25 °C, 0,1 mm, not lower	40	30	20	15
Extensibility at 25 °C, cm, not lower	4	4	3	2
Water saturation during 24 hours, %, not higher	0,2	0,2	0,2	0,2

The mastic is applied in a hot and cold state.

HOT APPLICATION METHOD

The mastic heated up to the fluid state (approximate temperature 150 °C) is applied with an entire even layer with the help of special machines types CO-195, CO-202, ПКУ-35М etc. or manually to the surface to insulate or the prepared basis (by roof making). Long heating (longer than 10 hours) of the mastic at the temperature higher than 180 °C is not admitted.

COLD APPLICATION METHOD

The mastic in small pieces at the temperature 20±5 °C is mixed with a dissolvent (gasoline, solvent) in the proportion 1:2 or 1:1 and stirred up to getting a homogeneous fluid mixture, which is applied to the surface to insulate with a brush or any other paint tools, the dissolution of the mastic and its application can be made by heating, but not higher than 80 °C. Consumption of the mastic by the layer thickness 1 mm — 0,8-1,0 kg/m².

The mastic is packed into paper sacks with an anti-adhesive coating. Flash temperature of the mastic is 240-300 °C. The mastic should be stored under the conditions, which eliminate the possibility of its heating and moistening.



BITUMEN-RUBBER INSULATING COLD MASTIC MBR-H

Technical Specifications 5775-001-00287912-2005

IT IS A MANY-COMPONENT MIXTURE, CONSISTING OF OIL ASPHALT, FILLER PLASTICIZING AGENT AND SOLVENT

APPLICATION AREA:

- It is meant for making roll roofing, waterproofing of underground steel and concrete constructions with the aim of protecting them from underground corrosion and atmospheric moisture.
- It can also be applied for coating bottoms of cars as anti-corrosion and noise-protecting means. It can substitute roofing hot mastic with a big resource in quality and can be used not only for ruberoid adhesion but also for waterproofing of foundations, cellars and other ferroconcrete constructions.



Diversified Industrial Company «KRZ»

TECHNICAL CHARACTERISTICS

NORM

Appearance	Homogeneous mass without alien inclusions, which have no particles of the filler not covered with bitumen
Mass fraction of non-volatile substances by customer's order, %, not lower	50; 60
Consistency at (18±2)°C	Movable (fluid)
Drying time, hours, at t=(20±2)°C not higher	24
Drying time, hours, at t=(75±2)°C not higher	5

Depending on the softening temperature the mastic are divided into the following marks: MBR-H-65; MBR-H-75; MBR-H-90; MBR-H-100. The mastic is packed into metal or plastic hermetic containers (closed barrels, flasks). The volume of filling containers shouldn't exceed 90%.

APPLICATION METHOD:

- Before application the mastic should be carefully stirred, if necessary, you can add dissolvent (gasoline, solvent, toluene) in the necessary correlation by weight and stir the mastic. It is recommended to apply the mastic onto a dry cleaned surface with any paint tool (brush, roll, pallet), getting the layer of the demanded thickness in a few stages with interlayer drying during 1-3 hours.

STORAGE OF THE MASTIC:

- Store in closed rooms, provided with supply-and-exhaust ventilation.
- The mastic should be protected from moisture and direct sunbeams.

**Guarantee storage period –
12 months from production date.**



BITUMEN-ROOFING HOT MASTIC MBK-G

Russian State Standard (GOST) 2889-80

IT IS A HOMOGENEOUS MASS, CONSISTING OF BITUMEN BONDER AND THE FILLER

It is meant for making roll and mastic roofing, armored with glass materials. It is applied in a hot state. The mastic is packed into paper sacks with the anti-adhesive layer. It is to be stored under such conditions, which exclude the possibility of heating.

TECHNICAL CHARACTERISTICS

	MARK 55	MARK 65	MARK 75	MARK 85	MARK 100
Heat resistance during 5 hours, °C, not lower	55	65	75	85	100
Softening temperature by RAB, °C	55–60	68–72	78–82	88–92	105–110
Flexibility. At the temperature of 18 ± 2 °C there should be no cracks on a beam with the diameter, mm	10	15	20	30	40
Content of powder filler, mass %	25–30	25–30	25–30	25–30	25–30
Content of water	traces	traces	traces	traces	traces

WATERPROOFING COLD ROOFING MASTIC «SMUGLYANKA»

Technical Specifications 5775-002-00287912-2008

IT IS A HOMOGENEOUS MASS OF THE BLACK COLOR, CONSISTING OF THE BITUMEN BONDER, FINE-DISPERSED RUBBER CRUMBS, PURPOSE ADDITIVES AND ORGANIC SOLVENT.

APPLICATION AREA:

It is meant for making and repairing roll mastic roofs, armored with glass materials, as well as for waterproofing of building constructions, anti-corrosion protection of metal and concrete surfaces, making sound-absorbing and vibration-protective coating of thin-walled construction surfaces, car bodies, filling junctions and cracks of monolith and assembled covering, vent shafts, air conduits, deformation junctions etc. It is applied in a cold state.



Softening temperature, °C, not lower	80
Needle penetration depth at 25 °C, 0,1 mm	15-20
Bonding strength with the basis, MPa, at 20 °C, with concrete/with steel	0,1/0,15
Bonding strength between the layers, roll material - roll material / roll material - concrete, MPa, not lower	0,15/0,1
Extensibility at 25 °C, cm, not lower	3
Water saturation during 24 hours, %, not higher	0,2
Mass fraction of non-volatile substances, %, not lower	70-80
Time of one layer drying, hours	12-24

APPLICATION METHOD:

Before application the mastic should be carefully stirred. It is recommended to apply the mastic onto a dry cleaned surface with any paint tool (brush, roll, pallet), by pneumatic and airless spraying, getting the layer of the demanded thickness in a few stages with interlayer drying during 1-3 hours.

If necessary, the mastic can be diluted with solvent, toluene, white-spirit, gasoline. The average consumption of the mastic by the layer thickness of 2 mm makes 2-3 kg/sq.m.

Guarantee storage period — 12 months from the production date.



CONSTRUCTION OIL ASPHALT

Russian State Standard (GOST) 6617-76

CONSTRUCTION OIL ASPHALT IS APPLIED FOR WORKS IN DIFFERENT SPHERES OF NATIONAL ECONOMY

The bitumen is packed into paper sacks with the anti-adhesive layer. Guarantee storage period of the bitumen is 1 year from the production date.

Construction oil asphalt is a combustion agent. Minimum ignition temperature is + 368 °C.

TECHNICAL CHARACTERISTICS

	BN 50/50	BN 70/30	BN 90/10
Needle penetration depth at 25 °C, 0,1 mm	41–60	21–40	5–20
Softening temperature by RAB, °C	50–60	70–80	90–105
Extensibility at 25 °C, cm, not lower	4,0	3,0	1,0
Solubility, %, not lower	99,5	99,5	99,5
Weight change after heating, %, not lower	0,50	0,50	0,50
Flash temperature, °C, not lower	230	240	240
Mass concentration of water, %	traces	traces	traces

BITUMEN PRIMER

Technical Specifications 5775-003-00287912-2005

SOLUTION OF OIL ASPHALT WITH THE SOFTENING TEMPERATURE NOT LOWER THAN 80°C IN SPECIALLY SELECTED ORGANIC SOLVENTS

It is meant for preparation of insulated surfaces (concrete slab, cement-sand strainer, etc.) before applying torch-applied and self-adhesive roofing and water proofing materials.

APPLICATION METHOD:

- The ready primer should be carefully stirred.
- It is recommended to apply the primer onto the processed surface with capron brooms or brushes. By this application the primer is soaked by the surface, saturates and bonds it, providing reliable cohesion of the basis with the waterproofing coating.



TECHNICAL CHARACTERISTICS

Appearance	Homogeneous mass of the black color without alien inclusions
Mass fraction of non-volatile substances, %	30–35
Drying time, hour, at t=(20±2) °C, not higher	12

The primer is packed into metal or plastic hermetic containers (closed barrels, flasks, metal cans). The volume of containers filling is not more than 90%. Store in closed rooms, provided with supply-and-exhaust ventilation. The primer should be protected from moisture and direct sunbeams. By storage the layering of the primer is admitted.

Guarantee storage period – 12 months from the production date.



BITUMEN PRIMER (CONCENTRATED)

Technical Specifications 5775-002-00287912-2005

BITUMEN PRIMER (CONCENTRATE) – IS THE SOLUTION OF OIL ASPHALT WITH THE SOFTENING TEMPERATURE NOT LOWER THAN 80 °C IN SPECIALLY SELECTED ORGANIC SOLVENTS.

It is meant for preparation of insulated surfaces (concrete slab, cement-sand strainer, etc.) before applying torch-applied and self-adhesive roofing and waterproofing materials.

APPLICATION METHOD:

- The primer is produced as the concentrate, which should be diluted by the solvent before application (gasoline, white spirit) in the correlation 1:1 (1:1,5) by weight and stir carefully.
- It is recommended to apply the primer onto the processed surface with capron brooms or brushes. By this application the primer is soaked by the surface, saturates and bonds it, providing reliable cohesion of the basis with the waterproofing coating.

The primer is packed into metal or plastic hermetic containers (closed barrels, flasks, metal cans). The volume of containers filling is not more than 90%. Store in closed rooms, provided with supply-and-exhaust ventilation. The primer should be protected from moisture and direct sunbeams. By storage the layering of the primer is admitted.



Appearance	Homogeneous mass of the black color without alien inclusions
Mass fraction of non-volatile substances, %	60–65
Drying time, hour, at $t=(20\pm 2)$ °C, not higher	12

ROAD VISCOUS OIL ASPHALT

Russian State Standard (GOST) 22245-90

ROAD OIL ASPHALT IS PRODUCED BY OXIDIZING STRAIGHT-RUN OIL DISTILLATION PRODUCTS AND SELECTIVE DIVISION OF OIL PRODUCTS (DEASPHALTING ASPHALTS, SELECTIVE CLEANING EXTRACTS) AS WELL AS BY COMPOUNDING OXIDIZED AND NON-OXIDIZED PRODUCTS OR AS STRAIGHT-RUN OIL DISTILLATION

It is applied as the bonding material in production of asphalt-concrete mixtures, used in construction and repair of road and airfield coverings.



TECHNICAL CHARACTERISTICS

		BND 60/90	BND 90/130
Needle penetration depth 0.1 mm, not lower	at 25°C	61–90	91–130
	at 0°C	20	28
Softening temperature on ring and ball, °C, not lower		47	43
Extensibility, cm, not lower	at 25°C	55	65
	at 0°C	3,5	4,0
Brittle temperature, °C not higher		-15	-17
Flash temperature °C, not lower		230	230
Change of softening temperature after heating, °C, not higher		5	5
Penetration Index		from -1,0 up to +1,0	from -1,0 up to +1,0

POLYMER-BITUMEN BONDER PBV

Russian State Standard (GOST) 52056-2003

POLYMER-BITUMEN BONDER (PBV) - IS A COMPOSITION MATERIAL, PRODUCED BY MIXING AND HOMOGENIZATION OF VISCOUS ROAD OIL ASPHALT WITH BLOCKCOPOLYMERS OF SBS TYPE; PLASTICIZERS AND SURFACE-ACTIVE-SUBSTANCES.

PBV – is a new material, exceeding road oil asphalts (BND) in characteristics, it performs the function of the bonder (substituting BND) by making asphalt-concrete mixtures applied in construction, reconstruction, road repair, repair of bridges and airfields.



TECHNICAL CHARACTERISTICS

		PBV 130	PBV 90	PBV 60	PBV 40	Testing methods
Needle penetration depth 0.1 mm, not lower	at 25°C	130	90	60	40	Acc. to GOST 11501-78
	at 0°C	50	40	32	25	
Softening temperature on ring and ball, °C, not lower		49	51	54	56	Acc. to GOST 11506-73
Extensibility, cm, not lower	at 25°C	30	30	25	15	Acc. to GOST 11505-75
	at 0°C	20	15	11	8	
Brittle temperature, °C, not higher		-30	-25	-20	-15	Acc. to GOST 11507-78
Elasticity, %, not lower	at 25°C	85	85	80	80	p.6.2 GOST 52056-2003
	at 0°C	75	75	70	70	
Change of softening temperature after heating, °C, not higher		6	6	5	5	Acc. to GOST 18180-72 to GOST 11506-73 with add. p.3.3
Flash temperature, °C, not lower		220	220	230	230	
Cohesion with marble or sand		Sustains by control sample No. 2				Acc. to GOST 11508-74 (method A)
Uniformly		Uniformly				p.6.1 GOST 52056-2003

ADVANTAGES:

PBV as related to BND

- 1. Lifetime of road coverings increases in 2-3 times, from 6 years by applying BND up to 12-18 years by applying PBV;
- 1.1. Advanced deformation resistance. PBV belongs to the class of elastomers and it differs from BND: it has a high elasticity (over 70%), wide plasticity interval, advanced tensile strength, stronger adhesion with the components of asphalt-concrete mixture. These properties are preserved at low temperatures. As a result, the road covering made with application of PBV sustains increased load on it and possesses high crack-resistance at temperatures below zero and high cycling of freezing-unfreezing;
- 1.2. Advanced corrosion-resistance of road coverings;
- 1.3. Decreases the probability of ruts on the roads in summer due to a higher softening temperature.
- 2. Significant decrease of expenditures for operation and current repair of road covering due to the extended service life.
- 3. It gives an opportunity to prolong the construction season by 20-30%. The application of diluted PBV allows conducting construction works at air temperatures up -10° C.

APPLICATION EXPERIENCE OF PBV IN RUSSIA:

In 1995 the reconstruction of the Moscow Encircling Highway (MEH) started. According to observations made at separate parts of the road and the results got, the increase in lifetime of road covering made 2-3 times (Gohman, Complex organic bonding materials on the basis of biopolymers of SBS-type, page 231).

Consumption of PBV by the construction of 1 km of the top layer of road covering makes approximately 42 t, by making surface finishing - 7 t. (by the agreed road width of 7 m). For the period from 1995 to 2000 by the construction of road coverings and making surface finishing they used 80 thousand t. of PBV and made 3000 km of roads. Each Ruble of additional expenditures saves after all at least 5,12 Rubles, and the rise in price of all road covering for 1 km makes only 0,11%.

Guarantee storage period — 12 months from the production date.



BITUMEN-RUBBER POLYMER MASTIC MBRP

Technical Specifications 5775-003-00287912-2008

BITUMEN-RUBBER POLYMER MASTIC (MBRP) OF HOT APPLICATION IS THE BLACK COLOR MIXTURE OF SBS-MODIFIED ROOFING OIL ASPHALT AND RUBBER CRUMBS, USED IN A HOT STATE.

APPLICATION AREA:

- Filling-in junctions and cracks in cement and asphalt-concrete coatings of motor roads.
- Protection of metal constructions from corrosion destruction by atmospheric influence and the influence of different aggressive media (salt, weak-acid and weak-alkali solutions).
- Waterproofing of inner and outer surfaces of over-ground and underground constructions from metal, concrete, ferroconcrete and other materials of any form and dimensions, including foundations, cellars, lavatories, trays, bridges and other objects.

Fire performance classes:

External fire performance: BROOF

Reaction to fire - F



TECHNICAL CHARACTERISTICS

	MBRP-80	MBRP-85
Softening temperature, °C, not lower	80	85
Needle penetration depth at 25°C, 0,1 mm	27	24
Extensibility at 25°C, cm, not lower	4,0	3,0
Water saturation during 24 hours, %, not higher	0,2	0,2

BASIS PREPARATION:

Clean the surface, on which you will apply the material, from contaminations (dust, oil products, oils, fats, etc.). Metal surfaces should be cleaned from corrosion. Weakened parts of concrete surfaces should be removed to the non-spoiled concrete. Remove all kinds of water from the surface (ice, rime, water). Cover the surface with bottoming or primer.

HEATING:

- Clean mastic from the package. Divide the cleaned mastic into several parts and place into the kettle.
- Heat the mastic up to the working temperature of 160-180 °C.
- The time from reaching the working temperature of the mastic to its application should not exceed 5 hours.
- It is categorically forbidden to heat the mastic up to boiling.

MASTIC WORKS:

The mastic heated to the working temperature should be carefully stirred before application. After the bottoming layer is dried, it is recommended to apply the material onto a dry cleaned surface with any paint tools (brush, pallet) or by pouring from buckets or other containers with the following flattening, if necessary, with the help of a plate fastened on a wooden handle.

CONSUMPTION:

- The average consumption of the mastic by the thickness of the layer of 2 mm makes 2,2 kg/m²;
- By insulation of vertical concrete and brick surfaces — 2,4 kg/m².



BITUMEN MODIFIED WITH RUBBER CRUMBS BMRK

BITUMEN MODIFIED WITH RUBBER CRUMBS (BMRK) – IS A HOMOGENEOUS MIXTURE OF THE OXIDIZED ROAD ASPHALT WITH FINE-DISPERSED CRUMBS OF RUBBER OF GENERAL PURPOSE, SUBJECTED TO SPECIAL CHEMICAL PROCESSING.

By that the particles of rubber don't resolve or dissolve completely, but they are bonded with bitumen components by strong chemical connections and reveal their properties within the composition of the new material.

Due to its composition and structure the bonder is resistant to the influence of high technological temperatures; it also possesses sufficient deformability at low temperature. It is defined, that asphalt-concretes on the bonder BMRK have high resistance to cycling loads, appearing by the traffic of road transport.

ADVANTAGES BEFORE TRADITIONAL BITUMEN:

- There appears the rise of the softening temperature of the bitumen bonder and some fall of the brittle temperature (the extension of temperature plasticity interval).
- Improvement of physical-and-mechanical fatigue properties of the bitumen bonder.
- Sufficient improvement of adhesion of the bitumen bonder with the surface of the mineral material.
- Rise of resistance to deterioration.
- Rise of resistance to changes of the environment temperature.

TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS		MARK 90/130	MARK 60/90	MARK 40/60	Testing methods
Needle penetration depth, mm, not lower*	at 25°C	91–130	61–90	40–60	GOST 11501-78
	at 0°C	25	20	15	
Softening temperature, °C, not lower		50	52	56	GOST 11506-73
Brittle temperature, °C, not higher		-25	-20	-15	GOST 11507-78
Extensibility, cm, not lower	at 25°C**	14	12	10	GOST 11505-75
	at 0°C	7	5	3	
Change of softening temperature after heating, °C, not higher		5			GOST 18180-72 GOST 11506-73 with addition according p. 3.3
Flash temperature, °C, not lower		250			GOST 4333-87
Elasticity at 0°C, %, not lower		30			GOST P 52056-2003
Adhesion of the bonder with the surface of crushed stone (adhesion). Not lower		Good (75%)			GOST 12801-98
Size of granularities, mm, not higher		3			GOST P 52056-2003
Note: * The indexes of needle penetration depth at 25 and 0°C are taken as the basis for express-definition of the average rheological characteristics of the bonders and their classification, although for non-homogeneous composite bonders they are not completely adequate, especially at low temperatures ** The index of extensibility at 25°C for non-homogeneous composite bonding materials is not obligatory, because it doesn't correspond to the actual behavior of the bonder in the structure of asphalt-concrete. This index can in the indirect way characterize the absorption degree of bitumen liquid fraction of the rubber crumbs and the content of high-molecular condensed connections in the remaining dispersion medium.					

• Transportation and storage of the bitumen modified with rubber crumbs is made in the same way as transportation and storage of viscous road oil asphalts according to Russian State Standard (GOST) 1510-84. Bitumen-rubber composition bonder is transported to the place of its application in special trucks for bitumen, binder distributors or heated tanks.

*Guarantee storage period –
One year from the production date.*



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Certifikační orgán, Notifikovaná osoba, Inspekční orgán
Accredited Testing Laboratory, Authorized Body, Certification Body, Notified Body, Inspection Body
Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

**EC CERTIFICATE
OF FACTORY PRODUCTION CONTROL**

č. 1020 – CPD – 050019373

In compliance with Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (the Construction Products Directive or CPD), as later amended, it has been stated that the construction product:

Bitumen sheets

(list of products enclosed in the certificate –1 page)

placed on the market by

ZAO «MPK» «KRZ»

INo: 1026201099704
address: Družnaja 18, 390017 Rjazaň, Russian Federation
order: Z050120027

and produced in the factory

ZAO «MPK» «KRZ», Družnaja 18, 390017 Rjazaň, Russian Federation

is submitted by the manufacturer to the initial type-testing of the product and to a factory production control and that the notified body No.

1020 - Technical and Test Institute for Construction Prague

has performed the initial inspection of the factory and of the factory production control and performs the continuous surveillance, assessment and approval of the factory production control.

This certificate attests that all provisions concerning the attestation of factory production control described in Annex ZA of the standards

EN 13707:2004 + A2:2009

EN 13969:2004 / A1:2006


were applied.

This certificate was first issued on 28. June 2012 and remains valid as long as the conditions laid down in the harmonised technical specification in reference or the manufacturing conditions in the factory or the FPC itself are not modified significantly.

The stamp of the Notified Body 1020

Předměřice nad Labem, 28. June 2012




Ing. Vladislav Kadleček, CSc.
Deputy manager of the Notified Body



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
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Accredited Testing Laboratory, Authorized Body, Certification Body, Notified Body, Inspection Body
Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Annex of EC CERTIFICATE OF FACTORY PRODUCTION CONTROL
No. 1020 – CPD – 050019373

Certificate is for the following products from the plant **ZAO «MPK» «KRZ», Družnaja 18, 390017 Rjazaň, Russian Federation**

Specification of the product:

Bitumen sheets modified SBS

Elastoizol Optim HPP 3,0; Elastoizol Optim HKP 4,0; Elastoizol Optim TPP 3,0 3,5; Elastoizol Optim TKP 4,0 4,5;

- Elastoizol Standard HPP 3,0; Elastoizol Standard HKP 4,0; Elastoizol Standard TPP 3,0 3,5; Elastoizol Standard TKP 4,0 4,5;

- Elastoizol Prof HPP 3,0; Elastoizol Prof HKP 4,0; Elastoizol Prof TPP 3,0 3,5; Elastoizol Prof TKP 4,0 4,5;

- Elastoizol Business TPP 3,0 3,5 4,0; Elastoizol Business TKP 4,0 4,5 5,0; Elastoizol Business EPP 3,5 4,0; Elastoizol Business EKP 4,5 5,0; Elastoizol Business HPP 3,5; Elastoizol Business HKP 4,5;

- Elastoizol Premium TPP 4,0 4,6; Elastoizol Premium TKP 5,0; Elastoizol Premium EPP 4,6; Elastoizol Premium EKP 5,0; Elastoizol Premium HPP 4,0 4,6;

- Elastoizol Elit TPP 4,6; Elastoizol Elit TKP 5,0; Elastoizol Elit EPP 4,6; Elastoizol Elit EKP 5,0; Elastoizol Elit HPP 4,0

- Elastoizol Tropik HPP 2,7 3,0; Elastoizol Tropik EPP 3,0 3,5 4,0; Elastoizol Tropik EKP 4,0 4,5 5,2;

- Elastoizol EKO HPP 2,7 3,0; Elastoizol EKO EPP 3,0 3,5 4,0; Elastoizol EKO EKP 4,0 4,5 5,2;


- Elabit -15 HPP 3,0 3,5; Elabit -15 HKP 4,0; Elabit -15 TPP 3,0; Elabit TPP 3,5; Elabit -15 TKP 4,0 4,5; Elabit TKP 4,5; Elabit EPP 3,5; Elabit EKP 4,5; Elabit -15 TPP 3,5;

This annex contains 1 page and is indivisibility part of certificate No. 1020 – CPD – 050019373.

The stamp of the Notified Body 1020

Předměřice nad Labem, 28. June 2012




Ing. Vladislav Kadleček, CSc.
Deputy manager of the Notified Body

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Notes

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