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COMPANY'S 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 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 correlation of price and quality and we are centered on satisfaction of our partners' demands.

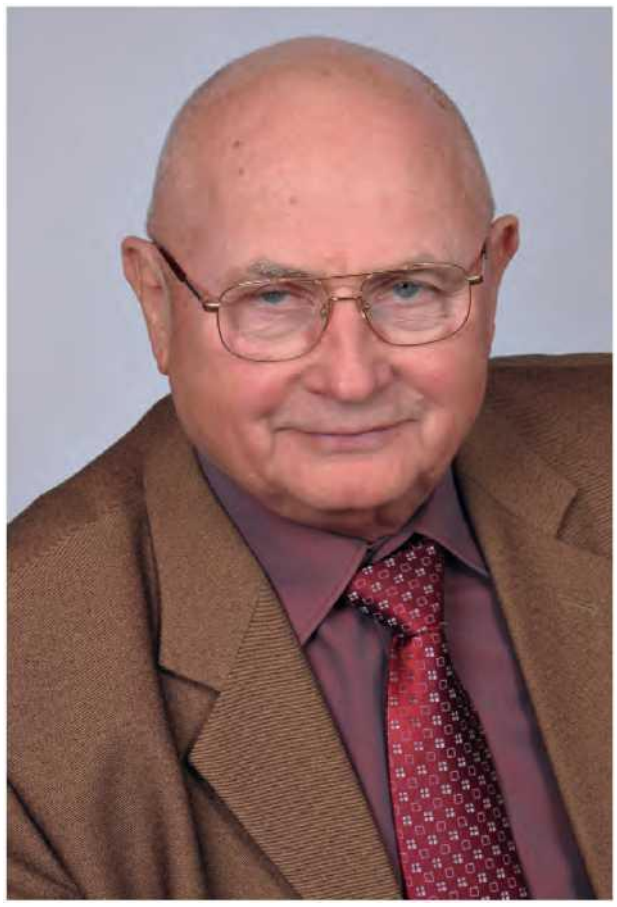
Competence

We are in contact with Russian and foreign companies manufacturing analogous 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 of quality!

Meerevich Konstantin Nikolaevich
General Director
Honored builder of RF



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

ROLL ROOFING AND WATERPROOFING MATERIALS

-60°C	**+130°C**	**25-50** Years	**V** GENERATION	ELON SUPER N	Overlaid hybrid polymer EPDM membrane. There are no analogues in Russia.
-30°C **-25°C** **-20°C** **-15°C** **-10°C** **-5°C**	**+110°C** **+100°C** **+95°C** **+85°C** **+85°C** **+85°C**	**15-25** Years	**IV** GENERATION	ELASTOIZOL ELABIT ROOFSHIELD VALLEY 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 STEKLOBIT. STEKLOMAST RUBEMAST, HYDROIZOL	Overlaid membranes of oxidized bitumen on a rot-proof fiberglass and polyester basement
+5°C	**+70°C**	**7** Years	**II** GENERATION	RUBEMAST	Overlaid membranes of oxidized bitumen on a cardboard basement
+5°C	**+80°C**	**7** years	**I** GENERATION	RUBEROID ASPHALT PAPER	Traditional membranes of oxidized bitumen on a cardboard basement

FOLGOIZOL	It is meant for making the top layer of the roofing mat 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 membraine. 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

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 PRIMER AND BITUMEN PRIMER CONCENTRATE

ROAD BITUMEN EMULSION EBA-3

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 GOST WITH BROWN AND WHITE TOP LAYER

CORRUGATED CARDBOARD BOXES WITH 4 FLAPS ACCORDING TO GOST AND OF NON-STANDARD SIZES, AND OF COMPLICATED CARVING OF DIFFERENT SHAPE WITH THE OPPORTUNITY TO APPLY TWO-COLOR FLEXOPRINT

CONSUMER GOODS

BASIS FOR SANITARY-HYGIENIC PAPER AND CUSTOMER ROLLS. TOWELS

ELON-SUPER N®

NPO “HYDROL-ROOFING” TOGETHER WITH THE MULTY-ACTIVITY MANUFACTURING COMPANY KRZ HAS MASTERED THE PRODUCTION OF THE NEW POLYMER MEMBRAINE WITH THE ADVANCED PROPERTIES OF THE OVERLAID LAYER

Elon-Super N® - is the three-layer roofing and water-proofing membrainel of the new generation. It consists of the top polymer layer – polymer membrane 1,2-1,5 mm wide on the basis of ethylene-propylene-diene rubber -SKEPT (EPDM –foreign abbreviation) duplicated with the flame-proof unshrinkable basis and the bitumen=polymer layer of the highest quality. The total width of the material is 4-4,5 mm.

ADVANTAGES:

- The basic operational advantages of Elon-Super N® are the following:
- High atmosphere-, bio- and chemical resistance.
- Long lifetime by application in external water-proofing and roofing - over 25 years.
- Long lifetime in underground and internal water-proofing - over 50 years.

AS COMPARED TO RUSSIAN AND FOREIGN POLYMER AND POLYMER-BITUMEN MEMBRAINE ELON-SUPER N® POSSESSES THE FOLLOWING TECHNOLOGICAL ADVANTEGS:

- It substitutes two- and multi-layer coatings for one-layer ones.
- It allows making junction and linking places more effectively and within less working hours.
- It allows conducting works in all seasons.
- It decreases total working hours by making roofing in 1,5-2 times for the sake of the original and specific properties of the material.
- It demands no additional expenditures for completeness (glue, sealant, mechanic fastening).

By its economic parameters Elon-Super N® is 3 times cheaper than the only foreign analogue in the market – Resitrix.

NPO “Hydrol-Roofing” invites designers, builders and customers to cooperation in the sphere of Elon-Super N® application and offers engineering services for free.

ELON-SUPER N®

ТУ 5774-002-52404089-2004

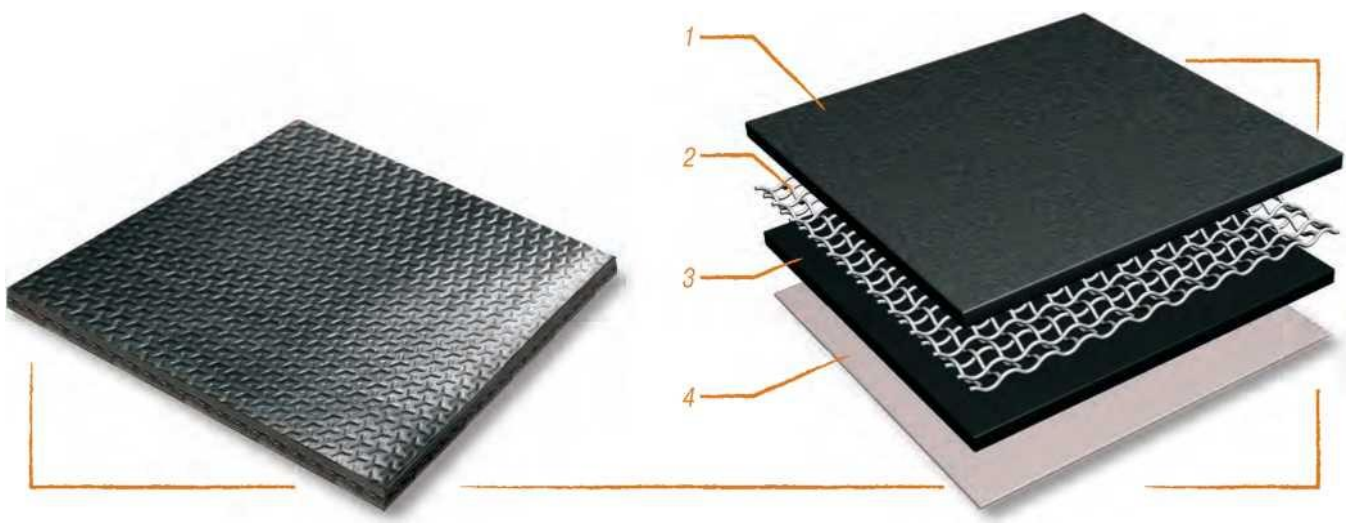
JUST THE BEST

NPO “Hydrol-Roofing” together with MPK KRZ represent in their range the one-layer polymer according to the highest quality standards of ISO 9001.

Besides, NPO “Hydrol-Roofing” offers mounting and complete technical support, training and certification of mounters ,chief-mounting, as well as many-years guarantees for all the executed works.

COMPOSITION OF “ELON-SUPER N®» coating with the overlaid layer, produced

1 —Polymer membrane
2 — Flame-proof unshrinkable basis
3 —Polymer-bitumen bonder
4 — Protective film



BASIC INDEXES AND RESULTS OF CERTIFICATION TESTS OF THE ROLL POLYMER ROOFING AND WATER-PROOFING MEMBRAINE WITH THE OVER-LAID LAYER “ELON-SUPER” N®

Description of basic indexes, measuring units	Normative value according to: GOST 30547-97 meas.No. 1 TU (Elon-Super N)		Actual value (by certification)
Conventional fastness of the elastomer layer by tension, MPa, not lower	≥4,0	≥8,0	9,9
Relative extension of the elastomer layer by rupture, %, not lower	≥ 250	≥330	452
Flexibility of the top (elastomer) surface on beams to the curves of (5±0,2) mm radius under temperature, °C, not higher	There should be no cracks - 40	corresponds - 60	minus 60
Flexibility of the bottom (overlaid) surface on beams to the curves of (25±0,2) mm radius under temperature, °C, not higher	There should be no cracks	corresponds minus 15±1	minus 25
Changes of linear dimensions under temperature (70±2,0) °C during 6 hours, %	± 2,0		- 0,1
Water absorption during 24 hours, % by weight	≥ 2,0	≤ 1,0	0,8
during 72 hours by pressure of 0,001 MPa	There should be no indications of water penetration		corresponds
Waterproofness: during 2 hours by pressure 0,2 MPa			corresponds
Shore hardness A, conventional units	—	≥60	60

APPLICATION AREA:

- For making one-layer roofing.
- For repairing bitumen and bitumen-polymer roofing.
- For underground and surface waterproofness of buildings and constructions.

BRIEF APPLICATION INSTRUCTION:

- Overlaid with traditional method on the prepared basis.

ELASTOIZOL 774-012-00287912-2007

MODERN BITUMEN-POLYMER SBS-MODIFIED OVERLAID ROOFING AND WATERPROOFING MEMBRAINE

APPLICATION AREA:

• Making roofing mat of buildings and constructions of all types.
• Waterproofness of engineering constructions: foundations, tunnels etc.

COATING TYPE:

K – large-grain mineral granules.
P - film.

FIRE SECURITY INDEXES:

• Combustibility grade Г4 according to GOST 30244.
• Inflammability grade В3 according to GOST 30402.
• Flame-spreading group РП4 according to GOST P 51032.

APPLICATION METHOD:

• Elasoizol is adhered to the prepared basis by means of melting the coating layer at the bottom side through welding with an overlap of the free lying material.
Melting is made with gas and other burners.
• Roofing can be made in all seasons,
excluding rainy and snowy weather.

TECHNICAL CHARACTERISTICS	Elastoizol ELIT	Elastoizol PREMIUM		Elastoizol BUSINESS		Elastoizol PROF		Elastoizol STANDARD		Elastoizol OPTIM	
Glass-fiber mat (H)	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	
Polyester non-woven cloth (E)	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	
Weight of 1 m2 of the material, kg (multiply ,5 kg)						3,0-7,0					
Weight of the cement at the overlaid side, kg/m2, not lower	2,0	2,0		2,0		2,0		1,5		1,5	
Glass-Fiber mat	294(30)	294(30)		294(30)		294(30)		294(30)		294(30)	
Breaking force by stretching in longitudinal/transversal direction H (kgf), not lower Fiberglass Polyester non-woven cloth	800(82)/ 900(92) 600(61)/ 400(41)	800(82)/ 900(92) 600(61)/ 400(41)		800(82) 900(920 500(51) 350(36)		600(61) 343(35)		600(61) 343(35)		600(61) 343(35)	
Brittle temperature of the cement, °C, not higher	-40	-35		-30		-25		-20		-15	
Flexibility. By testing on beams to the curved radius, R, mm	10	10		25		25		25		25	
Under temperature not exceeding t on the top surface of the sample there should be no cracks, °C	-30	-25		-20		-15		-10		-5	
Loss of granules, g/sample, not exceeding						1,0					
Heat resistance during at least 2 hours under temperature t, there should be no granules slide, swelling and other defects of the cement,°C	+110	+100		+95		+85		+85		+85	
Water absorption during 24 hours,% by weight, not exceeding						1,0					

THE HIGHEST QUALITY LEVEL OF ELASTOIZOL IS CONFIRMED BY CEP VOK WITHIN THE PROGRAM “RUSSIAN QUALITY”.

It is approved by the Capital Repairs Department of the housing stock of Moscow and by the Department of Housing and Communal Services of Moscow.

ELABIT

ТУ 5770-528-00284718-94

BITUMEN-POLYMER SBS-MODIFIED OVERLAID ROOFING AND WATERPROOFING MEMBRAINE

APPLICATION AREA:

• Making roofing mat of buildings and constructions of all types.

COATING TYPE:

K – large-grain mineral granules.

P - film.

FIRE SECURITY INDEXES:

• Combustibility grade Г4 according to GOST 30244

• Inflammability grade В3 according to GOST 30402

• Flame-spreading group РП4 according to GOST P 51032

APPLICATION METHOD:

• Elabit is adhered to the prepared basement by means of melting the coating layer at the bottom side through welding with an overlap of the free lying material. Melting is made with gas and other burners.

• Roofing can be made in all seasons, excluding rainy and snowy weather.

Weight of 1 m2 of the material	elabit -25	4,5-5,0	3,0-4,0	4,5-5,0	3,0-4,0	4,5-5,0	3,0-4,0
	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
Basement type		Fiberglass		Glass-fiber mat		Polyester	
Roofing mat layer		Top	bottom	top bottom		Top	bottom
Coating type top/bottom		K/P	P/P	K/P P/P		K/P	P/P
Weight of the cement at the overlaid side, kg/m, not lower				2,0			
Breaking force by stretching, H(kgf),not lower		784 (80)	784 (80)	294 (30) 294 (30)		343 (35)	343 (35)
Flexibility. By testing on a bar with the radius, there should be no cracks on the surface of the sample t, °C	R=10 mm Elabit -25			-25			
	R=25 mm Elabit -15			-15			
Waterproofness, under pressure of 0,01 kgf/cm2 during 72 hours				Absolute			
Heat resistance during 2 hours by the temperature, °C elabit -25 / elabit-15				+100 / +85			
Water absorption during 24 hours,% by weight, not higher				1,5			

Guarantee storage time:
12 months from production date.

THE HIGHEST QUALITY LEVEL OF ELASTOIZOL IS CONFIRMED BY CEP VOK WITHIN THE PROGRAM “RUSSIAN QUALITY”.

ADVANTAGES:

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

HYDROSTEKLOIZOL 4-011-00287912-2008

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

It is meant for making roofing mat of buildings and constructions and waterproofness of engineering 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 roofing mat.

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 the roofing mat with the protective layer and the bottom layers of the roofing mat; for waterproofness of engineering constructions.

FIRE SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST 30444.

TECHNICAL CHARACTERISTICS

Weight of 1 m2 of the material, kg		2,5; 3,0; 3,5; 4,0; 4,5; 5,0; 5,5
Weight of the cement at the overlaid side, kg/m, not lower		1,5
Allowed deviation from the nominal value, kg, not higher		+0,250-0,249
Breaking force by stretching, H(kgf), not lower		363(37) 588(60) 343(35)
Brittle temperature of the bonder, °C, not higher		258 (minus 15)
Flexibility	By testing on bar radius, mm	25
	there should be no cracks on the surface of the sample by temperature t, °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, kgf/cm2,	2
	During at least, hours	2
Heat resistance during 2 hours by the temperature, °C		+85
Loss of granules, g/sample, not exceeding, for hydrostekloizol with large-grain dressing compound		3

Guarantee storage period:
12 months from the production date.

APPLICATION METHOD:

Hydrostekloizol is adhered to the prepared basis by means of melting the coating layer at the bottom side through welding with an overlap of the free lying material. Melting is made with gas and other gas burners.

HYDROIZOL

ТУ 5774-001-00287912-2011

ROLL ROOFING AND WATERPROOFING OVERLAID MEMBRAINE ON GLASS BASEMENT

It is meant for making roofing mat of buildings and constructions and waterproofness of engineering 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 roofing mat.

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 the roofing mat with the protective layer and the bottom layers of the roofing mat; for waterproofness of engineering constructions.

FIRE SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST 30444.

Glass-fiber mat (H) Conventional		HKP HPP	HKP HPP	HKP HPP
designation. Fiberglass (T)		TKP TPP	TKP TPP	TKP TPP
Weight of 1m2 of the material, kg, within		2,5-5,0	2,5-5,0	3,0-4,5 2,0-3,5
Weight of the cement at the overlaid side, kg/m2, not lower *		1,5	1,5	1,5
Weight of the basement, g/m2, not higher		250	250	250
Water absorption during 24 hours, % , by weight, not higher		1,5	1,5	1,5
Brittle temperature of the cement, K (0C), not higher		258 (-15)	258 (- 15)	258 (-15)
Dressing compound loss, g/sample, not higher		2,0	2,0	2,0
Breaking force by stretching, H(kgf), not lower	On Glass-fiber mat		294 (30)	
	On 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 by the temperature, °C		+85	+80	+70
Flexibility. By testing on beams with the curve not exceeding,25 mm, on the surface of the sample there should be no cracks by the temperature ,°C, not higher			0	
Waterproofness. There should be no traces of water leaking under the pressure of 0,001MPa during hours, not less			72	

Note: * It is allowed for Hydroizol of all grades by the weight of m2 with the powder dressing compound П 2-2,5 , with the large-grain granules К 3,0-3,5 to hold the bottom side, at least 1,0 kg.

APPLICATION METHOD:

- Hydroizol is adhered to the prepared basis by means of melting the coating layer at the bottom side through welding with an overlap of the free lying material. Melting is made with gas and other burners.

Guarantee storage period:
12 months from the production date.

ТУ 21-5744710-515-92
21-5744710-519-92

STEKLOBIT, STEKLOMAST

ROLL ROOFING AND WATERPROOFING OVERLAID MEMBRAINE ON GLASS BASEMENT

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

STEKLOBIT
On the basis of glass-fiber mat

STEKLOMAST
On the basis of fiberglass.

STEKLOBIT 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 roofing mat.

STEKLOBIT 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.

TECHNICAL CHARACTERISTICS		STEKLOBIT HPP	STEKLOBIT HKP	STEKLOMAST TPP	STEKLOMAST TKP
Breaking force by stretching, (kgf), not lower		30	30	85	85
Flexibility	By testing on the bar with the radius, mm			25	
	there should be no cracks on the surface of the sample by temperature t, °C, not higher			0	
Waterproofness under pressure of 0,01 kgf/cm2 during 72 hours				absolute	
Heat resistance during 2 hours by the temperature, °C, not lower				+80	
Application area	Bottom layer of the roofing mat	+	-	+	-
	Top layer of the roofing mat	-	+	-	+
	Connections of roofs and waterproofness	-	+	-	+
	Waterproofness	+	-	+	-

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

Guarantee storage period:12 months from the production date. Opening type: the rolls are unrolled with slight warming-up:

K – large-grain mineral granules.
P – protective polymer film.
H – glass-fiber mat.
T – fiberglass.

FIRE SECURITY INDEXES:
- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST P 51032.

APPLICATION METHOD:
- Adhered to the prepared basis by means of melting with gas burners of the coating layer on the bottom side by method with an overlap of the free lying material.
- Non-rotting basis and the bitumen coating with the plasticizing agent applied to it make this material irreplaceable in construction. (By air temperatures below zero).

RUBEMAST (ON GLASS BASIS)

ТУ 5774-001-00287912-2007

ROLL ROOFING AND WATERPROOFING MEMBRAINE ON GLASSFIBER BASIS, PRODUCED BY MEANS OF TWO-SIDE APPLICATION OF THE COATING AND DRESSING COMPOUND ON THE GLASS BASIS

RUBEMAST K

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

RUBEMAST P

With polyethylene film on the both sides of the mat; it is applied for making the top layer of the roofing mat with the protective layer and bottom layers of the roofing mat; for waterproofing of engineering constructions.

TECHNICAL CHARACTERISTICS	TKP/HKP	TPP/HPP
Weight of 1m2 of the material, kg	3,5; 4,0; 4,5	2,5; 3,0; 3,5
Weight of the cement at the overlaid side, kg/m2, not lower *	1,5	
Water absorption during 24 hours, %, by weight, not higher	1,5	
Breaking force by stretching, (kgf), not lower	30	
Flexibility on beams with curve radius of 25 mm, by the temperature, t °C, not higher	0	
Waterproofness by the pressure of 0,01 kgf/cm2 during 72hours.	absolute	
Heat resistance during 2 hours by the temperature , tX not lower	70	
Loss of the large-grain granules, g/sample, not higher	022, 2,0	

FIRE SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST P 51032.

APPLICATION METHOD:

- Rubemast is adhered to the prepared basis by means of melting the coating layer on the bottom side by method with an overlap of the free lying material.
- Melting is made with gas or other burners.
- Application of Rubemast excludes the usage of adhesive mastics by performing roofing works, it decreases the cost of materials for roofing for 25%, decreases working hours in 2-3 times.

RUBEMAST (ON PAPERBOARD BASIS)

ТУ 21-5744710-505-90

ROLL ROOFING OVERLAYING MEMBRAINE, 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 roofing mat.

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 roofing mat with the protective layer and the bottom layers of the roofing mat.

TECHNICAL CHARACTERISTICS	RNK-350-1,5 RNK-400-1,5	RNP-350-1,5 RNP-400-1,5
Breaking force by stretching, (kgf), not lower	32; 34 (fact 40)	28 (fact 40)
Water absorption during 24 hours, %, not higher	1,5	
Weight of the coating, g/m2, not lower, including the bottom side	21001500	
Brittle temperature of the coating, °C, not higher	-15	
Loss of the dressing compound, g/sample, not higher	3	-
Flexibility. By testing on bars with radius of 25 mm, there should be no cracks on the surface of the sample by the temperature, t °C	5	
Waterproofness under the pressure of 0,01 kgf/cm2, hours, not lower	72	
Heat resistance during 2 hours under the temperature, °C, not lower	70	
Roll area, m2	7,5 ± 0,5	10 ±0,5

FIRE SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST P 51032.

APPLICATION METHOD:

- Rubemast is adhered to the prepared basis by means of melting the coating layer on the bottom side by method with an overlap of the free lying material.
- Melting is made with gas or other burners.
- Application of Rubemast excludes the usage of adhesive mastics by performing roofing works, it decreases the cost of materials for roofing for 25%, decreases working hours in 2-3 times.

RUBEROID

ROLL ROOFING AND WATERPROOFING MEMBRAINE, 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 roofing mat.
- RKP-350 for the top layer of the roofing mat with the protective layer and for the bottom layers of the roofing mat.
- RPP-300 for the bottom layers of the roofing mat.

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/m2, not lower	800	800	500
Breaking force by stretching, (kgf), not lower	32, 34	28	22
Flexibility. By testing on bars with the radius, mm		25	
There should be no cracks on the surface of the sample by the temperature, t °C, not higher		5	
Heat resistance during 2 hours, °C, не		80	
Loss of large-grain granules, g/sample, not higher	3	---	-
Waterproofness by P=0,01 kgf/cm2, hour, not lower		72	
Roll area, m2	0±0,5	15±0,5	15±0,5; 20±0,5

ASPHALT PAPER

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

FIRE SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244
- Inflammability grade В3 according to GOST 30402
- Flame-spreading group РП4 according to GOST Р 51032.

TECHNICAL CHARACTERISTICS		Р-350 Roofing asphalt paper GOST 2697-83	Р-250, Р-300 Lining asphalt paper ТУ 5774-008-00287912-00
Weight of the basis, g/m2		350	250, 300
Breaking force by stretching, (kgf), not lower		27	
Water absorption for 24 hours, %, not higher		20	
Waterproofness by P=0,01 kgf/cm2, not lower		10 min	
Flexibility. There should be no cracks on the surface of the sample	By testing on bars with the radius, mm	25	5
	by the temperature, t °C, not higher	5	18

APPLICATION METHOD:

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

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

MOSTOIZOL ТУ 5774-014-00287912-200

ROLL OVERLAID WATERPROOFING BITUMEN-POLYMER MEMBRAINE

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, ataxic polypropylene and amorphous poly-alpha-olefin “Vestoplast”.

MOSTOIZOL 100 EMP

On the basis of polyester non-woven mat; TMP – on the basis of glass cloth – for waterproofness of engineering constructions, foundations, bridges of underground constructions (tunnels, galleries).

MOSTOIZOL 130 AND MOSTOIZOL 140

For making waterproofness 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		MOSTOIZOL 140	MOSTOIZOL 130	MOSTOIZOL 100	
Weight of 1m2 of the material, kg, not lower		5,5	5,5	5,5	5,0
Basement type			Polyester non-woven mat		Fiberglass
Weight of the bonder on the overlaid side, kg/m, not lower		2,5	2,5	2,0	2,0
Mat thickness, mm, not lower		5,2	5,2	5,0	4,5
Breaking force by stretching, H, not lower	In longitudinal direction	1000	1000	600	1000
	In transversal direction	900	900	600	900
Relative extension by breaking, defined in longitudinal and transversal directions,%, not lower		40	40	40	-
Testing for resistance to static punching with the force of 250 H during 24 hours.			corresponds		
Brittle temperature of the cement, °C, not higher		-32	-32	-35	
Heat resistance during at least 2 hours by the temperature, t °C, not lower		+140	+130	+100	
Flexibility on beams with the curve of 10 and 25 mm radius, by the temperature, C, not higher			-25		
Waterproofness by 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 by the temperature of 20 °C during 7 days the sample should pass the flexibility test on beams			corresponds		
Water absorption during 24 hours,% by weight, not higher			1,0		

APPLICATION AREA

The material is meant for making waterproofness 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.

ТУ 5763-015-00287912-2009

FOLGOIZOL

FOIL-COATED OVERLAID SBS-MODIFIED ROOFING AND WATERPROOFING MEMBRAINE.
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 roofing mat 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 bar with the radius, mm		25	25
There should be no cracks on the surface of the sample by the temperature, t °C		-15	-5
Breaking force by stretching, kgf, not lower, depending on the basement	On glass-fiber mat	30	30
	On fiberglass	82	61
Waterproofness by the pressure of 0,1 MPa (1kgf/cm2) during 72 hours		absolute	absolute

ELASTOIZOL-ACOUSTIC

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, waterproofness, as well as for vibration insulation of engineering equipment of buildings and constructions.
- It is developed according to the requirements of 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 bar with the radius, mm	25
There should be no cracks on the surface of the sample by the temperature, °C	-15
Breaking force by stretching, kgf, not lower	30
Waterproofness by the pressure of 0,2 MPa (2 kgf/cm2) for 2 hours	absolute
Dynamic modulus of elasticity under the load of 2 kPa, MPa, not higher	0,50
Impact noise level decrease index ALn > dB, not lower	23

BITUMEN SHINGLE
ROOFSHIELD

ТУ 5774-009-00287912-2012

ROOFING AND WATERPROOFING MATERIAL IN SHEETS BITUMEN SHINGLE ROOFSHIELD

FIRE SECURITY INDEXES (Domestic standards):

- Combustibility grade Г3 according to GOST 30244-94
- Inflammability grade B2 according to GOST 30402-96
- Flame-spreading group РП2 according to GOST 51032-97

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		100
Flexibility on beams with the curve radius 25 mm, by the temperature, °C	minus 20	minus 10	10	10	minus 10
Bitumen type	Modified bitumen		Oxidized bitumen		Modified bitumen
Breaking force by stretching, H/50 mm: Longitudinal direction	600	600	600	600	600
Breaking force by stretching, H/50 mm: Transversal direction	400	400	400	400	400
Basis	Fiber glass mat				
Top layer	Color stone granules				
Bottom layer	Self-adhesive modified bitumen				

NEOIZOL

ROLL WATERPROOFING BITUMEN-POLYMER SELF-ADHESIVE MATERIAL

TY 5774-011-00287912-2012

APPLICATION AREA:

It is meant for making waterproofness of engineering constructions, operated in all climatic regions according to SNiP 23-01, including roofs, foundations of buildings and constructions, as the lining layer by making pitched roofing with flexible tiling.

NEOIZOL OS

It has a non-rotting basis, on each side of which there is bitumen-polymer bonder is applied 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.

TECHNICAL CHARACTERISTICS	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, under the temperature, °C	+85
Water absorption during 24 hours, %, by weight, not higher	1
By testing on bar radius, mm	25
Flexibility There should be no cracks on the surface of the sample by the temperature, t °C, not higher	-15
- with concrete Adhesion strength MPa (kgf/cm) not lower - with steel	0,2(2,0) 0,2(2,0)
Breaking force by stretching H(kgf) Polyester non-woven mat	343(35)
Shear strength of the adhesive joint KH/m(kgf/cm)	2(2)

VALLEY ROOFSHIELD

ТУ 5774-010-00287912-2012

VALLEY 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 ROOFSHIELD PREMIUM	VALLEY ROOFSHIELD
Weight of 1 sq.m. of the material, kg, within the limits	4,0-6,0	4,0-6,0
Weight of the basis, g/sq.m., not lower	50	50
Heat resistance during 2 hours, under the temperature, °C	+100	+100
Water absorption during 24 hours, %, by weight, not higher	1	1
Breaking force by stretching H(kgf) Polyester non-woven mat	333(34)	333(34)
Loss of granules g/sample, not higher	0,5	0,5

MASTIC FIX

ТУ 5775-012-00287912-2012

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 SNiP 23-01.

TECHNICAL CHARACTERISTICS		MASTIC FIX
Needle penetration depth by 25 °C, 0,1 mm not lower		50
Bonding strength with the basis, MPa, by 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, under the temperature, °C		+110
Water absorption during 24 hours, %, by weight, 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

ТУ 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 carpet 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 by 25 °C, 0,1 mm		25-50	25-50
Bonding strength with the basis, MPa, by 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, by weight, 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 layer

Guarantee storage period -
12 months from the production date.

BITUMEN-POLYMER MASTIC OF COLD APPLICATION

ТУ 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 1m^2.

TECHNICAL CHARACTERISTICS		MBP-H 90	MBP-H 100
Softening temperature, °C, not lower		90	100
Needle penetration depth by t=25 °C, 0,1 mm		Ц25-50	25-50
Bonding strength with the basis, MPa by t=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, by weight, 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

ГОСТ 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 waterproofness of foundations, cellars and other ferroconcrete constructions.

TECHNICAL CHARACTERISTICS	MARK 65	MARK 75	MARK 90	MARK 100
Softening temperature by RAB, °C, not lower	65	75	90	100
Needle penetration depth by t=25 °C, 0,1 mm, not lower	40	30	20	15
Extensibility by 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, C0-202, 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 by the temperature higher than 180 °C is not admitted.

COLD APPLICATION METHOD

The mastic in small pieces by 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/m^2.

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

ТУ 5775-002-00287912-2005

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 waterproofness of foundations, cellars and other ferroconcrete constructions.

TECHNICAL CHARACTERISTICS	NORM
Appearance	Homogeneous mass without alien inclusions, which have no particles of the filler not covered with bitumen
Content of a.c.v. by customer's order, %, not lower	50; 60
Consistency by (18+2)°C	Movable (fluid)
Drying time, hours, by t=(20+2rc not higher	24
Drying time, hours, by t=(75+2rc 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.

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The mastic should be protected from moisture and direct sunbeams.

Guarantee storage period - 12 months from production date.

BITUMEN-ROOFING HOT MASTIC MBK-G

ГОСТ 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. By the temperature of 18±2 °C there should be no cracks on a bar diameter, mm	10	15	20	30	40
Content of powder filler, %, by weight	25-30	25-30	25-30	25-30	25-30
Content of water	traces	traces	traces	traces	traces

ТУ 5775-002-00287912-2008

WATERPROOFING COLD ROOFING MASTIC “SMUGLYANKA”

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 waterproofness of engineering 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 by 25 °C, 0,1 mm	15-20
Bonding strength with the basis, MPa, by 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 by 25 °C, cm, not lower	3
Water saturation during 24 hours, %, not higher	0,2
Content of a.c.v. , %, 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

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.

ГОСТ 6617-76

TECHNICAL CHARACTERISTICS	BN 50/50	BN 70/30	BN 90/10
Needle penetration depth by 25 °C, 0,1 mm	41-60	21-40	5-20
Softening temperature by RAB, °C	50-60	70-80	90-105
Extensibility by 25 °C, cm, not lower	40	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

ТУ 5775-003-00287912-2005

BITUMEN PRIMER

SOLUTION FO 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 overlaid and self-adhesive roofing and waterproofing 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.

Guarantee storage period — 12 months from the production date.

TECHNICAL CHARACTERISTICS

The primer is packed into metal or platic 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**
Content of a.c.v., %	**30-35**
Drying time, hour, by t=(20±2) °C, not higher	**12**

BITUMEN PRIMER (CONCENTRATED)

ТУ 5775-002-00287912-2005

BITUMEN PRIMER (CONCENTRATE) – IS THE SOLUTION OF OIL ASPHALT WITH THE SIFTENING 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 overlaid 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 platic 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**
Content of a.c.v., %	**60-65**
Drying time, hour, by t=(20±2) °C, not higher	**12**

BITUMEN BOTTOMING GB-H-70

BITUMEN BOTTOMING GB-H-70 – IS THE SOLUTION OF OIL ASPHALT WITH THE SIFTENING TEMPERATURE NOT LOWER THAN 70°C IN SPECIALLY SELECTED ORGANIC SOLVENTS

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

TECHNICAL CHARACTERISTICS

TY 5775-001-00287912-2008

Appearance	**Homogeneous mass of the black color without alien inclusions**
Content of a.c.v., %	**40-45**
Drying time, hour, by t=(20±2) °C, not higher	12

The bottoming is packed into metal or platic 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 bottoming should be protected from moisture and direct sunbeams. By storage the layering of the bottoming is admitted.

APPLICATION METHOD:

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

Guarantee storage period — 12months from the date of production.

POLYMER-BITUMEN BONDER PBV

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-SUNSTANCES

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		PBV130	PBV 90	PBV 60	PBV 40	Testing methods
Needle penetration depth 0.1 mm, not lower	by 25°C	130	90	60	40	Acc. to GOST 11501-78
	by 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	by 25°C	30	30	25	15	Acc. to GOST 11505-75
	by 0°C	20	15	11	8	
Brittle temperature, °C not higher		-30	-25	-20	-15	Acc. to GOST 11507-78
Elasticity, %, not lower	by 25°C	85	85	80	80	p.6.2 GOST 52056-2003
	by 0°C	75	75	70	70	
Change of softening temperature after heating,°C, not higher		6	6	5	5	Acc. to GOST 18180-72 Acc. 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 carpets 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 by low temperatures. As a result, the road carpet made with application of PBV sustains increased load on it and possesses high crack-resistance by temperatures below zero and high cycling of freezing-unfreezing;

• 1.2. Advanced corrosion-resistance of road carpets;

• 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 carpet due to the extended service life.

• 3. It gives an opportunity to prolong the construction season for 20-30%. The application of diluted PBV allows conducting construction works by 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 carpet 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 road carpet top layer makes approximately 42 тт, 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 carpets 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 carpet for 1 km makes only 0,11%.

Guarantee storage period by the environmental temperature is 12 months from the date of the production.

ROAD VISCOUS OIL ASPHALT

ГОСТ 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 carpets.

CHARACTERISTICS		BND 60/90	BND 90/130
Needle penetration depth, 0,1 mm not lower	by 25°C	61-90	91-130
	by 0°C,	20	28
Softening temperature by ring and ball,°C, not lower		47	43
Extensibility, cm, not lower:	by 25°C	55	65
	by 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

ROAD BITUMEN EMULSION EBA-3

ROAD BITUMEN EMULSION EBA-3 – IS THE LIQUID OF A DARK-BROWN COLOR, PRODUCED BY DISPERSION OF BITUMEN IN THE WATER SOLUTION OF EMULSIFIER-SURFACE-ACTIVE-SUBSTANCE (SAS)

APPLICATION AREA:

- It is applied as a bonder or film-forming material by construction and repair of motor roads, by preparing emulsion-mineral mixtures of a dense composition, including the ground ones, with obligatory addition of 1-2% of lime or 2-3% of cement into the mixture.
- Binding of blown sands.
- De-dusting.
- Binding the soil of the top part of the subgrade.

TECHNICAL CHARACTERISTICS

Requirements of GOST R

GOST R 52128-2003

Appearance	Homogeneous mass without alien inclusions
Mass concentration of bitumen with emulsifier,%	50-55
Relative viscosity by t=20, sec	10-15

It is transported in tanks, special trucks for bitumen, metal barrels, etc. By storage the layering of the emulsion is admitted.

Guarantee storage period — 2 months from the production date.

ТУ 5775-003-00287912-2008

BITUMEN-RUBBER POLYMER MASTIC MBRP

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).
- Waterproofness 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 SECURITY INDEXES:

- Combustibility grade Г4 according to GOST 30244.
- Inflammability grade В3 according to GOST 30402.
- Flame-spreading group РП4 according to GOST 30444.

TECHNICAL CHARACTERISTICS	MBRP-80	MBRP-85
Softening temperature, °C, not lower	80	85
Needle penetration depth by 25°C, 0,1 mm	27	24
Extensibility by 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, form 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/m^2;
- 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 by 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		MARK 90/130	MARK 60/90	MARK 40/60	Testing method
Needle penetration depth, mm,	by 25°C by 0°C, not lower 1	91-130 25	61-90 20	40-60 15	GOST 11501-78
Softening temperature, °C, not lower		50	52	56	GOST 11506-73
Brittle temperature, °C, not higher		-25	-20	-15	GOST 11507-78
Extensibility, cm,	by 25°C by 0°C, not lower	14 7	12 5	10 3	GOST 11505-75
Change of softening temperature after heating, °C, not higher			5		GOST 18180-72 GOST 11506-73 с дополнением по п. 3.3
Flash temperature, °C, not lower		250			GOST 4333-87
Elasticity by 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 by 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 by low temperatures.

** The index of extensibility by 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.

1 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 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.