TECHNONICOL

GENERAL CATALOGUE

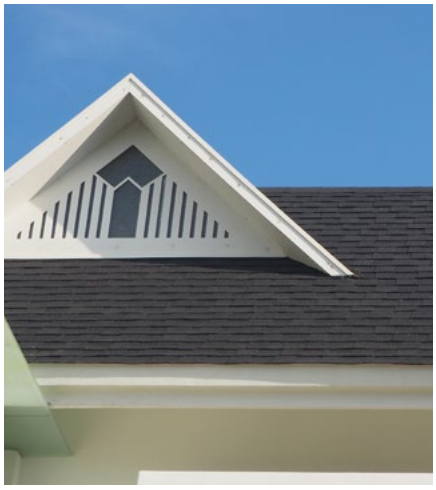
ROOFING, WATERPROOFING, THERMAL AND SOUND INSULATION MATERIALS

KNOWLEDGE. EXPERIENCE. CRAFTSMANSHIP.

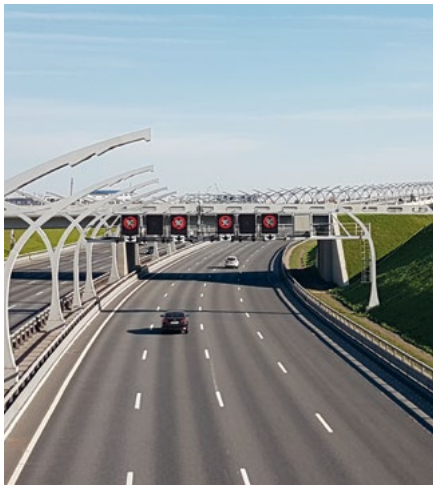
WWW.TECHNONICOL.IN

CONTENT

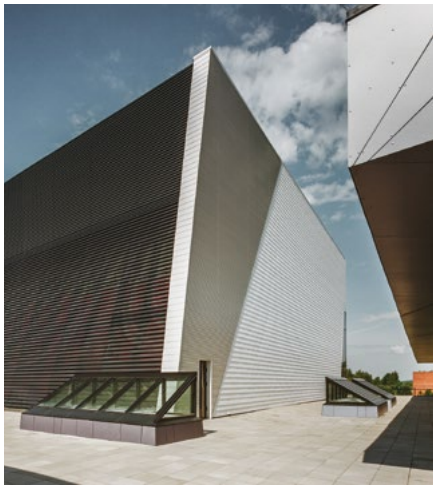
REFERENCES



Kochi, India
PRIVATE RESIDENCE



Saint Petersburg, Russia
WESTERN HIGH-SPEED DIAMETER



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GORS, THE EMBASSY OF LATGALE

ABOUT TECHNONICOL

6500
QUALIFIED EMPLOYEES

63
PRODUCTION SITES

6
R&D CENTERS

30
YEARS IN THE MARKET

TECHNONICOL Corporation is the leading international manufacturer and supplier of roofing, waterproofing, thermal insulation and sound absorption materials. The company was founded in 1992 and since then has accumulated a considerable experience on the building materials market. We are proud to offer up-to-date materials and technologies that combine global expertise and elaboration of our own R&D centers. Wide range of high-quality products and reliable solutions allows making a choice that is best suited to the customer both in price and in quality.

TECHNONICOL Corporation at present owns 60 production sites in Europe and Asia, retail network of 140 branches and representative offices in 37 countries. Company materials were already used in more than 250 000 sites in 116 countries around the world. It is an honor for us to be a partner for more than 700 independent distributors presenting 32 of our own brands.

PRODUCTION IMPROVEMENT

The key of the successful activity of TECHNONICOL resides in the high quality of research and control before, during and after production processes. All export plants of TECHNONICOL have passed UNI EN ISO 9001 and UNI EN ISO 14001 certification and strictly comply with the quality standards determined by these international requirements.

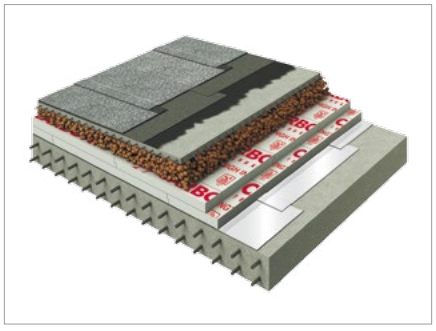
All plants of TECHNONICOL are committed to continuous improvement of pollution prevention and compliance with relevant environmental legislation:

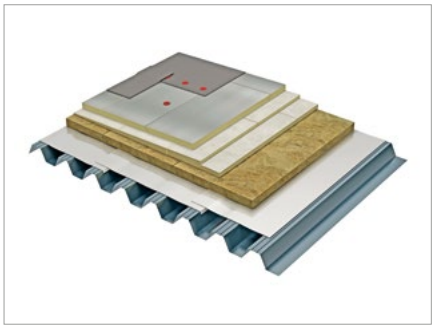
- All plants of the Corporation are subjected to state environmental appraisal at their design stage. The environment at our industrial sites is monitored daily. TECHNONICOL invests in waste free production, advanced equipment and environmental protection technologies.
- All products developed and supplied by TECHNONICOL meet environmental standards and are safe for humans and the environment.

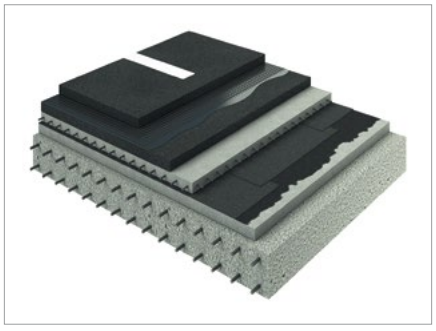
Our production capacities and equipment give us an ability to supply materials for large construction projects and to develop unique products based on individual requirements. Competence of employees, professional technical consultations, development of new materials in our own R&D centers, quality of products and solutions – all of these allow TECHNONICOL to approach each client individually and help us to meet every customer's expectations and needs.

Improved customer service is also one of our priority principles. Leadership of TECHNONICOL products on the waterproofing market is achieved not only due to the quality of products we produce, but also to a high level of technical support.

RELIABLE SOLUTIONS







TECHNONICOL Corporation develops and promotes materials and systems that minimize energy-loss in the industrial sector and public utilities. We introduce construction systems, aimed at the creation of comprehensive protection of the structure from the foundation to the roof.

Products, offered by TECHNONICOL Corporation – high-quality waterproofing and thermal insulation materials – are fully compatible and can be used in proposed systems. Material compatibility with each other is one of the basic conditions to obtain a reliable complete insulation system. That is why our experts have developed a number of professional technical solutions for different types of projects. Here we follow three main principles: the compatibility of components, durability and reasonable price.

RESEARCH AND DEVELOPMENT

TECHNONICOL has six scientific research and development centers located close to the production sites and number of laboratories to test new materials. Our scientists are focused on the study of performance of building materials, prevention of their aging, increasing the possibilities of application by expanding the operating temperature range, developing additional functions, such as air purification, resistance to moss growth or increasing energy-effectiveness.

The main activities of the R&D centers are:

- creation of new roofing, waterproofing and thermal insulation materials;
- investigation: chemical, physical and other analysis, assistance in solving technological problems;
- modernization of production technology;
- improvement of methods for the analysis of raw materials and finished products, introduction of rapid methods;
- collaborative support provided to factories' laboratories.

Laboratories on the factories operate on the base of modern equipment, which is used to study the physical and mechanical characteristics of materials in a wide temperature range, determine the structure and composition of raw materials, test the durability of materials.

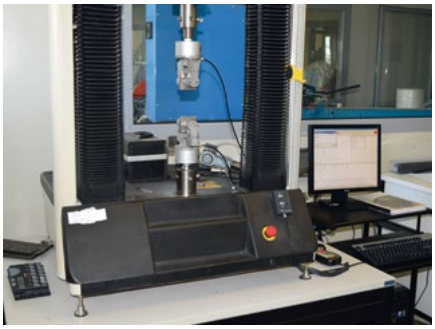
Unique chromatograph equipment is used to determine the composition of bitumen for the production of roofing materials, and optimal selection of type and amount of modifying additives.

The artificial climate chamber is used to study the aging process of materials. The method gives the possibility to predict waterproofing materials performance after many years of exploitation on the roof in just 2 or 3 months of testing.

Fire safe building materials and construction systems are one of the major priorities of TECHNONICOL Corporation. Our roofing and waterproofing membranes fully comply with strict European fire safety regulations. Bitumen and synthetic membranes are capable to resist flames and correspond to E class. Roofing systems are tested to evaluate the fire performance and meet the criteria for the Broof classification. TECHNONICOL stone wool matches the requirements of A1 Euroclass.

Research and implementation of advanced technologies allow TECHNONICOL to bring new products and many product variations depending on needs of customer each year.

In cooperation with research and development centers, factories have obtained a number of product certificates issued by many prestigious institutes around the world.



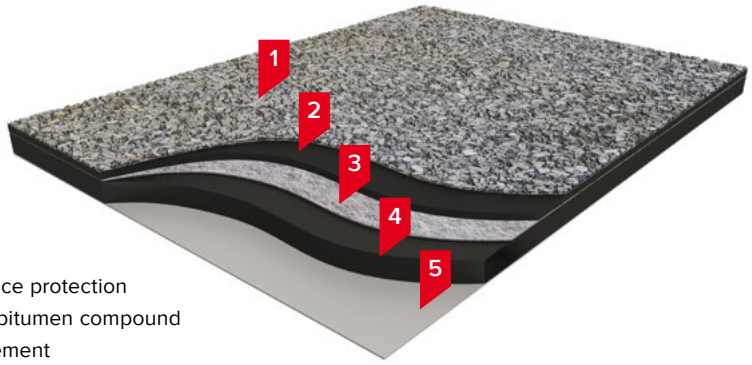
REFERENCES

Olsztyn, Poland
WARMINSKA SHOPPING CENTER

Karjat, India
RADISSON BLU RESORT & SPA KARJAT

Road M27, Russia-Georgia
TUNNEL

POLYMER-BITUMEN MEMBRANES



1. Top surface protection
2. Polymer-bitumen compound
3. Reinforcement
4. Polymer-bitumen compound
5. Underside protection

The most widespread materials for creation of the waterproofing layer are the polymer-bitumen roll-fed membranes. This is due to a relative simplicity of installation, popularity of the technology, durability of the material and stability of the factory-set technical parameters. Polymer-bitumen membranes are commonly used for waterproofing of foundations, engineering structures, roads, bridge decks and flat roofs. These materials could also be used as an underlay for pitched roofs and as a vapor barrier.

Polymer-bitumen membranes undergo effects of many unfavourable factors from the external environment. Changes in the surrounding temperature can cause deformations of the material and the base on which it is installed. The ability to withstand such deformations is the most important characteristic of roofing and waterproofing material and it depends on many components used on the production stage.

POLYMER-BITUMEN COMPOUND

The compound is a specially formulated mixture of bitumen and polymers. The main difference between compound types is the kind of polymer used:

- **APP** polymer provides additional flow resistance that makes it possible to use the material in a very hot climate.
- **SBS** polymer provides additional flexibility and dynamic resistance to the material.
- Special anti-root additives can be added to the polymer-bitumen compound to make it resistant to root penetration and ensure the reliable waterproofing of green roofs and foundations.

REINFORCEMENT


- **Polyester** provides excellent elongation properties and grants optimal strength to the material.
- **Glass fiber** provides additional dimensional stability but does not grant elongation properties.

POLYMER FILM


- Thin polymer film is used for underside surface protection from sticking in the roll. The film is covered with special graphics indicators for easier and more reliable torch-on installation. The film is melting during the heating. If graphics becomes completely fused (surface is all black), the material is overheated. The material is heated properly when graphics is deformed, but visible.
- Polymer film without graphic elements is used as top surface protection of underlay membranes and materials, which were designed for waterproofing of foundations and engineering structures.
- Perforated polymer film can be used as underside protection to ensure even points of adhesion distribution and increase the speed of installation of the material.

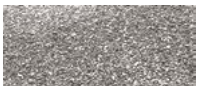
SELF-ADHESIVE SURFACE

The special adhesive polymer-bitumen compound is used for the production of self-adhesive membranes. The compound is covered with easily removable protective film. Self-adhesive materials grant high speed of safe and cheap application and do not require any additional equipment and skills. Such materials can also be used in conditions, when the standard torch-on application is forbidden (expanded / extruded polystyrene or wooden base, indoor waterproofing).

FINE-GRAINED SAND OR TALCUM


Fine-grained sand or talcum can be used to cover the top or underside surface of the membrane. Such type of covering allows installation by means of hot or cold applied mastics or by torching.

SLATE

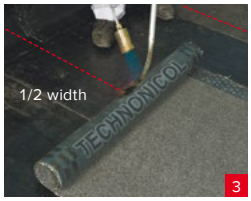
The coarse-grained mineral slate with special hydrophobic treatments protects the material from damage by ultraviolet radiation during the whole service life of the membrane. It is used for cap sheet membranes in double-layer waterproofing systems.

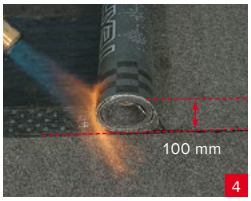
Slate can be supplied in various colors that will provide nice aesthetic appearance. Standard colors include natural grey, red, green and white, while other colors are available on request.

SPECIAL COVERING


Eco-friendly product line ENVIRO makes a positive impact on the environment – thanks to the surface with special additives it helps to purify city air, increase energy efficiency of buildings and protect the roof from moss overgrowing. These materials successfully and effectively combine environmental friendliness and technologies aimed at improving living standards and reducing the operation cost of the facility. ENVIRO product line was created with the real care about the future of our planet.

TORCH-ON APPLICATION



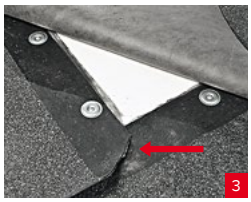


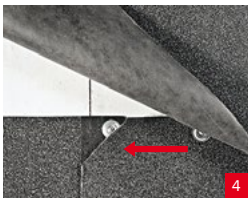
1. The surface must be cleaned of dust, debris, grease, leaves and should not have gaps and cracks or other irregularities. Surface must be treated with primer before installation of waterproofing material.
2. During the installation, material and base must be heated by torch on all width of the roll; the place of overlapping must be heated additionally. During the proper installation all surface of the material sticks to the base and bitumen is leaking on edges on around 5-10 mm.
3. Cap sheet membrane should be positioned at a distance of min. 300 mm from overlaps of underlay membrane. Usually it is moved at a distance of 500 mm (50% of roll width). The distance between different end laps of rolls should be at least 500 mm.
4. The overlap along edges joint should be 100 mm. Recommended overlap for single-layer application of bitumen membrane is 120 mm. The overlap at sheet ends should not be less than 150 mm. The minimum length of rolled material that can be installed is 1 m.
5. Roofer should remove coarse-grained slate in places of end laps of cap sheet membrane, because it significantly reduces the adhesion of the material. The top side of the material (with slate) must be additionally heated by torch in places of such overlays. Then the slate is pressed into bitumen by spatula.

APPLICATION WITH MASTIC

1. The surface must be cleaned of dust, debris, grease, leaves and should not have gaps and cracks or other irregularities. Surface must be treated with primer before applying the mastic.
2. Spread the attaching mastic to the base with a special spatula following recommendations of layer thickness. It is recommended to use a special cold-applied roofing mastic, but hot-applied mastic can also be used. Hot-applied mastic should be pre-melted at a temperature of 180°C before application on to the base.
   IMPORTANT! Mastic is always applied to the surface, not on the material.
3. Roll-fed material should be installed on the spread mastic layer avoiding creases and bubbles.
   IMPORTANT! Only materials with a coating of fine-grained sand are suitable for mastic-application.
4. Straighten the roll-fed material by smoothing it with a brush to avoid creases or bubbles of air on the material. Then fix the completely glued roll with a heavy roller.
5. Press down the material on overlays with a heavy roller until mastic flows out of the joint. Mastic should be flowed out from the overlay for 7-10 mm for the best joint quality.

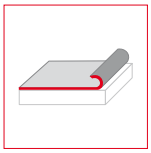
INSTALLATION OF A SINGLE-PLY BITUMEN MEMBRANE





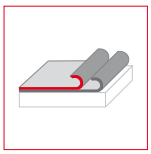
1. Automatic equipment such as Leister Varimat may be used for overlaps welding in the process of installation. In this case it is recommended to prepare an additional mountable strip. It will increase convenience and speed of installation. At the end next to mountable strip end joints do not need to be staggered. This technological method can be also used in the process of torch-on application.
2. Side overlay should be not less than 120 mm, end laps overlay should be 150 mm. Distance between staggered overlays (if needed) must be at least 500 mm. On a shaped decking roof single layer membrane should be installed across flooring waves.
3. Corners of rolls should be cut in places of T-shaped joints.
4. Corners cutting allows to increase the quality of welded joints and to avoid lack of material welding in such places.
5. Places that can not be welded by automatic equipment are welded by hand heat gun.

AREAS OF APPLICATION



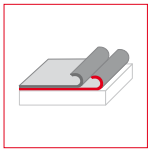
SINGLE-PLY MEMBRANE

Waterproofing of shopping centers, industrial or any other buildings with large roof area, where it is important to get the quick result (installation of a single-layer membrane takes less time than double-layer system). An additional thickness of the membrane is required for the single-ply roofing.



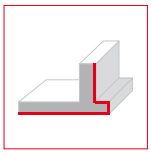
CAP SHEET MEMBRANE

The top layer of a double-layer roof cladding. It is used for waterproofing of flat roofs of residential, public or industrial buildings. Double-layer system provides maximum reliability of the waterproofing layer. The top side of the cap sheet membrane is protected from UV (usually by means of a coarse-grained slate or basalt granules).



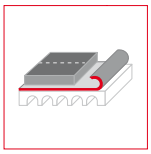
UNDERLAY MEMBRANE

The bottom layer of a double-layer roof cladding. It is used for waterproofing of flat roofs of residential, public or industrial buildings. Double-layer system provides maximum reliability of the waterproofing layer. The use of an underlay membrane allows decreasing the risk of leakages from the roof.



FOUNDATIONS AND BLIND SIDES OF BELOW-GRADE WALLS

Waterproofing of foundations, blind sides of below-grade walls and underground structures of all type. It protects the construction from groundwater, stormwater runoff, floods, etc. and increases the service life of the whole structure in general.

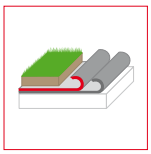


BRIDGES AND ROADS WATERPROOFING

Waterproofing of concrete and steel bridge decks, flyovers, car parkings and other traffic areas. The membrane should have an enhanced physical and mechanical properties to withstand the operational movements of the substrate.

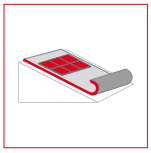
INDOOR WATERPROOFING

This group includes self-adhesive membranes and materials with fine-grained sand on the bottom side that can be fixed to the surface by means of mastics in order to avoid using an open flame. It is used for waterproofing of bathrooms, kitchens and other internal premises with high air humidity.



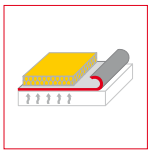
CAP SHEET MEMBRANE FOR GREEN ROOFS

The top layer of roof cladding with special anti-root additives in the polymer-bitumen compound designed for the construction of “green roof” – a type of ballast roof with greenery on top. It is also used for foundation waterproofing with additional protection from roots of plants located nearby.



ROOFING UNDERLAY FOR PITCHED ROOFS

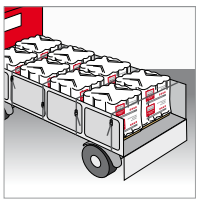
Underlay material for all kinds of pitched roofs with the protective covering on top (bitumen shingles, ceramic tiles, metal tiles, etc.). Application of underlay membrane is required to grant an additional protection from any possible leakages.

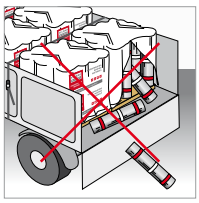


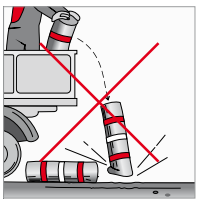
VAPOR BARRIER

Vapor barrier for flat roofs of residential, public or industrial buildings suitable for all types of the substrate – concrete, metal, wood, etc. It is necessary for protection of thermal insulation and roof cladding from moisture, which is formed due to a difference between indoor and outdoor temperature and air humidity.

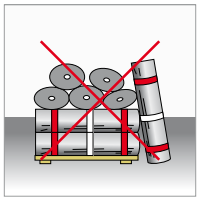
TRANSPORTATION AND STORAGE

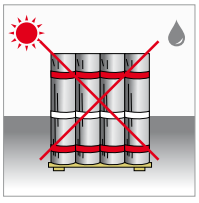






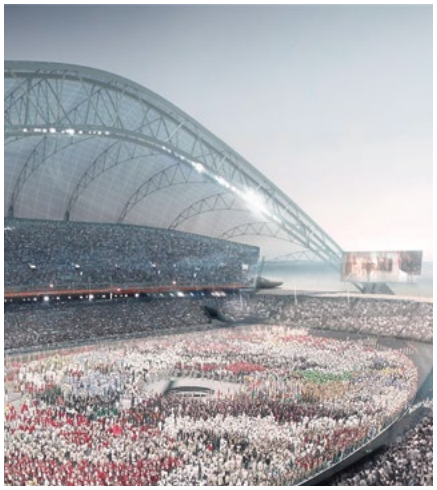
- Rolls must be transported in closed vehicles in an upright position on a pallet in a 1-row height.
- Ropes should be used to fasten the pallet in order to avoid film damage.
- Avoid falls or other mechanical impacts during loading and unloading of rolls.





- Roll’s protective film should not be damaged after unloading.
- Rolls should be stored upright on pallets in a 1-row height.
- Storage of rolls in a horizontal position is prohibited.
- Protect the rolls from direct UV-rays and moisture.
- Keep the minimum distance of 1 m from any source of heat.

REFERENCES



Sochi, Russia
FISHT CENTRAL OLYMPIC STADIUM

Jakarta, Indonesia
CIBIS TOWER

Klaipeda, Lithuania
VLANTANA, LOGISTICS CENTER

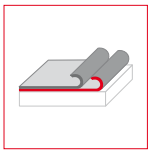
ULTRAPLAST

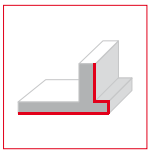
APP-MODIFIED BITUMEN ROOFING AND WATERPROOFING TORCH-ON UNDERLAY MEMBRANE

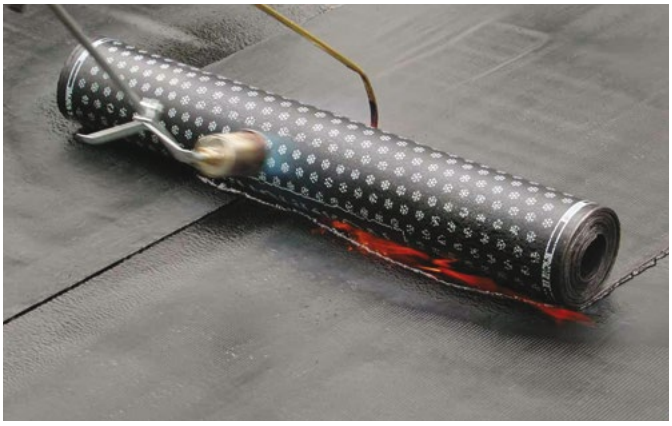
APP-modified bitumen membrane ULTRAPLAST is designed for installation as the bottom layer in double-layer roofing system on buildings and constructions, for waterproofing of foundations and engineering structures. Can be used as an underlay for bitumen shingles on pitched roofs. Used for new construction or repair.

The material withstands temperature fluctuations and high mechanical loads providing a long-term, reliable and effective waterproofing. APP polymer provides additional flow resistance that makes it possible to use the material in a very hot climate.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by a polymer film.







PROPERTIES	TEST METHOD	ULTRAPLAST A	ULTRAPLAST B
Thickness, mm	EN 1849-1	2.0±0.20 I 3.0±0.20 I 4.0±0.20	2.0±0.20 I 3.0±0.20 I 4.0±0.20
Mass per unit area, kg/m²	EN 1849-1	2.8±0.28 I 3.8±0.38 I 5.1±0.48	2.8±0.28 I 3.8±0.38 I 5.1±0.48
Length × width, m	EN 1848-1	15 × 1 I 10 × 1 I 10 × 1	15 × 1 I 10 × 1 I 10 × 1
Softening point, °C	ASTM D36	150±5	150±5
Flexibility at low temperature, °C	EN 1109-1	≤-6	≤-2
Flow resistance at elevated temperature, °C	EN 1110	≥120	≥120
Elongation L / T, %	ASTM D5147	45±9 / 50±10	40±8 / 45±9
Tensile strength L / T, N/50 mm	ASTM D5147	850±170 / 650±130	750±150 / 600±120
Tear resistance L / T, N	ASTM D4073	350±100 / 350±100	300±100 / 300±100
Reinforcement type	-	polyester	polyester
Protective covering type on the top	-	polymer film	polymer film
Protective covering type on the bottom	-	polymer film	polymer film

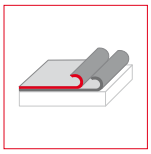
ULTRAPLAST grey mineral

APP-MODIFIED BITUMEN ROOFING AND WATERPROOFING TORCH-ON CAP SHEET MEMBRANE

APP-modified bitumen membrane ULTRAPLAST grey mineral is designed for installation as the top layer in double-layer roofing system on buildings and constructions. Can be used for new construction or repair.

The material withstands temperature fluctuations and high mechanical loads providing a long-term, reliable and effective waterproofing. APP polymer provides additional flow resistance that makes it possible to use the material in a very hot climate.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by a coarse-grained slate with special hydrophobic treatment that protects the material from damage by ultraviolet radiation during the whole service life of the membrane.



PROPERTIES	TEST METHOD	ULTRAPLAST A grey mineral	ULTRAPLAST B grey mineral
Thickness, mm	EN 1849-1	3.0±0.20 I 4.0±0.20	3.0±0.20 I 4.0±0.20
Mass per unit area, kg/m²	EN 1849-1	3.8±0.38 I 5.1±0.48	3.8±0.38 I 5.1±0.48
Length × width, m	EN 1848-1	10 × 1	10 × 1
Softening point, °C	ASTM D36	150±5	150±5
Flexibility at low temperature, °C	EN 1109-1	≤-6	≤-2
Flow resistance at elevated temperature, °C	EN 1110	≥120	≥120
Elongation L / T, %	ASTM D5147	45±9 / 50±10	40±8 / 45±9
Tensile strength L / T, N/50 mm	ASTM D5147	850±170 / 650±130	750±150 / 600±120
Tear resistance L / T, N	ASTM D4073	350±100 / 350±100	300±100 / 300±100
Reinforcement type	-	polyester	polyester
Protective covering type on the top	-	coarse-grained slate	coarse-grained slate
Protective covering type on the bottom	-	polymer film	polymer film

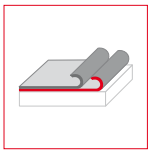
ULTRAFLEX

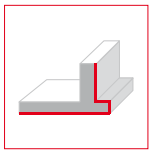
SBS-MODIFIED BITUMEN ROOFING AND WATERPROOFING TORCH-ON UNDERLAY MEMBRANE

SBS-modified bitumen membrane ULTRAFLEX is designed for installation as the bottom layer in double-layer roofing system on buildings and constructions, for waterproofing of foundations and engineering structures. Can be used as an underlay for bitumen shingles on pitched roofs. Used for new construction or repair.

The material withstands temperature fluctuations and high mechanical loads providing a long-term, reliable and effective waterproofing. SBS polymer provides additional flexibility and dynamic resistance.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by a polymer film.





PROPERTIES	TEST METHOD	ULTRAFLEX A		
Thickness, mm	EN 1849-1	2.0±0.20	3.0±0.20	4.0±0.20
Mass per unit area, kg/m²	EN 1849-1	2.8±0.28	3.8±0.38	5.1±0.48
Length × width, m	EN 1848-1	15 × 1	10 × 1	10 × 1
Softening point, °C	ASTM D36		≥110	
Flexibility at low temperature, °C	EN 1109-1		≤-10	
Flow resistance at elevated temperature, °C	EN 1110		≥100	
Elongation L / T, %	ASTM D5147		45±9 / 50±10	
Tensile strength L / T, N/50 mm	ASTM D5147		850±170 / 650±130	
Tear resistance L / T, N	ASTM D4073		350±100 / 350±100	
Reinforcement type	-		polyester	
Protective covering type on the top	-		polymer film	
Protective covering type on the bottom	-		polymer film	

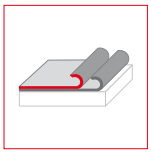
ULTRAFLEX grey mineral

SBS-MODIFIED BITUMEN ROOFING AND WATERPROOFING TORCH-ON CAP SHEET MEMBRANE

SBS-modified bitumen membrane ULTRAFLEX grey mineral is designed for installation as the top layer in double-layer roofing system on buildings and constructions. Can be used for new construction or repair.

The material withstands temperature fluctuations and high mechanical loads providing a long-term, reliable and effective waterproofing. SBS polymer provides additional flexibility and dynamic resistance.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by a coarse-grained slate with special hydrophobic treatment that protects the material from damage by ultraviolet radiation during the whole service life of the membrane.



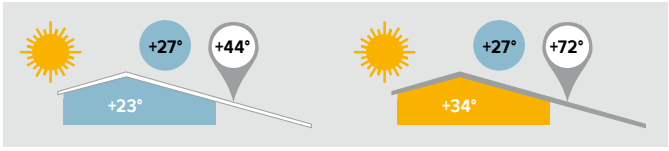
PROPERTIES	TEST METHOD	ULTRAFLEX A grey mineral	
Thickness, mm	EN 1849-1	3.0±0.20	4.0±0.20
Mass per unit area, kg/m²	EN 1849-1	3.8±0.38	5.1±0.48
Length × width, m	EN 1848-1	10 × 1	
Softening point, °C	ASTM D36	≥110	
Flexibility at low temperature, °C	EN 1109-1	≤-10	
Flow resistance at elevated temperature, °C	EN 1110	≥100	
Elongation L / T, %	ASTM D5147	45±9 / 50±10	
Tensile strength L / T, N/50 mm	ASTM D5147	850±170 / 650±130	
Tear resistance L / T, N	ASTM D4073	350±100 / 350±100	
Reinforcement type	-	polyester	
Protective covering type on the top	-	coarse-grained slate	
Protective covering type on the bottom	-	polymer film	

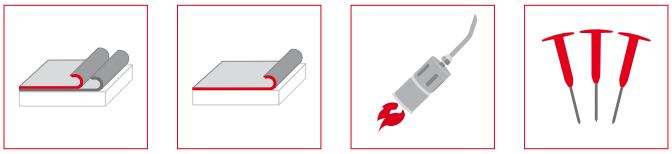
TECHNONICOL ENVIRO WHITE

SBS-MODIFIED BITUMEN ROOFING AND WATERPROOFING MEMBRANE FOR COOL ROOF CONSTRUCTION

TECHNONICOL ENVIRO WHITE is a roofing and waterproofing SBS-modified bitumen membrane that allows obtaining the effect of “cool roof” thanks to the white slate with high solar reflection used as the top protective layer. As a result, the roof covering is not heated and the premises under the roof (attic or utility room) save comfortable temperature. The use of the material reduces energy costs for conditioning the premises under the roof by 10-30% and increases the service life of the roof.

Designed for installation as the top layer in double-layer roofing system or as a single-ply polymer-bitumen roofing membrane on buildings and constructions. Can be used for new construction or repair.





PROPERTIES	TEST METHOD	TECHNONICOL ENVIRO WHITE
Thickness, mm	EN 1849-1	4.0±0.10
Mass per unit area, kg/m²	EN 1849-1	5.0±0.25
Length × width, m	EN 1848-1	8 × 1
Softening point, °C	ASTM D36	≥110
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥100
Elongation L / T, %	ASTM D5147	50±25 / 50±25
Tensile strength L / T, N/50 mm	ASTM D5147	700±100 / 500±100
Tear resistance L / T, N	ASTM D4073	180±30 / 180±30
Reinforcement type	-	polyester
Protective covering type on the top	-	white coarse-grained slate
Protective covering type on the bottom	-	polymer film

TECHNONICOL ENVIRO AIR

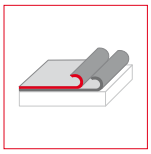
SBS-MODIFIED BITUMEN ROOFING AND WATERPROOFING MEMBRANE FOR REDUCING AIR POLLUTION

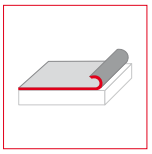
TECHNONICOL ENVIRO AIR is a roofing and waterproofing SBS-modified bitumen membrane with a special feature of air purification from harmful nitrogen oxides (NO_x). Hydrophobized slate used as the top protective layer is covered with titanium dioxide (TiO_2) and special additives.

Designed for installation as the top layer in double-layer roofing system or as a single-ply polymer-bitumen roofing membrane on buildings and constructions. Can be used for new construction or repair.

Roofing material TECHNONICOL ENVIRO AIR has the following advantages:

- actively influences the reduction of toxic NO_x gas in the air;
- the coating protects the material against the penetration of UV radiation and destruction of bitumen compound;
- contributes to the destruction of organic contaminants on the surface (bird droppings, fungus spores, bacteria).





PROPERTIES	TEST METHOD	TECHNONICOL ENVIRO AIR
Thickness, mm	EN 1849-1	4.0±0.10
Mass per unit area, kg/m²	EN 1849-1	5.0±0.25
Length × width, m	EN 1848-1	8 × 1
Softening point, °C	ASTM D36	≥110
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥100
Elongation L / T, %	ASTM D5147	50±25 / 50±25
Tensile strength L / T, N/50 mm	ASTM D5147	700±100 / 500±100
Tear resistance L / T, N	ASTM D4073	180±30 / 180±30
Reinforcement type	-	polyester
Protective covering type on the top	-	coarse-grained slate with special additives
Protective covering type on the bottom	-	polymer film

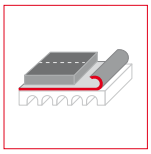
ULTRAPLAST BRIDGE

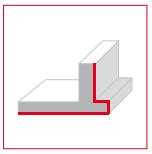
APP-MODIFIED BITUMEN WATERPROOFING MEMBRANE FOR BRIDGE AND FLYOVER CONSTRUCTION

APP-modified bitumen membrane ULTRAPLAST BRIDGE is designed for waterproofing of steel orthotropic plate and reinforced concrete slab of carriageway when asphalt concrete (up to +220°C) is laid directly on the waterproofing layer. Can be also used as a single-layer waterproofing of the foundation.

ULTRAPLAST BRIDGE is a waterproofing material produced by the two-sided placing of a special high-quality polymer-bitumen binder on an extra strong polyester base. The material has the highest physical and mechanical properties and can withstand very high temperatures.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by fine-grained sand.





PROPERTIES	TEST METHOD	ULTRAPLAST BRIDGE
Thickness, mm	EN 1849-1	5.2±0.10
Mass per unit area, kg/m²	EN 1849-1	5.8±0.25
Length × width, m	EN 1848-1	8 × 1
Softening point, °C	ASTM D36	≥150
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥140
Elongation L / T, %	ASTM D5147	≥40 / ≥40
Tensile strength L / T, N/50 mm	ASTM D5147	≥1000 / ≥900
Tear resistance L / T, N	ASTM D4073	-
Reinforcement type	-	polyester
Protective covering type on the top	-	fine-grained sand
Protective covering type on the bottom	-	polymer film

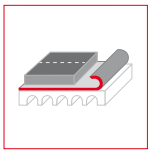
ULTRAFLEX BRIDGE

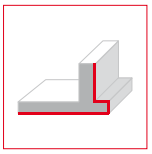
SBS-MODIFIED BITUMEN WATERPROOFING MEMBRANE FOR BRIDGE AND FLYOVER CONSTRUCTION

SBS-modified bitumen membrane ULTRAFLEX BRIDGE is designed for waterproofing of reinforced concrete slab of the carriageway on bridge constructions and other traffic areas. Can be also used for waterproofing of the foundation.

ULTRAFLEX BRIDGE is the waterproofing material produced by the two-sided placing of a high-quality polymer-bitumen binder on a polyester base. The material has additional durability and resistibility features thanks to the special formula of polymer-bitumen binder and increased thickness.

On the bottom side, the material is covered by a polymer film with special graphic elements, melting of which indicates the proper material heating. On the top side, the material is covered by a fine-grained sand.





PROPERTIES	TEST METHOD	ULTRAFLEX BRIDGE
Thickness, mm	EN 1849-1	5.0±0.20
Mass per unit area, kg/m²	EN 1849-1	6.4±0.25
Length × width, m	EN 1848-1	8 × 1
Softening point, °C	ASTM D36	≥110
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥100
Elongation L / T, %	ASTM D5147	≥40 / ≥40
Tensile strength L / T, N/50 mm	ASTM D5147	≥600 / ≥600
Tear resistance L / T, N	ASTM D4073	-
Reinforcement type	-	polyester
Protective covering type on the top	-	fine-grained sand
Protective covering type on the bottom	-	polymer film

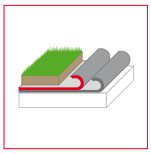
ULTRAFLEX GREEN

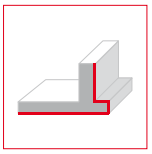
SBS-MODIFIED BITUMEN ROOFING AND WATERPROOFING MEMBRANE FOR GREEN ROOF CONSTRUCTION

SBS-modified bitumen membrane ULTRAFLEX GREEN is designed for waterproofing of green roofs, foundations and underground engineering structures. The material has an additional mechanical protection on top, which makes it resistant to damage caused by roots of plants and ensures reliable waterproofing. Special chemical compound prevents roots penetration, but at the same time does not have a negative effect on plants or environment.

ULTRAFLEX GREEN can be used both for construction of green roofs and for foundation waterproofing with additional protection from roots of plants located nearby.

The green roof reduces energy costs, increases real estate value and service life of the roof, serves as a sound insulation layer. It also creates aesthetically attractive landscape and recreational space, increases biodiversity in urban areas, regulates the temperature and humidity in the building and the environment, purifies the air and the rainwater. Construction of green roofs may be supported by the government via grants or reduced taxes.





PROPERTIES	TEST METHOD	ULTRAFLEX GREEN
Thickness, mm	EN 1849-1	3.1±0.20
Mass per unit area, kg/m²	EN 1849-1	4.0±0.25
Length × width, m	EN 1848-1	10 × 1
Softening point, °C	ASTM D36	≥110
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥100
Elongation L / T, %	ASTM D5147	50±25 / 50±25
Tensile strength L / T, N/50 mm	ASTM D5147	700±100 / 500±100
Tear resistance L / T, N	ASTM D4073	180±30 / 180±30
Reinforcement type	-	polyester
Protective covering type on the top	-	thick polymer film
Protective covering type on the bottom	-	polymer film

VAPORSTOP CA 500

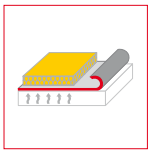
SBS-MODIFIED BITUMEN SELF-ADHESIVE MEMBRANE FOR PROTECTION FROM MOISTURE CAUSED BY VAPOR

Flexible reinforced SBS-modified bitumen membrane VAPORSTOP CA 500 is used as a high-performance vapor barrier in roof waterproofing systems.

The material is produced on a base of a glass net carrier coated with SBS-modified self-adhesive bitumen binder. The membrane is protected on the bottom side with an easily removable siliconized film, while the top surface is covered with aluminium foil.

Vapor barrier VAPORSTOP CA 500 has the following advantages:

- provides very effective vapor insulation;
- high tensile strength offers the possibility of walking over the material during its installation;
- reliable adhesion properties prevent the material from shifting and make it invulnerable to the wind load;
- high speed of application;
- no need for any additional equipment and skills;
- resistance to accidental burning;
- high repairability.



PROPERTIES	TEST METHOD	VAPORSTOP CA 500
Mass per unit area, kg/m²	EN 1849-1	0.5±0.1
Length × width, m	EN 1848-1	50 × 1.08
Softening point, °C	ASTM D36	≥100
Flexibility at low temperature, °C	EN 1109-1	≤-25
Flow resistance at elevated temperature, °C	EN 1110	≥90
Elongation L / T, %	ASTM D5147	≥2.0 / ≥2.0
Tensile strength L / T, N/50 mm	ASTM D5147	600±120 / 600±120
Determination of shear resistance of joints, kN/m	EN 12317-1	≥1.5
Peel resistance of joints: overlap to overlap / overlap to film, N/50 mm	EN 12316-1	≥50
Reinforcement type	-	glass net
Protective covering type on the top	-	aluminium foil
Protective covering type on the bottom	-	anti-adhesion film

ULTRAFLEX SA 7000-X

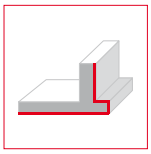
SBS-MODIFIED BITUMEN SELF-ADHESIVE NON-REINFORCED MEMBRANE WITH RECORD ELONGATION PROPERTIES

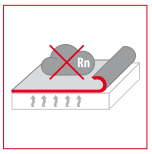
Self-adhesive carrier less SBS-modified bitumen membrane ULTRAFLEX SA 7000-X is designed for waterproofing of foundations and engineering structures with the additional feature of radon protection.

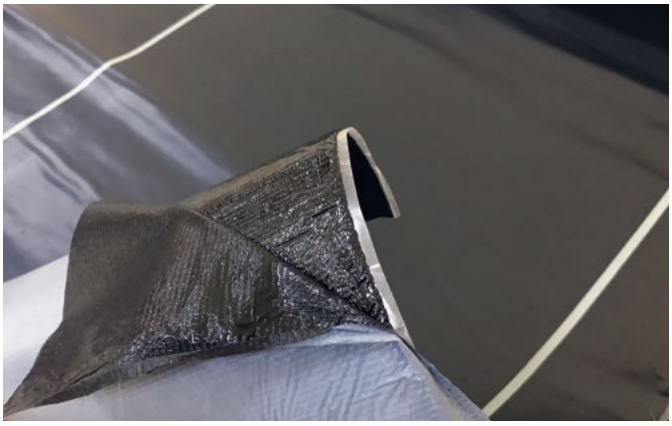
ULTRAFLEX SA 7000-X is produced by placing a special self-adhesive polymer-bitumen binder on a unique high-performance polymer film that covers the material on top. The bottom surface of the material is covered with an easy-removable protective film.

Waterproofing material ULTRAFLEX SA 7000-X has the following advantages:

- record high elongation properties prevent the material from damage caused by movements of the substrate;
- excellent physical and mechanical characteristics in all directions;
- prevents radon penetration into the structure;
- high speed of application;
- safe and cheap application – the membrane is applied without the use of gas and flame.







PROPERTIES	TEST METHOD	ULTRAFLEX SA 7000-X
Thickness, mm	EN 1849-1	1.5±0.10
Mass per unit area, kg/m²	EN 1849-1	1.75±0.15
Length × width, m	EN 1848-1	20 × 1
Softening point, °C	ASTM D36	≥100
Flexibility at low temperature, °C	EN 1109-1	≤-15
Flow resistance at elevated temperature, °C	EN 1110	≥85
Elongation L / T, %	ASTM D5147	≥800 / ≥800
Tensile strength L / T, N/50 mm	ASTM D5147	400±100 / 300±100
Peel resistance of joints: overlap to overlap / overlap to film, N/50 mm	EN 12316-1	≥25 / -
Reinforcement type	-	no base
Protective covering type on the top	-	high-performance polymer film
Protective covering type on the bottom	-	anti-adhesion film

ULTRAFLEX SA NB

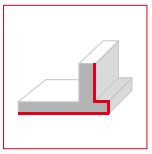
SBS-MODIFIED BITUMEN SELF-ADHESIVE NON-REINFORCED MEMBRANE FOR WATERPROOFING WITHOUT TORCHING

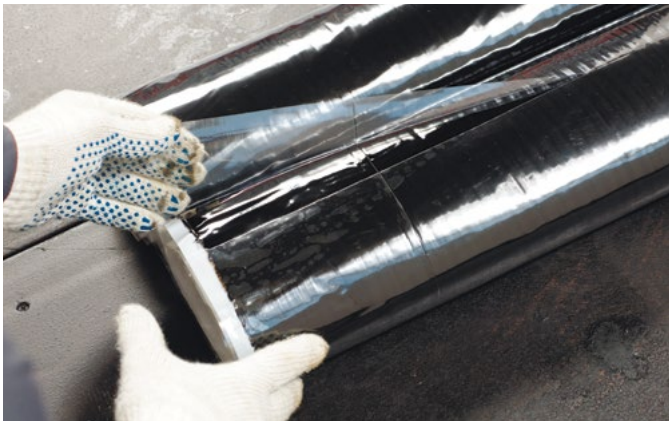
Self-adhesive non-reinforced SBS-modified bitumen membrane ULTRAFLEX SA NB is designed for waterproofing of foundations and engineering structures, indoor waterproofing.

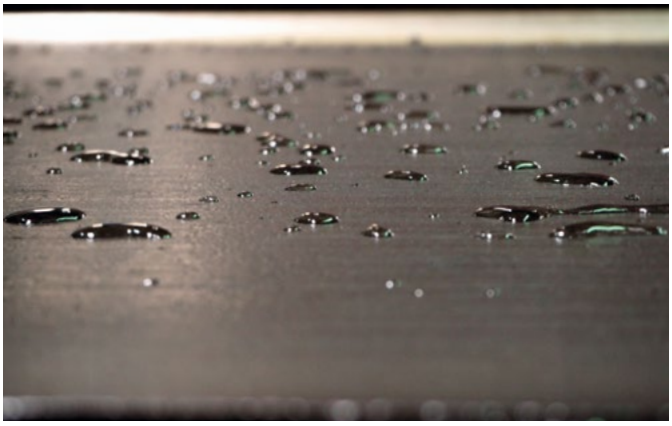
The material is produced by placing a special self-adhesive polymer-bitumen binder on a thick polymer film that covers the material on top. The other side of the material is covered with a removable protective film. The absence of a carrier is a key feature of this material that makes it very elastic and flexible.

Waterproofing material ULTRAFLEX SA NB has the following advantages:

- can be used on surfaces, where the standard torch-on application is forbidden (wood, XPS, etc.);
- high speed of application;
- no need for any additional equipment and skills;
- safe and cheap application – the membrane is applied without the use of gas and flame;
- can be used for indoor waterproofing in a closed area.







PROPERTIES	TEST METHOD	ULTRAFLEX SA NB
Thickness, mm	EN 1849-1	1.5±0.10
Mass per unit area, kg/m²	EN 1849-1	1.5±0.25
Length × width, m	EN 1848-1	20 × 1
Softening point, °C	ASTM D36	≥100
Flexibility at low temperature, °C	EN 1109-1	≤-15
Flow resistance at elevated temperature, °C	EN 1110	≥85
Elongation L / T, %	ASTM D5147	≥200 / ≥200
Determination of shear resistance of joints, kN/m	EN 12317-1	≥2.0
Peel resistance of joints: overlap to overlap / overlap to film, N/50 mm	EN 12316-1	- / ≥25
Reinforcement type	-	no base
Protective covering type on the top	-	thick polymer film
Protective covering type on the bottom	-	anti-adhesion film

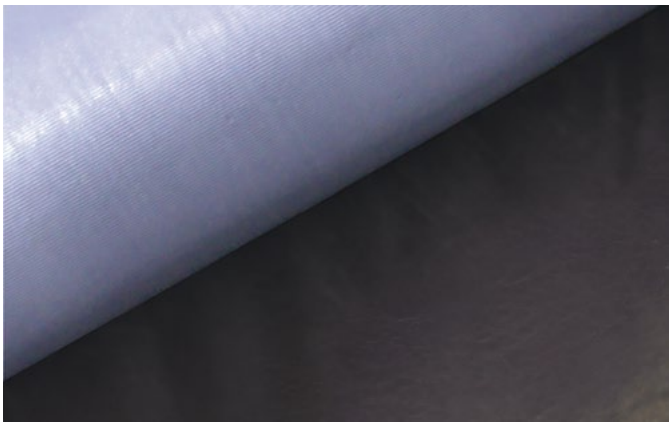
ULTRAFLEX SA

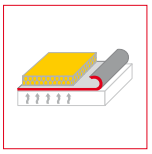
SBS-MODIFIED BITUMEN SELF-ADHESIVE POLYESTER REINFORCED MEMBRANE FOR WATERPROOFING WITHOUT TORCHING

Self-adhesive polyester reinforced SBS-modified bitumen membrane ULTRAFLEX SA is designed to complete secure application. It is used as an underlay on pitched roofs and as a vapor barrier. Thanks to the special adhesive bitumen compound, the material can be used on surfaces, where the standard torch-on application is forbidden (expanded / extruded polystyrene or wooden base).

Waterproofing material ULTRAFLEX SA has the following advantages:

- additional strength granted by polyester reinforcement;
- can be used on bases, where the standard torch-on application is forbidden (wood, XPS, etc.);
- high speed of application;
- safe and cheap application – the membrane is applied without the use of gas and flame;
- no need for any additional equipment and skills;
- available with 2 types of the top surface: polymer film or fine-grained sand – for convenient installation depending on the area of application.





PROPERTIES	TEST METHOD	ULTRAFLEX SA	
Thickness, mm	EN 1849-1	1.5±0.20	2.0±0.20
Mass per unit area, kg/m²	EN 1849-1	1.8±0.20	2.3±0.20
Length × width, m	EN 1848-1	20 × 1	
Softening point, °C	ASTM D36	≥100	
Flexibility at low temperature, °C	EN 1109-1	≤-20	
Flow resistance at elevated temperature, °C	EN 1110	≥90	
Elongation L / T, %	ASTM D5147	35±20 / 35±20	
Tensile strength L / T, N/50 mm	ASTM D5147	400±100 / 300±100	
Peel resistance of joints: overlap to overlap / overlap to film, N/50 mm	EN 12316-1	≥40 / ≥20	≥60 / ≥30
Reinforcement type	-	polyester	
Protective covering type on the top	-	polymer film or sand	
Protective covering type on the bottom	-	anti-adhesion film	

UNDERLAY NEXT SELF

SBS-MODIFIED BITUMEN SELF-ADHESIVE NON-REINFORCED UNDERLAY MEMBRANE FOR PITCHED ROOFS

Self-adhesive non-reinforced SBS-modified bitumen membrane UNDERLAY NEXT SELF is used as an underlay on pitched roofs with continuous rigid wood decking (OSB-3, plywood, tongue or groove planks).

The top side of the material is covered with a strong multilayer polypropylene fabric. The self-adhesive binder on the bottom side is covered with an easy-removable protective film.

Waterproofing material UNDERLAY NEXT SELF has the following advantages:

- sticks well to its' top surface and does not require the use of adhesive mastic on transverse and longitudinal overlaps;
- multilayer polypropylene fabric prevents applicators from slipping from the pitched roof;
- lightweight material;
- fast and easy application;
- special marking lines on the fabric make the following installation of the roofing shingles easier.

PROPERTIES	TEST METHOD	UNDERLAY NEXT SELF
Mass per unit area, kg/m²	EN 1849-1	1.0±0.1
Length × width, m	EN 1848-1	25 × 1
Softening point, °C	ASTM D36	≥100
Flexibility at low temperature, °C	EN 1109-1	≤-15
Flow resistance at elevated temperature, °C	EN 1110	≥90
Elongation L / T, %	EN 12311-1	20±10 / 20±10
Tensile strength L / T, N/50 mm	EN 12311-1	600±200 / 600±200
Tear resistance L / T, N	EN 12310-1	500±100 / 500±100
Peel resistance of joints: overlap to film, N/50 mm	EN 12316-1	40±15
Reinforcement type	-	no base
Protective covering type on the top	-	multilayer polypropylene fabric
Protective covering type on the bottom	-	anti-adhesion film

TECHNONICOL SOUNDSTOP SUPER

SBS-MODIFIED BITUMEN MEMBRANE FOR IMPACT NOISE INSULATION AND WATERPROOFING OF FLOOR SLABS

Fiberglass reinforced SBS-modified bitumen membrane with soundproof fabric TECHNONICOL SOUNDSTOP SUPER prevents the spread of an impact noise, which is transmitted through the floor slabs. The material is used indoors for the construction of soundproofing and waterproofing layer in systems of "floating" flooring, heated flooring, flooring with lags and interior partitions. Special non-woven fabric on the bottom side of the membrane grants effective soundproofing properties to the material, while aluminized film on the top side helps to reduce the influence of electromagnetic fields.

Soundproofing membrane TECHNONICOL SOUNDSTOP SUPER has the following advantages:

- high index of impact noise reduction;
- also serves as the waterproofing layer due to the increased thickness of the bitumen compound;
- the material is resistant to decay;
- the small total thickness of the material allows retaining the same height of the flooring;
- no need for any additional equipment and skills;
- safety and cheap application – the membrane is applied without the use of gas and flame;
- helps to reduce the influence of electromagnetic fields from the sources placed on adjacent floors.

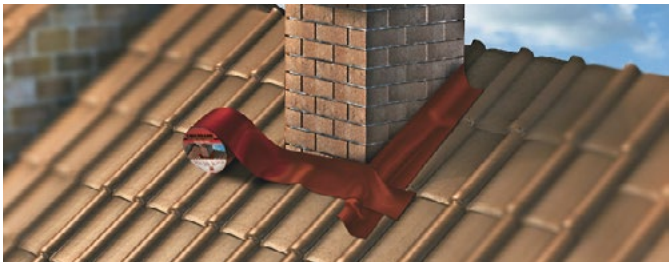
PROPERTIES	SOUNDSTOP SUPER
Mass per unit area, kg/m^2	2.2±0.25
Length × width, m	10 × 1
Maximum impact noise reduction index ΔLn, dB	27
Watertightness at 0.2 MPa for 2 hours	Pass
Dynamic modulus of elasticity under load of 2 kPa, MPa	≤0.15
Tensile strength, N	≥300
Reinforcement type	fiberglass
Protective covering type on the top	aluminized film
Protective covering type on the bottom	non-woven soundproof fabric

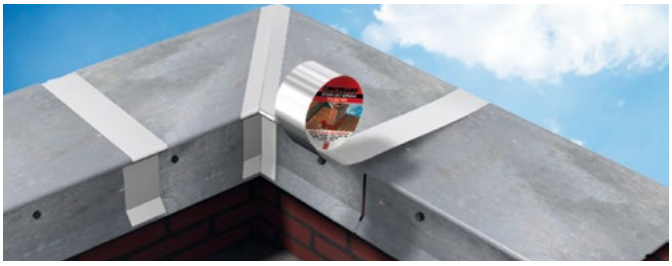
SELF-ADHESIVE SEALANT TAPE

NICOBAND

SELF-ADHESIVE SEALANT TAPE

NICOBAND sealant tape is a very convenient way to seal various cracks and joints. Can also be used to insulate junctions, for roofing repairs and for roof repair systems.





ADVANTAGES:

- Protected from UV radiation. The bitumen layer of NICOBAND sealant tape is protected from UV radiation by aluminum coating. This makes it possible to use the tape outdoor.
- Easy to use and durable. NICOBAND sealant tape is very easy to use and its application requires no special skills. The sealing function of the tape extends for its full lifetime (10 years) thanks to specially formulated polymer-bitumen binder.
- Different colors. The tape is designed for the most popular roofing colors. It allows performing repairs or maintenance in the tone of the main surface without disturbing its form.

- Flawless adhesion to many different surfaces. The self-adhesive layer provides perfect quality adhesion to many different surfaces: metal, slate, wood, plastic, plaster, concrete, glass, etc.

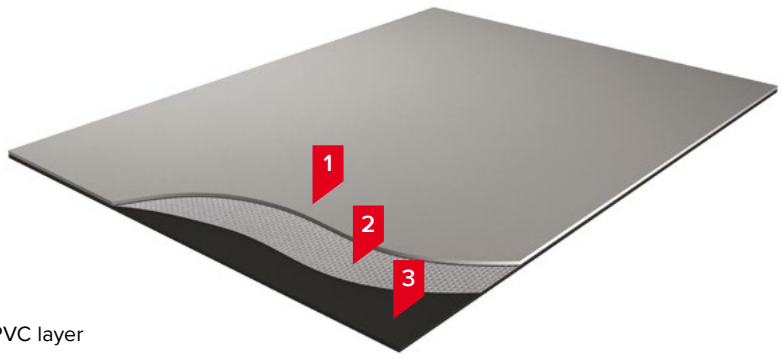
METHOD OF APPLICATION:

The surface must be flat, dry and clean. Cut the tape to required length, remove the protective film, stick the tape to the desired area and press it firmly. If the temperature is below +5°C it is necessary to first keep NICOBAND in room temperature for at least 12 hours before application. The use of the material at sub-zero temperatures requires additional heating of the surface. The use of NICOBAND is not recommended on hot vertical surfaces or on surfaces with a temperature above +80°C.

WIDTH, cm	5	7.5	10	15	20	30
Length: 3 m	+	+	+	+	-	-
Length: 10 m	-	+	+	+	+	+

TAPE DIMENSIONS, mm	PACKAGE SIZE, mm	QUANTITY IN PACKAGE	WEIGHT OF PACKAGE, kg
3000×50	box 240×240×320	24	5.9
3000×75	box 240×240×320	16	5.9
3000×100	box 240×240×320	12	5.9
3000×150	box 240×240×320	8	5.9
10000×75	box 180×180×320	4	5
10000×100	box 180×180×320	3	5
10000×150	box 180×180×320	2	5
10000×200	box 180×180×320	1	3.5
10000×300	box 180×180×320	1	5

SYNTHETIC POLYMER MEMBRANES



1. Top PVC layer
2. Reinforcement
3. Bottom PVC layer

Synthetic membranes are used for foundation, tunnel and roof waterproofing systems. These reliable and durable waterproofing materials are produced by using the co-extrusion technology - best available at present time. Due to the optical quality control, we can guarantee uniform thickness of the produced membranes. All synthetic membranes of TECHNONICOL have a CE marking. It is a manufacturer's declaration that the product complies with the essential requirements of harmonized European standards.

More than 100 million square meters of roofs, tunnels and foundations have been protected by various types of TECHNONICOL synthetic waterproofing membranes.

PRODUCTION QUALITY

We produce synthetic membranes with top technical characteristics thanks to:

- our own full-cycle plants with modern equipment;
- progressive extrusion production technology;
- European raw materials of the highest quality;
- contribution of our own research and development centres and laboratories on the plants;
- careful and precise control before, during and after production.

As a result, the client gets the waterproofing material of homogeneous structure without internal defects, ensuring high standards of quality and durability.

CERTIFICATES AND AWARDS

- Certificates of conformity according to harmonized European standards (CE marking according to EN 13956).
- The conclusions of BDA Test Institute (The Netherlands) of the resistance to the wind load.
- External fire performance test reports (Broof (t1), Broof (t3)).
- Continuous updating and on-going of other certification programs.

UNIQUE SERVICE

Comprehensive approach allows us to provide personalized service to each customer at the highest level:

- wide range of solutions for each technically different project;
- complete range of accessories and components for each individual system;
- on-site supervision and quality control during installation;
- technical advice to partners.

A VERSATILE TOOL FOR SOLVING COMPLEX PROBLEMS

TECHNONICOL synthetic membranes are the quintessence of more than 20 years of technical experience of dedicated specialists, engineers and technologists whose daily work and objective is to embody the ideas of customers: contractors, architects, designers. The company is actively promoting turnkey solutions for waterproofing of roofs, foundations and tunnels. TECHNONICOL is ready to offer complete system solution that is ideal for each individual project.

Moreover, the use of synthetic membranes allows increasing the speed of application due to the roll width of more than 2 m and the possibility of automatic welding.

MATERIAL RANGE

The company is ready to offer a wide range of synthetic membranes, which are distinguished by the area of application:

ROOFING MEMBRANES

- High elasticity for the ease of installation.
- Resistance to punctures and mechanical impacts.
- Reliable protection from UV radiation during the whole service life of the membrane through a system of TRI-P® special protective fire retardants and stabilizers.

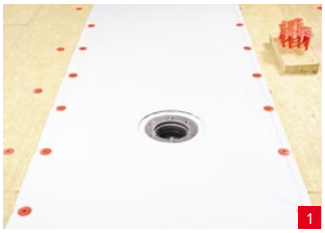
UNDERGROUND WATERPROOFING MEMBRANES

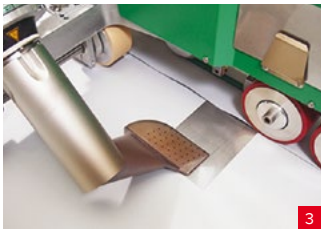
- Special signal layer for early detection of the membrane's damage.
- Possibility to install the material on uneven and wet concrete surfaces.
- Resistance to punctures and mechanical impacts.
- High elasticity for the ease of installation.

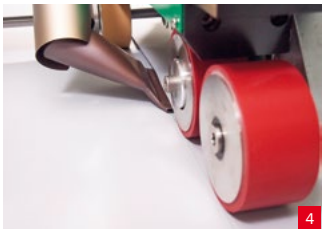
DRAINAGE MEMBRANES

- HDPE membranes are produced by the extrusion method.
- Special profiled surface.
- Comprehensive mechanical properties.
- Lightweight and easy to install material for different purposes.

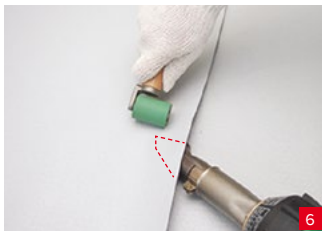
INSTALLATION

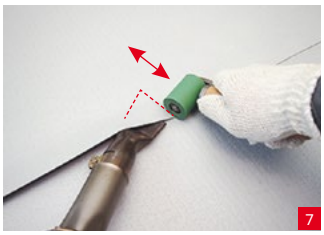






1. Unroll the membrane and position it with a 12 cm overlap for fasteners. Membranes are marked at the factory with seam overlap lines and fastener location lines for the ease of installation. Half width rolls can be used in the critical perimeter and corner areas of the building.
2. All welded surfaces should be clean and dry. Automatic hot air welding equipment LEISTER VARIMAT is recommended to use for overlaps welding. Such settings as speed, air flow and welding temperature can be adjusted to accommodate to the variable ambient temperature.
3. Release the lock on the gun mechanism; the nozzle should lay flat on the membrane adjacent to the overlapping membrane. Then slide the nozzle between two membranes until the gun mechanism locks.
4. The machine will now move automatically at configured settings.





5. Corners of the membranes should be cut with scissors to the round shape. It is recommended to avoid creating cross overlaps of more than three sheets.
6. In case of using hand hot air welding equipment, it is recommended to perform pre-welding to avoid air leakage from the welding zone. The back edge of the overlap should be welded with a thin continuous pre-weld. To do this, insert the nozzle of the hand hot air gun and move it quickly along the membrane for the length of the desired welding with one rib of the roller pressing the membrane to the nozzle edge.
7. In order to carry out the final welding, insert the hot air gun into the remaining overlap at a 45° angle. Once the proper welding temperature has been reached and the membrane begins to “flow”, the hand roller is positioned perpendicular to the nozzle and pressed lightly. Move the gun along the overlap, simultaneously move the silicon roller across the joint.
8. In order to check the quality of the weld use a strip (min 30 mm) of 2 welded membranes. Cut out the strip and pull apart 2 welded membranes with your hands. Rupture of a high quality weld should occur on the material along with exposure of the reinforcing net, the weld should not delaminate.

EXAMPLES OF APPLICATION




TRANSPORTATION AND STORAGE

- Rolls of synthetic membranes are delivered on pallets.
- All rolls of synthetic membranes have white labels identifying the membrane, its thickness, length and width.
- Every roll is packed in an additional individual pack.
- Rolls of synthetic membranes should be stored lying down on pallets fully protected from moisture with clean canvas tarpaulins.
- Keep the minimum distance of 1 m from any source of heat.

LOGICROOF V-RP

POLYESTER REINFORCED PVC MEMBRANE FOR SINGLE-PLY WATERPROOFING OF EXPOSED FLAT ROOFS

LOGICROOF V-RP is a premium quality PVC membrane, which is used for single-ply waterproofing of exposed flat roofs. It is fixed mechanically with hot air welding of overlaps.

LOGICROOF V-RP is a polyester reinforced multi-layer synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P). The top layer is featured by a very high resistance to weather factors and UV rays, while the bottom layer offers a high resistance to puncture.

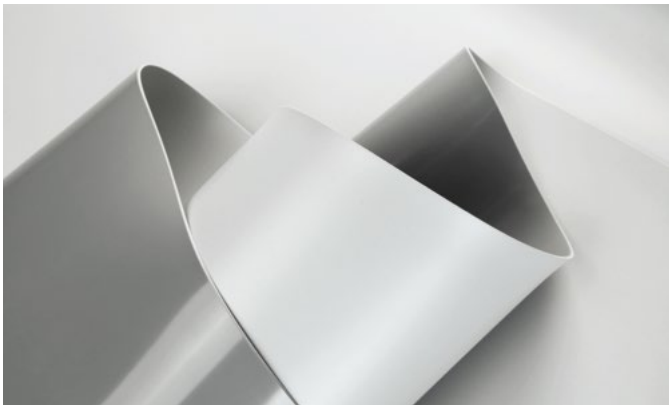
Can be supplied in different colors: grey, white, red, green and blue. A variation with a non-slippery textured surface of the top layer LOGICROOF V-RP (T) is available.

LOGICROOF V-SR

NON-REINFORCED FLEXIBLE PVC MEMBRANE FOR CORNERS REINFORCING AND SEALING OF CONNECTIONS BETWEEN DIFFERENT ROOF ELEMENTS

LOGICROOF V-SR is a special PVC membrane without reinforcement, which is designed for corners reinforcing and sealing of connections between different roof elements such as piping, funnels, aerators and other protruding objects. The material is welded with the hot air to the main waterproofing layer.

The main advantage of this material is its high elasticity. The top layer is featured by a very high resistance to weather factors and UV rays, while the bottom layer offers high resistance to puncture.



PROPERTIES	TEST METHOD	LOGICROOF V-RP				LOGICROOF V-SR
Thickness, mm	EN 1849-2	1.2	1.5	1.8	2.0	1.5
Mass per unit area, kg/m^2	EN 1849-2	1.5	1.8	2.2	2.7	1.8
Length × width, m	EN 1848-2	25 × 2.1	20 × 2.1	15 × 2.1	15 × 2.1	20 × 2.1
Tensile strength L / T	EN 12311-2	≥1100 / ≥900 N/50 mm				≥16 / ≥15 MPa
Elongation, %	EN 12311-2	≥18				≥200
Tear resistance, N	EN 12310-2	≥150				≥150
Resistance to static load, kg	EN 12730 B	≥20				≥20
Resistance to dynamic impact on rigid / soft base, mm	EN 12691	≥600 / ≥700	≥800 / ≥1000	≥1100 / ≥1500	≥1400 / ≥1800	≥800 / ≥1000
Peel resistance of joints, N/50 mm	EN 12316-2	≥300				≥400
Shear resistance of joints, N/50 mm	EN 12317-2	≥700				≥700
Foldability at low temperature, °C	EN 495-5	≤-30				≤-30
Watertightness, kPa	EN 1928-2 B	≥10				≥10

LOGICROOF V-RP FB

POLYESTER REINFORCED PVC MEMBRANE WITH LAMINATED GEOTEXTILE FLEECE ON THE BOTTOM FOR SINGLE-PLY WATERPROOFING OF EXPOSED FLAT ROOFS

LOGICROOF V-RP FB is a premium quality PVC membrane with laminated geotextile fleece on the bottom surface, which is designed for use in fully adhered systems. The material is used for single-ply waterproofing of exposed flat roofs. It is fixed by glue, overlaps should be welded with the hot air (each roll has a fleece free edge on one side).

LOGICROOF V-RP FB is a polyester reinforced multi-layer synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P).

A variation with a non-slippery textured surface of top layer LOGICROOF V-RP FB (T) is available.

LOGICROOF V-GR

GLASS FIBER REINFORCED PVC MEMBRANE FOR SINGLE-PLY WATERPROOFING OF BALLASTED AND INVERTED NON-EXPOSED FLAT ROOFS

LOGICROOF V-GR is a premium quality glass fiber reinforced PVC membrane, which is used for single-ply waterproofing of ballasted and inverted non-exposed flat roofs. It is loose laid, while overlaps are welded with the hot air.

LOGICROOF V-GR is a multi-layer synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P). Glass fiber reinforcement provides an increased resistance to punctures and mechanical impacts of sharp objects.

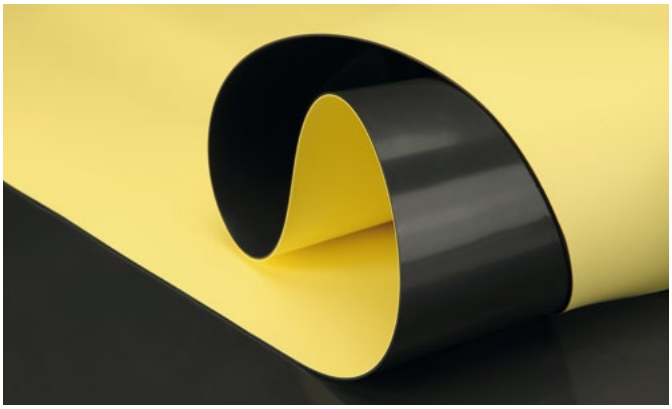
PROPERTIES	TEST METHOD	LOGICROOF V-RP FB		LOGICROOF V-GR		
Thickness, mm	EN 1849-2	1.5	2.0	1.5	2.0	2.4
Mass per unit area, kg/m^2	EN 1849-2	1.9	2.8	1.8	2.5	3.2
Length × width, m	EN 1848-2	20 × 2.1	15 × 2.1	20 × 2.05	15 × 2.05	15 × 2.05
Tensile strength L / T, N/50 mm	EN 12311-2	≥1100 / ≥900		≥800 / ≥600		
Elongation, %	EN 12311-2	≥18		≥200		
Tear resistance, N	EN 12310-2	≥150		≥150		
Resistance to static load, kg	EN 12730 B	≥20		≥20		
Resistance to dynamic impact on rigid / soft base, mm	EN 12691	≥800 / ≥1000	≥1400 / ≥1800	≥800 / ≥1000	≥1400 / ≥1800	≥1500 / ≥1900
Peel resistance of joints, N/50 mm	EN 12316-2	≥300		≥300		
Shear resistance of joints, N/50 mm	EN 12317-2	≥700		≥700		
Foldability at low temperature, °C	EN 495-5	≤-30		≤-25		
Watertightness, kPa	EN 1928-2 B	≥10		≥10		

LOGICBASE V-SL

NON-REINFORCED PVC MEMBRANE FOR WATERPROOFING OF TUNNELS, FOUNDATIONS, UNDERGROUND PARTS OF BUILDINGS AND STRUCTURES

LOGICBASE V-SL is a premium quality PVC membrane, which is used for waterproofing of tunnels, foundations, underground parts of buildings and structures. Sheets of the membrane are welded together with the hot air. On the walls and tunnel arches, the material is fixed mechanically with PVC rondells.

LOGICBASE V-SL is a non-reinforced synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P). Yellow signal layer on the top surface of the material allows detecting waterproofing layer damage promptly and easily. The advantages of the material are durability, high strength and elasticity, resistance to mechanical impact and high chemical stability.

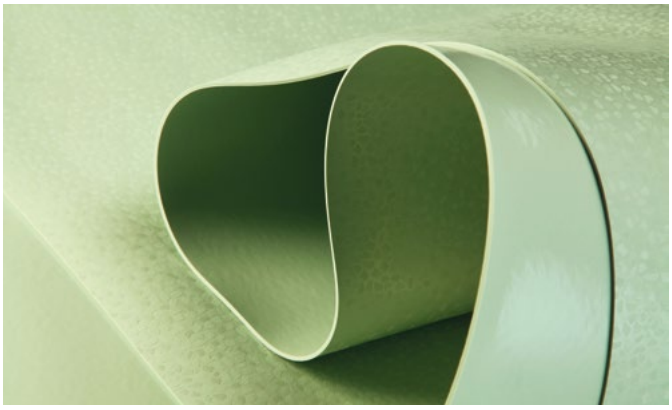


LOGICBASE V-ST

NON-REINFORCED PVC MEMBRANE USED AS THE SECOND LAYER IN DOUBLE-LAYER PVC WATERPROOFING SYSTEMS WITH VACUUM QUALITY CONTROL

LOGICBASE V-ST is a special PVC membrane, which is used for waterproofing of tunnels, foundations, underground parts of buildings and structures as the second layer in double-layer PVC waterproofing systems with vacuum quality control. It is also used as a protective layer of the waterproofing PVC system. The material is welded with the hot air to the main waterproofing layer. Overlap seams are welded by hot air welding equipment.

LOGICBASE V-ST is a non-reinforced synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P). A specially textured surface of the material prevents two membranes of a double-layer waterproofing system from sticking together during the vacuum quality control.



PROPERTIES	TEST METHOD	LOGICBASE V-SL		LOGICBASE V-ST
Thickness, mm	EN 1849-2	1.5	2.0	1.6
Mass per unit area, kg/m^2	EN 1849-2	2.0	2.7	1.9
Length × width, m	EN 1848-2	20 × 2.05		20 × 2.05
Tensile strength L / T, MPa	EN 12311-2	≥16 / ≥15		≥14 / ≥11
Elongation, %	EN 12311-2	≥320		≥300
Tear resistance, N	EN 12310-2	≥150		≥150
Resistance to static load, kg	EN 12730 B	≥20		≥20
Resistance to dynamic impact on rigid / soft base, mm	EN 12691	≥700 / ≥1000	≥1400 / ≥1800	≥700 / ≥1000
Peel resistance of joints, N/50 mm	EN 12316-2	≥300		≥300
Shear resistance of joints, N/50 mm	EN 12317-2	≥600		≥700
Foldability at low temperature, °C	EN 495-5	≤-30		≤-30
Watertightness, kPa	EN 1928-2 B	≥60		≥60

LOGICBASE V-PT

NON-REINFORCED PVC MEMBRANE USED AS A PROTECTIVE LAYER OF WATERPROOFING PVC SYSTEMS

LOGICBASE V-PT is a special PVC membrane, which is used as a protective layer of waterproofing PVC systems. The material is welded with the hot air to the main waterproofing layer at certain points along the whole area. Overlap seams are welded by hot air welding equipment.

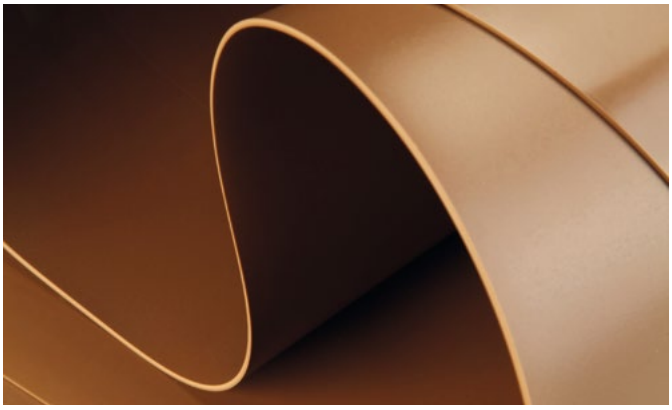
LOGICBASE V-PT is a non-reinforced synthetic membrane produced by co-extrusion on a base of premium quality plasticized polyvinyl chloride (PVC-P). High impact resistance of the material provides a reliable protection for the main waterproofing layer from mechanical damages during construction works.

ECOBASE V

NON-REINFORCED SINGLE-LAYER PVC MEMBRANE FOR WATERPROOFING OF FOUNDATIONS, UNDERGROUND PARTS OF BUILDINGS AND STRUCTURES

ECOBASE V is a high-quality PVC membrane, which is used for waterproofing of foundations, underground parts of buildings and structures. It is also used for waterproofing of artificial reservoirs. Sheets of the membrane are welded together with the hot air. On the walls and tunnel arches, the material is fixed mechanically with PVC rondells.

ECOBASE V is a non-reinforced single-layer synthetic membrane produced by co-extrusion on a base of high-quality plasticized polyvinyl chloride (PVC-P).



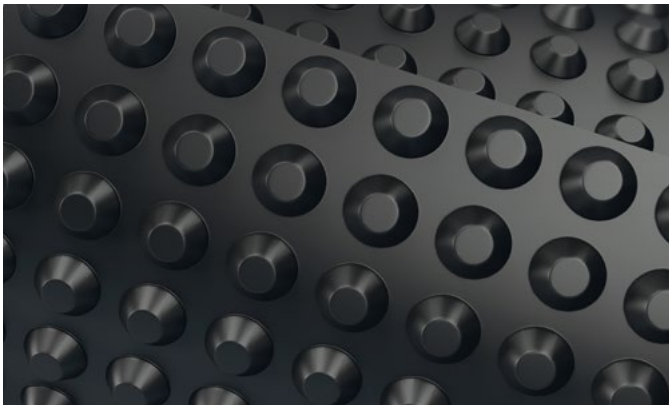
PROPERTIES	TEST METHOD	LOGICBASE V-PT		ECOBASE V
Thickness, mm	EN 1849-2	1.5	2.0	1.5
Mass per unit area, kg/m^2	EN 1849-2	2.0	2.6	2.0
Length × width, m	EN 1848-2	20 × 2.05		20 × 2.05
Tensile strength L / T, MPa	EN 12311-2	≥12 / ≥10		≥12 / ≥10
Elongation, %	EN 12311-2	≥200		≥200
Tear resistance, N	EN 12310-2	≥150		≥150
Resistance to static load, kg	EN 12730 B	≥20		≥20
Resistance to dynamic impact on rigid / soft base, mm	EN 12691	≥700 / ≥1000	≥1400 / ≥1800	≥700 / ≥1000
Peel resistance of joints, N/50 mm	EN 12316-2	≥300		≥300
Shear resistance of joints, N/50 mm	EN 12317-2	≥700		≥600
Foldability at low temperature, °C	EN 495-5	≤-25		≤-25
Watertightness, kPa	EN 1928-2 B	≥60		≥60

PLANTER standard

PROFILED HDPE MEMBRANE FOR PROTECTION OF WATERPROOFING LAYER, CONSTRUCTION OF PREPARATION LAYER FOR FOUNDATION SLABS

PLANTER standard is a profiled membrane produced by extrusion method on a base of high-density polyethylene (HDPE), which is used for:

- protection of waterproofing layer from mechanical damage;
- construction of preparation layer for foundation slabs;
- protection of foundation from capillary moisture;
- sanitation of damp walls.



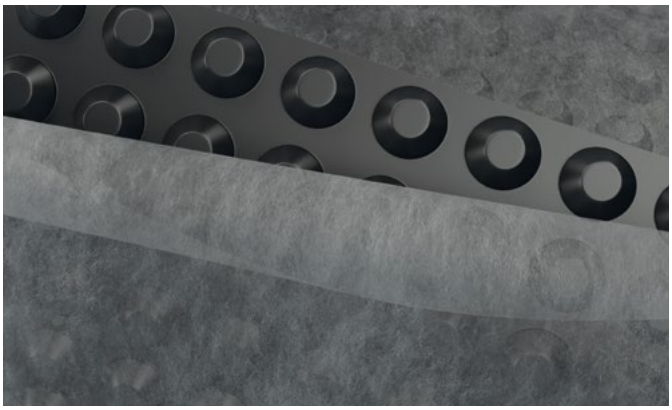
The material is very lightweight and easy to install, herein it is featured by high strength properties. PLANTER is resistant to chemicals, mould and bacteria, roots of plants and ultraviolet radiation. The top surface of the material is covered with conic studs of 8 mm height and 10 mm in diameter.

The membrane is fixed mechanically, overlaps are sealed with NICOBAND self-adhesive tape.

PLANTER geo

PROFILED HDPE MEMBRANE WITH GEOTEXTILE FOR CONSTRUCTION OF DRAINAGE FOR FOUNDATIONS, BALLASTED AND GREEN ROOFS

PLANTER geo is a double-layer profiled membrane. The first layer of the material is produced by extrusion method on a base of high-density polyethylene (HDPE) covered with conic studs 8 mm height and 10 mm in diameter. The second layer is a thermally bounded geotextile glued to the membrane.



The material is used for:

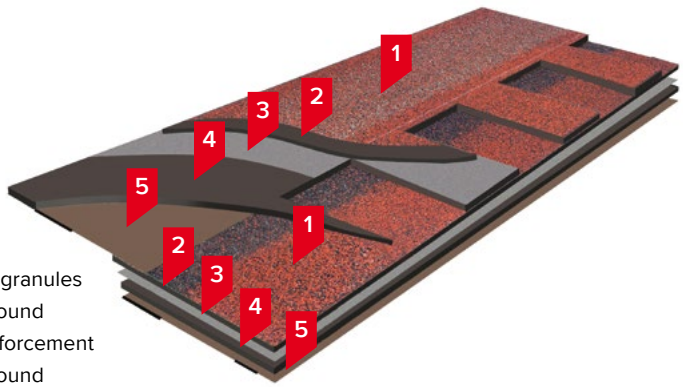
- construction of vertical and horizontal drainage for foundations;
- construction of drainage, protective and separating layer for ballasted roofs and green roofs.

The material is very lightweight and easy to install, herein it is featured by high strength properties. PLANTER is resistant to chemicals, mould and bacteria, roots of plants and ultraviolet radiation.

The membrane is fixed with double-sided self-adhesive sealant tape NICOBAND DUO. Or else, it can be fixed mechanically.

PROPERTIES	TEST METHOD	PLANTER standard	PLANTER geo
Compressive strength, kPa	EN 604	≥280	≥350
Mass per unit area, kg/m^2	EN 1849-2	0.55	0.65
Length × width, m	EN 1848-2	20 × 2.0	15 × 2.0
Tensile strength L / T, N/50 mm	EN 12311-2	≥280 / ≥280	≥420 / ≥420
Elongation, %	EN 12311-2	≥20	≥30
Studs height, mm	EN 1849-2	8	8
Water flow rate, l/m^2*sec	-	-	5.1

ROOFING SHINGLES



1. Basalt colored granules
2. Bitumen compound
3. Fiberglass reinforcement
4. Bitumen compound
5. Underside protection

Roofing shingles are the construction material for the residential roofing application that is used on roof slopes of 12° or greater. It is the smartest solution for a complex or intricate roof design. Bitumen shingles do not fade; they are resistant to harmful environmental impacts, decay, corrosion, fire damage, and, what is very important, they perform well in extreme temperatures. Roofing shingles by TECHNONICOL Corporation are available in a wide variety of original patterns and elegant colors.

TECHNONICOL roofing shingles provide guaranteed comfort and safety to the house. This durable and long-lasting roofing material comes with a manufacturer's warranty of up to 60 years.

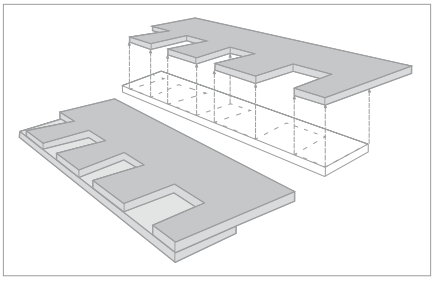
PRODUCTION QUALITY

TECHNONICOL roofing shingles fully comply with EN 544. This European standard for bitumen shingles is known for its strict requirements for the minimum mass of bitumen in products (1300 g/m^2 – for single-layer roofing shingles and 1500 g/m^2 – for multilayer ones).

Having a strong faith in Lean manufacturing philosophy, TECHNONICOL Corporation built in quality control of every process at the production site. Our experts thoroughly test raw materials, do sampling inspection, constantly improve in-process control techniques to offer roofing solutions of the superior quality. The unique equipment for automatic production of multilayer (laminated) roofing shingles was designed and fabricated by the world's industry leader - Machine Solution Providers (USA).

The manufacturer's management system is certified to ISO 9001:2015, the internationally recognized standard that indicates a company's adherence to quality management practices and minimizes potential risks to customers. Our commitment to quality control, best raw materials and up-to-date technology guarantee years of superior performance to every customer.

MULTILAYER ROOFING SHINGLES



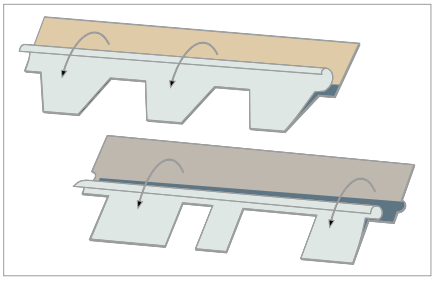
A new roofing standard, which works well with any architectural style imaginable.

Each new layer is a new level of reliability. A special cut pattern creates an appealing look of natural handmade tiles like slate or wooden shakes. Multilayer roofing shingles is a perfect choice for those, who select superior architectural solutions, safe and durable construction materials.

Multilayer coating and its specific components make absolutely quiet roofing. The noise of rain, wind or birds will not be heard inside the house.

Multilayer roofing shingles by TECHNONICOL stand out for their enhanced endurance, leak and wind resistance. These reliable roofing materials will serve several generations without any need for reroofing.

SINGLE-LAYER ROOFING SHINGLES



Beauty and lasting quality to inspire the most ambitious design concepts.

These exceptional materials represent traditional European roofing shingles with the self-adhesive layer on the bottom surface for the better bonding between shingles on the roof. High-quality bitumen compound is used to produce these single-layer roofing shingles.

Basalt granules of diverse shades add depth and dimension to shingles texture to get an incredible roofing view. Thanks to the weather resistant mineral surface, the color will not fade over time.

Roofing shingles provide effective protection from merciless heat as well as from freezing winds and thus help to maintain the comfortable temperature inside the house all the year round.

ADVANTAGES

RELIABILITY
Safe and durable construction material guarantee a long lifetime to your roof. Be sure a few generations of your family will not have to deal with reroofing!

LIGHTWEIGHT
Average roofing shingles weight is just 12 kg/m^2 (COUNTRY collection) compared with 40 kg/m^2 weight of ceramic tiles. It results in the lower load and greater safety.

QUALITY ASSURANCE
TECHNONICOL Corporation provides a warranty for a period of 30 to 60 years, depending on the collection.

ALL-WEATHER
Our roofing shingles are suitable for any climate with temperatures ranging from -70°C to +80°C.

WIND RESISTENCE
High wind resistance due to special sealant on the bottom of shingles.

ALGAE RESISTANCE
Algae resistance for 10 years officially guaranteed for some collections.

WIDE COLOR PALETTE
Basalt granules of diverse shades add depth and dimension to shingles texture to get a statement-making roofing. Thanks to weather resistant mineral surface, the color will not fade over time.

KEEPS YOUR HOME QUIET
Multilayer coating and its specific components make extremely quiet roofing. The noise of rain, wind or hail hitting the roof will not torture you. Enjoy peace and quiet in your house!

CONTINENT collection EN 544

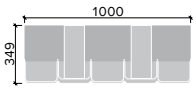
Triple-layer roofing shingles are an elite material that resemble antique stone roofing tiles and create an incredible ultra-dimensional look.


Asia


America


Africa


Europe



60 YEARS
MANUFACTURER'S WARRANTY

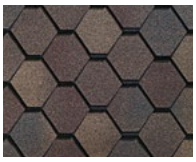
WESTERN collection EN 544

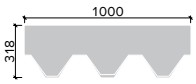
The patent design of this double layer roofing shingles has no analogs in the world. It is an incredible holographic effect embodied in a classic pattern. WESTERN collection is an inimitable range of colors and excellent performance.


Canyon


Klondike


Niagara


Prairie



55 YEARS
MANUFACTURER'S WARRANTY

JAZZ collection EN 544

An exquisite color palette, an intricate play of hues and a dramatic 3D profile. A special pattern creates an appealing look of natural handmade tiles like slate or wooden shakes. These double-layer roofing shingles have an increased thickness and stand out for their enhanced endurance and wind resistance.


Indigo


Corrida

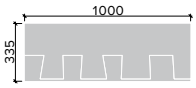

Barcelona


Seville


Alicante


Sicily


Castile



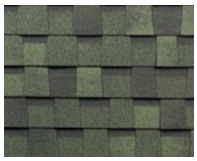
60 YEARS
MANUFACTURER'S WARRANTY

COUNTRY AR collection EN 544

COUNTRY AR (algae resistant) collection of double-layer roofing shingles comprises incredible color solutions that imitate diverse nature's shades and nuances. Vibrant color blends and expressive shadow lines create a wonderful dimensional visual image.


Louisiana


Alaska


Vermount


Kansas

Montana


Texas

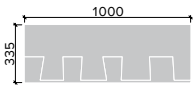

Alabama


Michigan


Atlanta


Indiana


Nevada



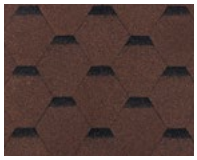
50 YEARS
MANUFACTURER'S WARRANTY

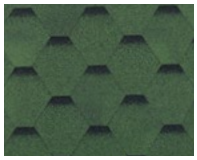
NOTE: Actual product colors may vary slightly from the colors shown in the catalogue. If color hue is critical for you, please request full-size samples before making your final choice.

TROPIC APP collection EN 544

TROPIC APP collection was specially designed for Asian countries. These shingles are manufactured on a base of APP-modified bitumen compound to provide quick and easy torch-on application. APP polymer and special additives give exceptional physical and mechanical properties to the product including the heat resistance of 150°C. Copper-containing color granules prevent algae growth.


Red


Brown


Green

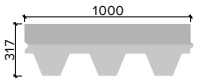

Terra


Red


Brown

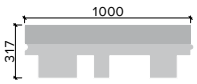

Green


Terra



HEXAGONAL

50 YEARS
MANUFACTURER'S WARRANTY



ACCORD

CLASSIC AR series EN 544

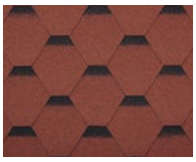
CLASSIC AR (algae resistant) series covers a wide array of attractive colors and various cutting patterns to suit any taste. High-grade bitumen compound is used to produce these single-layer roofing shingles of assured quality.


Dune


Glacier

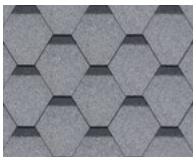

Marble

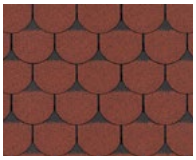

Plateau


Red

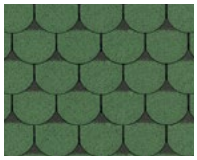

Brown

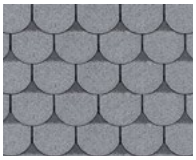

Green


Grey

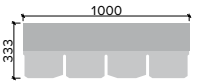

Red


Brown


Green

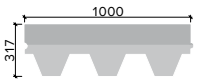

Grey


Black

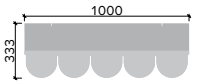


MODERN

30 YEARS
MANUFACTURER'S WARRANTY

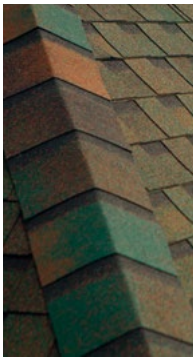


SONATA
QUADRILLE



BEAVER
PLUS

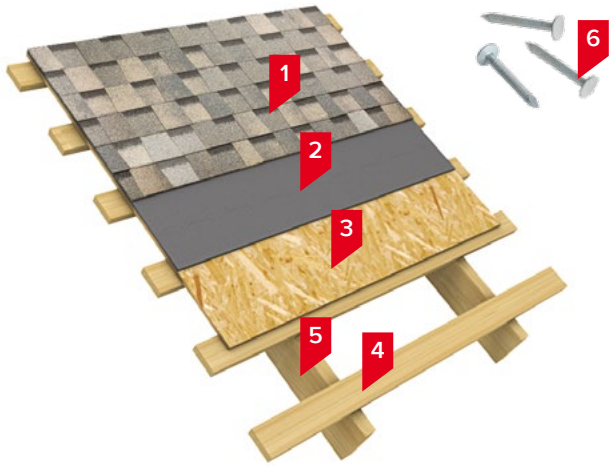
TECHNONICOL hip & ridge & starter shingles



Hip & ridge & starter shingles produced with SBS-modified bitumen are extremely flexible. These pre-cut shingles can be separated into three smaller pieces for further application on hips and ridges to add the perfect aesthetic finish to your roof. Available in a wide range of colors to match any chosen roofing color solution.
Dimensions: 1 m × 0.25 m. Package: 12 lin. m (hips & ridge) and 20 lin. m (starter strip).

SYSTEMS

SYSTEM WITH NAILING METHOD



1. Roofing shingles by TECHNONICOL
2. Underlay membrane ULTRAFLEX SA (self-adhesive)
3. Wood decking
4. Counter battens
5. Rafter
6. Roofing nails

SYSTEM WITH TORCHING METHOD

1. Roofing shingles by TECHNONICOL
2. Underlay membrane ULTRAPLAST B
3. BITUMEN PRIME COATING
4. Roof decking (non-flammable)

SPECIFICATIONS

PROPERTIES	MULTILAYER				SINGLE-LAYER				
						CLASSIC			HIP & RIDGE
	CONTINENT	WESTERN	JAZZ	COUNTRY	TROPIC APP	MODERN	SONATA QUADRILLE	BEAVER PLUS	
Warranty, years	60	55	60	50	50	30	30	30	-
Base per layer	Fiber-glass 110	Fiber-glass 110	Fiber-glass 90	Fiber-glass 90	Fiber-glass 100	Fiber-glass 100	Fiber-glass 100	Fiber-glass 100	Fiber-glass 110
Type of bitumen	oxidized	oxidized	oxidized	oxidized	APP	oxidized	oxidized	oxidized	SBS
Flow resistance at elevated temperature, °C	110	110	110	110	150	110	110	110	100
Thickness per layer, mm	3.2±0.2	3.0±0.2	3.0±0.2	2.7±0.2	2.8±0.2	3.0±0.2	3.1±0.2	2.6±0.2	3.4±0.2
Bundle weight, kg	38.1	26.4	27.0	32.5	25.5	32.1	26.7	27.3	27.5
Weight per sqm, kg/m²	25.4	17.6	13.5	12.5	8.5	10.7	8.9	9.1	5.5
Coverage per bundle, m²	1.5	1.5	2.0	2.6	3.0	3.0	3.0	3.0	5.0 12 lin. m (hip & ridge) 20 lin. m (starter strip)
Quantity on the pallet, m²	45.0	54.0	84.0	93.6	126.0	108.0	126.0	126.0	200
Installation method*	a	a / c	a / c	a / c	b	a / b	a / b	a / b	a / c

*Installation methods:
a – nailing;
b – torching;
c – torching with additional nailing for steep roofs (slope ≥60°).

PRIMERS AND MASTICS

BITUMEN PRIME COATING

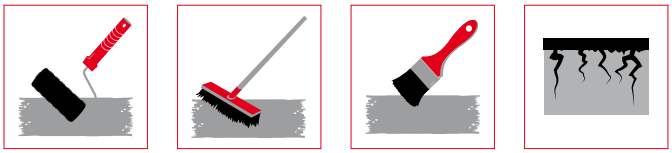
SOLVENT BASED BITUMEN PRIMER

Ready to use BITUMEN PRIME COATING (Primer TECHNONICOL No.01) is intended for preparation of the surface before installation of bitumen roofing and waterproofing materials. The prime coating is necessary for ensuring the strong adhesion of the bitumen-based waterproofing materials to porous, rough and dusty surfaces.

The primer presents a mix of high-quality bitumen and specially selected organic solvents. It has an enhanced covering capacity, penetrability and short drying time.

Ready to use primer is applied to a surface by roller, large or small brush. It is applied to the base at once that grants additional convenience and enhanced performance.

The product should be stored in a dry place protected from direct sunlight at temperatures from -20°C to +30°C. Shelf life – 18 months.



UNIVERSAL WATER BASED PRIMER

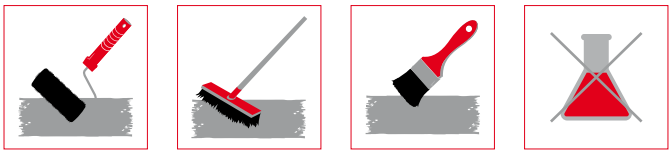
WATER BASED BITUMEN PRIMER

Ready to use UNIVERSAL WATER BASED PRIMER (Primer TECHNONICOL No.04) is intended for preparation of the surface before installation of bitumen roofing and waterproofing materials. The prime coating is necessary for ensuring the strong adhesion of the bitumen-based waterproofing materials to porous, rough and dusty surfaces.

The primer is produced on the base of bitumen dispersion in water; it does not contain solvents. The primer has a neutral smell, so it is perfectly suited for indoor works.

Ready to use primer is applied to a surface by roller, large or small brush. It is applied to the base at once that grants additional convenience and enhanced performance. Application temperature should be from +5°C to +40°C.

The product should be stored in a dry place protected from direct sunlight at a temperature above +5°C. Shelf life – 6 months.



PROPERTIES	BITUMEN PRIME COATING	UNIVERSAL WATER BASED PRIMER
Content of bitumen with emulsifier, %	-	25-40
Mass fraction of non-volatile substances, %	45-55	-
Drying time at 20°C, h	12	1
Relative viscosity, s	15-40	5-30
Softening temperature, °C	≥80	≥80
Consumption, l/m^2	0.25-0.35	0.25-0.35
Bucket volume, l	3, 10, 20	20

MASTIC TECHNONICOL No.21

SOLVENT BASED ROOFING AND WATERPROOFING POLYMER-BITUMEN MASTIC




Ready to use roofing and waterproofing bitumen mastic TECHNONICOL No.21 presents a mix of high-quality bitumen, special polymers, mineral fillers and organic solvents. Coatings on its basis are very flexible, heat and moisture resistant and have an excellent adhesion with the base. After drying, it forms a high-strength waterproofing layer that considerably increases the service life of protected structures. The mastic can be used within a wide range of operating temperatures thanks to added polymers.

Mastic TECHNONICOL No.21 is used for:

- installation of mastic roofs and repair of old roofs;
- waterproofing of underground structures (foundations, basements, piles, etc.);
- waterproofing and anti-corrosion treatment of metal surfaces, including car bodies.

The mastic is applied to a surface layer by layer by brush or spatula. A layer can be also installed by pouring and leveling. The thickness of one layer should not exceed 1.5 mm. Every following layer is applied after the previous one becomes dry. Application of at least 2 mastic layers is recommended for reliable waterproofing of underground structures, 3 layers are recommended for installation of mastic roofs. Drying time under standard conditions is not more than 24 hours.

The product should be stored in a dry place protected from direct sunlight at temperatures from -20°C to +30°C. Shelf life – 18 months.

PROPERTIES	MASTIC TECHNONICOL No.21
Adhesion strength with concrete, MPa	≥0.6
Adhesion strength with metal, MPa	≥0.9
Strength of adhesion between bitumen membrane - bitumen membrane, MPa	≥0.3
Strength of adhesion between bitumen membrane - concrete, MPa	≥0.4
Shear strength of adhesive bond, kN/m	≥4.0
Nominal strength, MPa	≥1.0
Elongation at break, %	≥500
Mass fraction of non-volatile substances, %	≥50
Heat resistance, °C	≥110
Flexibility on R=5.0±0.2 mm beam at -35°C	no cracks
Water absorption over the course of 24 h, %	≤0.4
Watertightness during 24 h at a pressure of 0.1 MPa	Pass
Consumption for installation of 1 layer, kg/m^2	1.2-1.9
Bucket volume, kg	3, 10, 20

MASTIC TECHNONICOL No.24

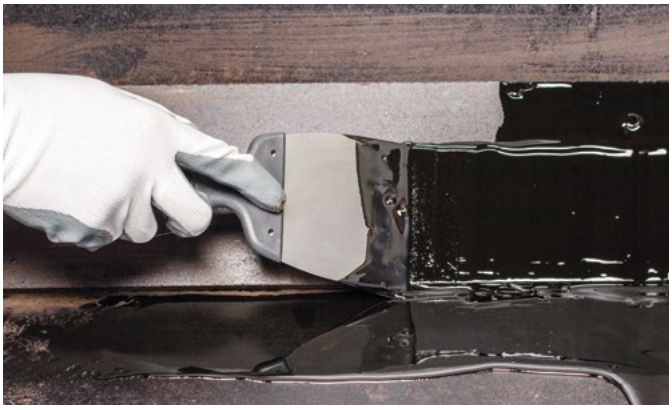
SOLVENT BASED WATERPROOFING BITUMEN MASTIC

Ready to use waterproofing bitumen mastic TECHNONICOL No.24 presents a mix of high-quality bitumen, mineral fillers, special additives and organic solvents.

Mastic TECHNONICOL No.24 is used for waterproofing of concrete or wood surfaces of underground structures (foundations, basements, piles, etc.).

The mastic is applied to a surface layer by layer by brush or spatula. A layer can be also installed by pouring and leveling. Every following layer is applied after the previous one becomes dry. Application of at least 2 mastic layers is recommended for reliable waterproofing. Drying time under standard conditions is not more than 24 hours.

The product should be stored in a dry place protected from direct sunlight at temperatures from -20°C to +30°C. Shelf life – 18 months.



PROPERTIES	MASTIC TECHNONICOL No.24
Adhesion strength with concrete, MPa	≥0.1
Adhesion strength with metal, MPa	≥0.1
Shear strength of adhesive bond, kN/m	≥2.0
Mass fraction of non-volatile substances, %	≥65
Heat resistance, °C	≥80
Flexibility on R=5.0±0.2 mm beam at -5°C	no cracks
Water absorption over the course of 24 h, %	≤0.4
Watertightness during 10 min at a pressure of 0.03 MPa	Pass
Consumption for installation of 1 layer, kg/m^2	1.0
Bucket volume, kg	3, 10, 20

MASTIC TECHNONICOL No.31

WATER BASED ROOFING AND WATERPROOFING POLYMER-BITUMEN MASTIC

Ready to use roofing and waterproofing bitumen mastic TECHNONICOL No.31 presents a mix of an aqueous emulsion of bitumen, special polymers, additives and mineral fillers. It has an enhanced elasticity, heat resistance and water-resistant properties. The mastic has a neutral smell, so it is perfectly suited for indoor works.

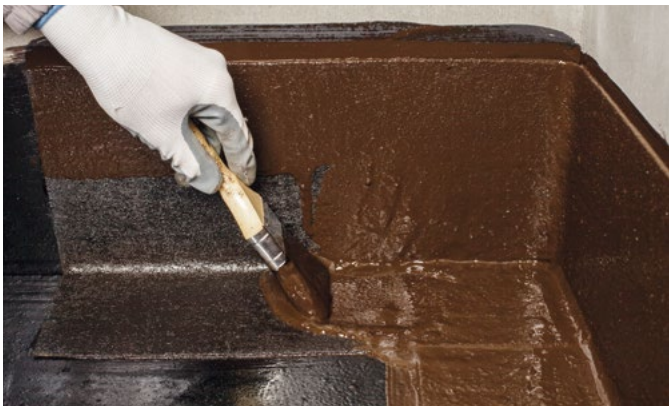



Mastic TECHNONICOL No.31 is used for:

- indoor waterproofing (bathrooms, pools, balconies, etc.);
- installation of mastic roofs and repair of old roofs;
- waterproofing of underground structures (basements, piles, etc.).

The mastic is applied to a surface layer by layer by roller or brush. A layer can be also installed by pouring and leveling. The thickness of one layer should not exceed 1.5 mm. Every following layer is applied after the previous one becomes dry. Application of at least 2 mastic layers is recommended for reliable waterproofing of underground structures, 3 layers are recommended for installation of mastic roofs.

The product should be stored in a dry place protected from direct sunlight at a temperature above +5°C. Shelf life – 6 months.



PROPERTIES	MASTIC TECHNONICOL No.31
Adhesion strength with concrete, MPa	≥0.45
Nominal strength, MPa	≥0.5
Elongation at break, %	≥700
Content of bitumen binder with emulsifier, %	50-70
Heat resistance, °C	≥95
Flexibility on R=5.0±0.2 mm beam at -15°C	no cracks
Water absorption over the course of 24 h, %	≤1.0
Watertightness during 24 h at a pressure of 0.1 MPa	Pass
Consumption for installation of 1 layer, kg/m^2	1.2-1.9
Bucket volume, kg	3, 10, 20

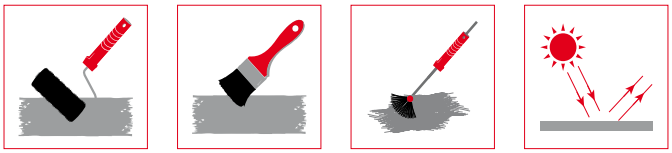
MASTIC TECHNONICOL No.57

SOLVENT BASED REFLECTIVE POLYMER-BITUMEN MASTIC

Ready to use reflective bitumen mastic TECHNONICOL No.57 presents a mix of high-quality bitumen, special polymers, aluminum pigment, additives and organic solvents. Coating layer formed by the mastic effectively protects the bitumen roofing against UV rays and heat; it also protects the metal roof from corrosion.

Mastic TECHNONICOL No.57 is used for:
- installation of the protective layer on new mastic roofs;
- recovery of the protective layer on old roofs;
- corrosion protection of roof coverings.

The mastic is applied to a surface by brush, roller or airless spraying device. Application of 2 mastic layers is recommended.



MASTIC TECHNONICOL FIXER

SOLVENT BASED ADHESIVE POLYMER-BITUMEN MASTIC

Ready to use adhesive bitumen mastic TECHNONICOL FIXER presents a mix of high-quality bitumen, special polymers, additives, fillers and organic solvents. The mastic provides excellent adhesion of bitumen-based materials (e.g. roofing shingles, polymer-bitumen membranes) to the application surface, thus reliably seals the overlaps and connections.

Mastic TECHNONICOL FIXER is used for:
- adhesion of bitumen-based materials to different types of surfaces (wood, metal, concrete, brick, ceramic, etc.);
- sealing of joints, penetrations, overlaps, connections made with the use of bitumen-based materials.

The mastic is applied to a surface by spatula. Consumption depends on the type of work performed, but usually does not exceed the layer of 1 mm. Application temperature range is from -10°C to +40°C. Drying time under standard conditions is not more than 24 hours. The product should be stored in a dry place protected from direct sunlight at temperatures from -20°C to +30°C. Shelf life – 18 months.

PROPERTIES	MASTIC TECHNONICOL No.57	MASTIC TECHNONICOL FIXER
Adhesion strength with concrete, MPa	≥0.3	≥0.5
Adhesion strength with metal, MPa	≥0.3	≥0.8
Mass fraction of non-volatile substances, %	≥50	≥75
Heat resistance, °C	≥100	≥110
Flexibility on R=5.0±0.2 mm beam at -15°C	no cracks	no cracks
Consumption for installation of 1 layer, kg/m^2	0.4-0.6	1.0
Bucket volume, kg	3, 10, 20	3.6, 12 kg, cartridge of 310 ml

STONE WOOL

Stone wool is a highly effective insulating material. By thermal efficiency, it is ready to compete with the reference insulator – air in a stationary state. High resistance to thermal transfer is achieved by retaining a large amount of air in a stationary state within the insulation thanks to the use of closely intertwined finest fibers of mineral wool. Thermal insulation based on stone wool by TECHNONICOL Corporation has a number of technical and performance advantages created during the production stage.

ABOUT THE MATERIAL

Stone wool is made from gabbro-basaltic stones with the addition of sedimentary of low acidity. Supplements are necessary to provide the desired plug-acidity, melting point and to obtain a melt with the desired flow characteristics.

Technological processes are automated and strict quality control is implemented at all stages of the production – from raw materials to finished product testing. That ensures the stability of product properties.

Ready-to-use slabs of stone wool are safely packaged into a shrink film. A pallet of stone wool is wrapped using stretch-hood technology, which reduces transportation and labour costs because of higher handling speed. This type of packaging protects the material from damage when it is stored on the ground or on a construction site, so the stone wool does not lose its' physical and mechanical properties in such storage conditions.

PRODUCTION QUALITY

All our materials are produced from basalt rocks on advanced high tech equipment of leading European manufacturers.

The quality management system of TECHNONICOL stone wool production is certified according to ISO 9001:2000. Implementation of this certification ensures effective company management in general as well as the output of products with stable qualitative characteristics to meet requirements of international markets and customer expectations.

The system of ecological management at all stone wool producing plants is certified according to ISO 14001:2004 issued by a German certifying organisation Deutsche Akkreditierungsstelle GmbH. This certificate confirms that the used manufacturing process complies with the highest international requirements of environmental regulations. Control of this process guarantees the reduction of negative impacts on the environment as well as waste reclamation and disposal, which, in turn, improves our environmental performance. Long experience, modern equipment, continuous technology perfection and innovations made by the proprietary Research Center allow TECHNONICOL to manufacture stone wool products of stable premium quality.

MATERIALS RANGE

The use of thermal insulation materials is an obligatory stage of many construction and repair processes.

A wide range of TECHNONICOL stone wool products is divided by area of application and allows the use of products in both civil and private housebuilding.

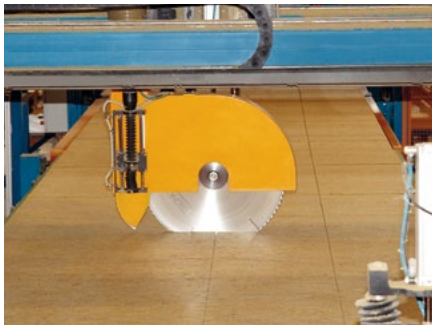
Product range includes insulation for plaster and ventilated facades, pitched and flat roofs, floors, walls, sandwich panels, etc.

- Standard slabs of stone wool are used for thermal and acoustic insulation in most application areas.

- Slabs with grooves are used for thermal insulation of flat roofs with the formed system of ventilated channels.

- Slabs with a rough surface are used to increase the adhesion of the protective layer of plaster in thermal insulation of facades.

- Slope shaped slabs are used to create the slope of 1.7 or 4.2% on flat roofs in order to drain water on the roof to funnels.



ADVANTAGES

EFFECTIVE THERMAL INSULATION
TECHNONICOL stone wool is a highly effective thermal insulation material. High resistance to thermal transmission is achieved because of finest intertwined mineral wool fibers, which retain a large amount of air inside the material.

FIRE SAFETY
Gabbro-basalt rocks are the main raw material of stone wool products. Thanks to this, all TECHNONICOL stone wool products are non-flammable. The fiber melting temperature exceeds 1000°C that makes it possible to use the stone wool products in a wide range of working temperatures.

POWERFUL SOUND ABSORPTION
The fibrous structure of stone wool products secures excellent acoustic and sound-absorbing properties. TECHNONICOL products have high sound-absorbing ratios in the broad range of frequencies, which decreases the level of airborne and impact noise in various sound-insulating structures: partitions, floors, walls and others.

BIOSTABILITY
TECHNONICOL stone wool products fully meet the biological stability criteria, which was proved with numerous tests and trials as well as with the field data. Stone wool can offset the effect of various macro- and microorganisms: the material does not provide conditions for the vital activity of bacteria, mold, fungi, and is not attractive as an environment for insects and rodents.

DIMENSIONAL STABILITY
Increased mechanical stress resistance of TECHNONICOL stone wool is ensured by fiber properties and stone wool structure. These parameters are set individually for each type of material, depending on the area of application of the thermal insulation.

VAPOR PERMEABILITY
Vapor permeability of TECHNONICOL stone wool is high, materials do not retain the moisture coming from premises in the form of vapor created by human activities. Thermal insulation remains dry practically always.

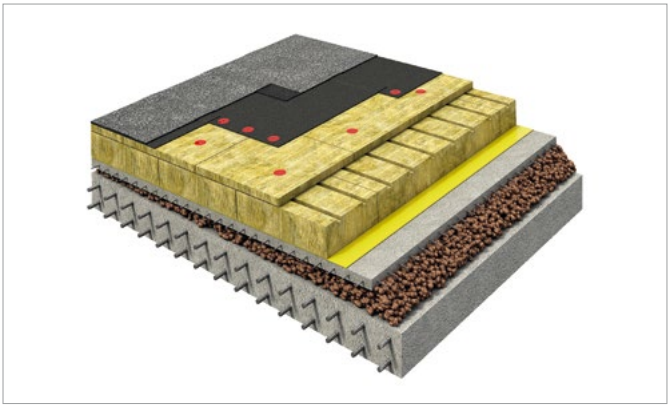
WATER REPELLENCY
All TECHNONICOL stone wool is treated with water-repelling agents. The presence of moisture in the insulation affects its properties, the term of service and indoor climate. Usually, if a thermal insulation gets damp, it needs to be replaced. Our stone wool is effectively protected against moisture.

CHEMICAL RESISTANCE
TECHNONICOL stone wool is manufactured from basalt stone. Natural minerals of this group are notable for their high chemical resistance to various substances: oils, solvents, paints, acidic and alkaline. Stone wool can be safely used together with any types of construction materials as well as corrosive filters in many branches of chemical industry.

ECOLOGICAL COMPATIBILITY
Being one of the major European mineral wool producers, TECHNONICOL constantly improves its products and services by using modern equipment and implementing eco-friendly technologies. All products comply with environmental standards, they are safe for human health and nature. That is granted by the complete cycle of certification, both obligatory and optional.

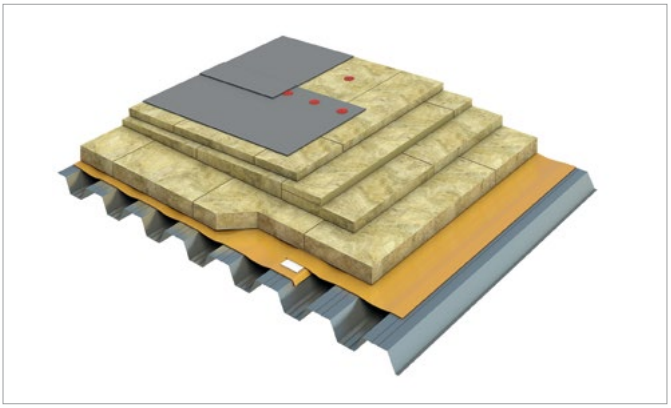
TECHNOROOF V60

TECHNOROOF V60 stone wool slabs of increased density are used as the top thermal and sound insulation layer on flat roofs in new constructions or reconstructions of industrial and civil buildings and structures. Recommended to be applied in combination with TECHNOROOF N30.



TECHNOROOF N30

TECHNOROOF N30 stone wool slabs are used as the bottom thermal and sound insulation layer on flat roofs in new constructions or reconstructions of industrial and civil buildings and structures. A variation with the slope shape is available for the creation of the slope of 1.7 or 4.2% in order to drain water on the roof to funnels.

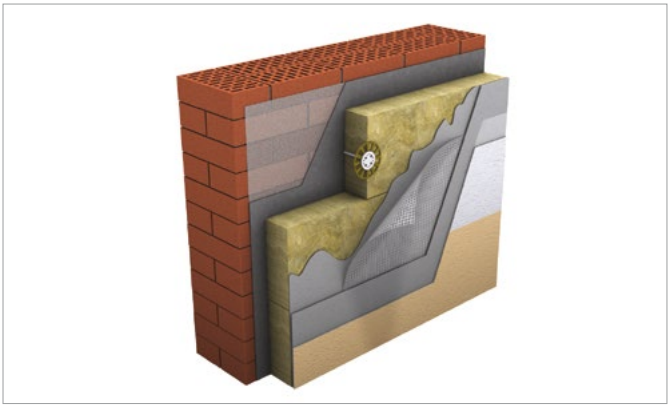


PROPERTIES	TEST METHOD	TECHNOROOF V60	TECHNOROOF N30
Thermal conductivity λ_D at 10°C, W/m*K	EN 12667	0.038	0.036
Tensile strength, kPa	EN 1607	15.0	7.5
Point load, N	EN 12430	700	250
Short term water absorption, kg/m^2	EN 1609	≤1.0	≤1.0
Long term water absorption, kg/m^2	EN 12087	≤3.0	≤3.0
Water vapor transmission, MU	EN 12086	MU1	MU1
Reaction to fire, Euroclass	EN 13501-1	A1	A1
Compressive stress at 10% deformation, kPa	EN 826	60	30
Density, kg/m^3	EN 1602	180±15	110±10
Length, mm	EN 822	1200, 2400	1200, 2400
Width, mm	EN 822	600, 1200	600, 1200
Thickness (increments 10 mm), mm	EN 823	30-100	50-200

THERMAL RESISTANCE R_D, m^2*K/W (EN 12667)									
THICKNESS, mm	30	40	50	60	70	80	90	100	110
TECHNOROOF V60	0.75	1.0	1.30	1.55	1.80	2.05	2.35	2.60	-
TECHNOROOF N30	-	-	1.35	1.60	1.90	2.15	2.45	2.70	2.95
TECHNOFACADE	-	-	1.30	1.55	1.80	2.15	2.45	2.70	2.95
TECHNOVENT STANDARD	-	-	1.40	1.70	1.95	2.25	2.55	2.80	3.10

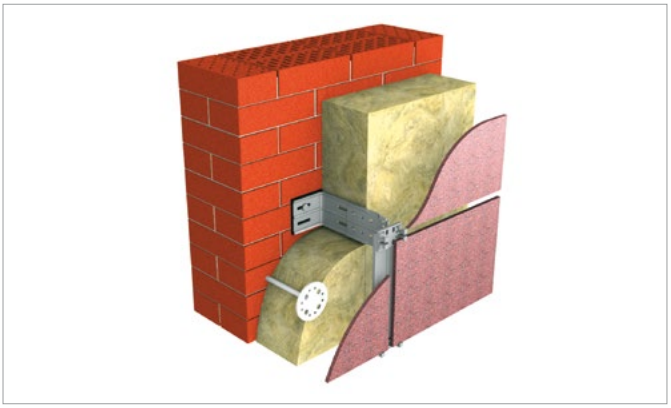
TECHNOFACADE

TECHNOFACADE stone wool slabs are used in industrial and civil construction as thermal and sound insulation in systems of the external insulation of walls with a protective decorative layer made of thin plaster coating. It is chemically neutral to other construction materials.



TECHNOVENT STANDARD

TECHNOVENT stone wool slabs are used in industrial and civil construction as thermal and sound insulation in ventilated facade systems (one-layer insulation or the exterior layer in two-layer insulation). The material does not require the use of windproof construction films and has stable geometrical parameters.



PROPERTIES	TEST METHOD	TECHNOFACADE	TECHNOVENT STANDARD
Thermal conductivity λ_D at 10°C, W/m*K	EN 12667	50-90 mm – 0.038 100-200 mm – 0.037	0.035
Tensile strength, kPa	EN 1607	15.0	5.0
Point load, N	EN 12430	400	100
Short term water absorption, kg/m^2	EN 1609	≤1.0	≤1.0
Long term water absorption, kg/m^2	EN 12087	≤3.0	≤3.0
Water vapor transmission, MU	EN 12086	MU1	MU1
Reaction to fire, Euroclass	EN 13501-1	A1	A1
Compressive stress at 10% deformation, kPa	EN 826	40	10
Density, kg/m^3	EN 1602	145±14	80±8
Length, mm	EN 822	1000, 1200	1000, 1200
Width, mm	EN 822	500, 600	500, 600
Thickness (increments 10 mm), mm	EN 823	50-200	50-200

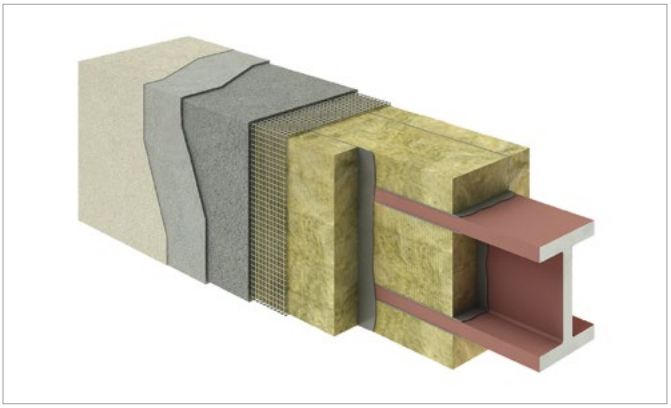
THERMAL RESISTANCE R_D, m^2*K/W (EN 12667)									
THICKNESS, mm	120	130	140	150	160	170	180	190	200
TECHNOROOF V60	-	-	-	-	-	-	-	-	-
TECHNOROOF N30	3.25	3.60	3.85	4.00	4.40	4.70	4.90	5.20	5.45
TECHNOFACADE	3.25	3.55	3.85	4.15	4.45	4.70	4.95	5.20	5.45
TECHNOVENT STANDARD	3.40	3.70	3.95	4.25	4.50	4.80	5.10	5.40	5.70

TECHNOLITE

TECHNOLITE stone wool slabs of low density are used as thermal and sound insulation in systems, where the insulation does not bear the external load (framed partitions and floors, attic floors, pitched roofs with rafters). Also used as the first (internal) layer in two-layer thermal insulation systems of hinged ventilated facades.

TECHNOSAFING

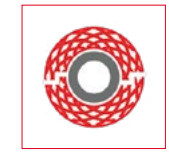
TECHNOSAFING stone wool slabs are used in industrial and civil construction as thermal insulation and fire protection of metal structures, including profiled steel decking. The material provides fire resistance of metal structures up to 240 minutes with no additional protective coatings required.

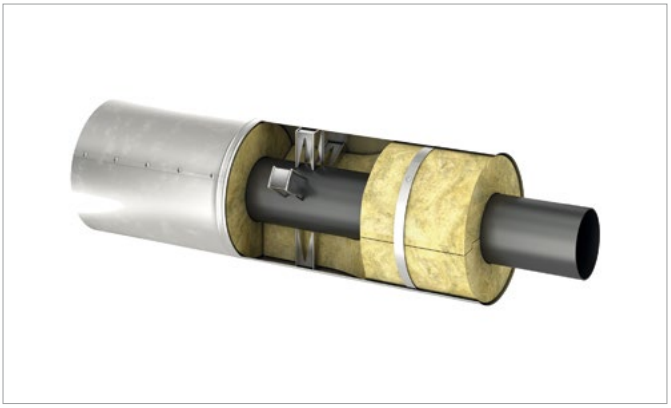


PROPERTIES	TEST METHOD	TECHNOLITE EXTRA	TECHNOLITE OPTIMA	TECHNOSAFING
Thermal conductivity λ_D at 10°C, W/m*K	EN 12667	0.038	0.036	0.037
Maximum service temperature, °C	EN 14706	-	-	680
Short term water absorption, kg/m^2	EN 1609	≤1.0	≤1.0	≤1.0
Water vapor transmission, MU	EN 12086	MU1	MU1	-
Reaction to fire, Euroclass	EN 13501-1	A1	A1	A1
Compressive stress at 10% deformation, kPa	EN 826	0.5	0.5	-
Density, kg/m^3	EN 1602	32±6	38±4	160±15
Length, mm	EN 822	1000, 1200	1000, 1200	1200, 2400
Width, mm	EN 822	500, 600	500, 600	600, 1200
Thickness (increments 10 mm), mm	EN 823	50-200	50-200	30-140

TECHNOCYLINDER

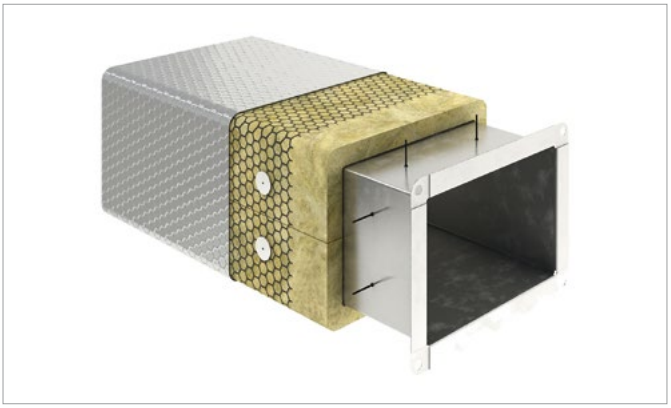
TECHNOCYLINDER stone wool hollow cylinders are used in industrial construction as thermal and sound insulation of technological piping and round air ducts. Depending on the inner diameter and thickness, can be produced in a shape of cylinders with a longitudinal cut on one side, half-cylinders or segments.





TECHNOMAT WIRED

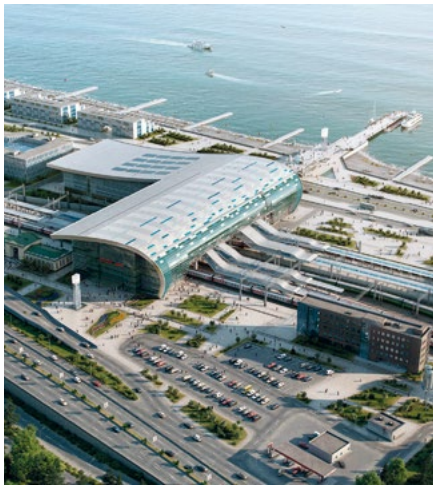
TECHNOMAT WIRED stone wool mats are used in industrial construction as thermal and sound insulation of high-temperature equipment, piping, gas ducts, electrostatic precipitators. One side of the mats is covered with either galvanized steel or stainless steel mesh and stitched with wire.



PROPERTIES	TECHNOCYLINDER	TECHNOMAT
Thermal conductivity λ_D at 10°C, W/m*K	0.036 (EN ISO 8497)	0.034 (EN 12667)
Thermal conductivity λ_D at 25°C, W/m*K	-	0.037 (EN 12667)
Thermal conductivity λ_D at 50°C, W/m*K	0.040 (EN ISO 8497)	0.040 (EN 12667)
Thermal conductivity λ_D at 100°C, W/m*K	0.046 (EN ISO 8497)	0.043 (EN 12667)
Thermal conductivity λ_D at 125°C, W/m*K	0.051 (EN ISO 8497)	0.045 (EN 12667)
Thermal conductivity λ_D at 150°C, W/m*K	-	0.053 (EN 12667)
Thermal conductivity λ_D at 200°C, W/m*K	0.064 (EN ISO 8497)	0.062 (EN 12667)
Thermal conductivity λ_D at 300°C, W/m*K	0.092 (EN ISO 8497)	0.079 (EN 12667)
Thermal conductivity λ_D at 400°C, W/m*K	-	0.111 (EN 12667)
Thermal conductivity λ_D at 500°C, W/m*K	-	0.152 (EN 12667)
Thermal conductivity λ_D at 600°C, W/m*K	-	0.197 (EN 12667)
Maximum service temperature, °C	680 (EN 14707)	680 (EN 14706)
Short term water absorption, kg/m^2	≤1.0 (EN 13472)	≤1.0 (EN 1609)
Reaction to fire, Euroclass	A1 (EN 13501-1)	A1 (EN 13501-1)
Density, kg/m^3	120±15 (EN 13470)	100±10 (EN 1602)
Length, mm	1000, 1200 (EN 13467)	2400, 4800 (EN 822)
Width, mm	-	1200 (EN 822)
Inner diameter, mm	18-324 (EN 13467)	-
Thickness (increments 10 mm), mm	20-120 (EN 13467)	30-100 (EN 823)
Thickness tolerance, Class	T9 (EN 14303)	T2 (EN 14303)

REFERENCES

Tuas West Ave, Singapore
DUPONT



Adler, Russia
ADLER RAILWAY STATION

Jurmala, Latvia
KADO KARIM

EXTRUDED POLYSTYRENE

Extruded polystyrene (XPS) is one of the most efficient thermal insulation materials, which is widely used for thermal insulation of foundations, roofs, floors, pipelines, roads and railways. TECHNONICOL company specialists have developed a unique technology for producing extruded polystyrene slabs with nanoscale carbon particles. That allowed significantly increasing the thermal efficiency of the material and its' strength characteristics while decreasing the coefficient of water absorption to the minimum.

ABOUT THE MATERIAL

Extruded polystyrene slabs are produced by mixing polystyrene beads at an elevated temperature and pressure with the addition of blowing agent and subsequently extruding from the extruder. TECHNONICOL XPS has outstanding thermal insulation parameters and high compressive strength, does not absorb water, does not shrink or swell and is chemically resistant.

TECHNONICOL extruded polystyrene has an excellent energy-saving performance due to improved physical and mechanical properties. It offers a number of valuable advantages: low thermal conductivity, high strength, biological resistance, ecological compatibility and durability of use for more than 40 years.

We strive to make the perfect product – the most reliable, convenient to operate and profitable in all aspects.

PRODUCTION QUALITY

Extruded polystyrene TECHNONICOL CARBON is produced on modern high-tech equipment and only the top quality raw materials obtained from reliable suppliers are used for the production.

Each production line of the company is equipped with a computer control system. Advanced laboratories are operating in every factory, carrying out a continuous multistage quality control of produced products.

All products of TECHNONICOL meet sanitary requirements; this applies to the manufacturing, storage, transportation and sales. XPS TECHNONICOL CARBON ECO has passed voluntary certification “Leaf of Life”, which confirms the safety in housing construction.

Extruded polystyrene products by TECHNONICOL Corporation present a mix of competitive price, uncompromising quality and numerous operational advantages to meet any needs of thermal insulation.

MATERIALS RANGE

The use of thermal insulation materials is an obligatory stage of many construction and repair processes.

A wide range of TECHNONICOL XPS products is divided by area of application and allows the use of products in both civil and private housebuilding. Product range includes insulation for plaster and ventilated facades, pitched and flat roofs, floors, walls, etc. On the vertical surfaces the material is fixed by means of special mechanical fasteners or adhesive mastic.

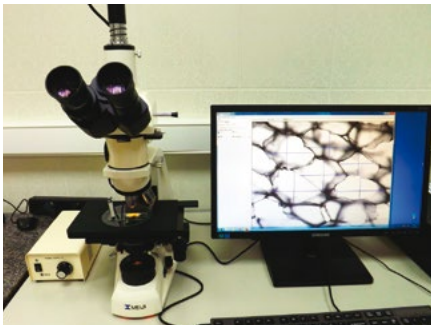
High strength properties of extruded polystyrene allow using the product for the construction of ballasted roofs. XPS with proper fixation can be used as the protective layer for waterproofing membranes. It is also used in the construction of railways and highways.

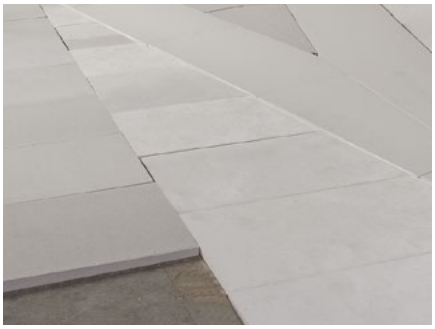
- Standard slabs of extruded polystyrene are used for thermal insulation in most application areas.

- Slabs with grooves are used for construction of wall drainage and additional thermal insulation of the foundation.

- Slabs with a rough surface are used to increase the adhesion of the facade plaster.

- Slope shaped slabs are used to create the slope of 2.1 or 4.2% on flat roofs in order to drain water to funnels.





ADVANTAGES

EFFECTIVE THERMAL INSULATION
TECHNONICOL extruded polystyrene has uniformly distributed closed-cell structure. It provides high thermal insulation, physical and mechanical properties.

HIGH STRENGTH
The strength of extruded polystyrene TECHNONICOL CARBON is in range of 20-50 t/m^2 that fully complies with the stringent requirements for thermal insulation materials.

DURABILITY
Extruded polystyrene TECHNONICOL CARBON has a durability of at least 40 years.

GOOD FOR ANY CLIMATE
XPS TECHNONICOL CARBON can be used in a wide temperature range from -70°C to +75°C, it is suitable for application in all climatic areas of the world.

MINIMAL WATER ABSORPTION
The material has the minimal water absorption characteristics, its insulating properties remain stable throughout the whole life cycle.

OPTIMAL DENSITY
Specialists of the company were able to find the optimal density for XPS products (the main factor affecting the cost of production). That allowed reducing the price, while improving the key performance parameters of extruded polystyrene, constantly increasing production capacity, continuously improving technology and processes.

CONSISTENT DIMENSIONS
The accuracy of geometric dimensions of TECHNONICOL extruded polystyrene slabs can improve the speed of installation and the quality of work.

EASY INSTALLATION
Slabs of extruded polystyrene are easily cut, quickly and securely installed using adhesives or mechanical fasteners.

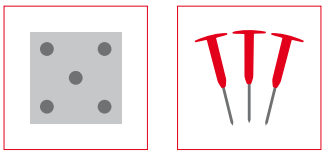
RESISTANT TO RODENTS
Extruded polystyrene TECHNONICOL CARBON is not a breeding ground for rodents.

BIOSTABILITY
Extruded polystyrene TECHNONICOL CARBON is biological stable to molds - the main destructor of insulating materials.

CHEMICAL RESISTANCE
All TECHNONICOL materials are subject to strict sanitary and epidemiological control to obtain the corresponding conclusions. XPS TECHNONICOL CARBON is chemically resistant and is not a subject to putrefaction.

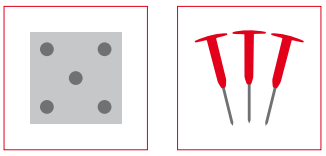
TECHNONICOL CARBON ECO

Extruded polystyrene TECHNONICOL CARBON ECO is a high-performance material widely used in buildings and constructions while arranging the thermal insulation of basements, roofs, floors and facades. High resistibility allows receiving an equal and simultaneously rigid base.



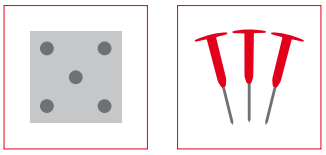
TECHNONICOL CARBON PROF 300

Extruded polystyrene TECHNONICOL CARBON PROF 300 is a high-performance material with increased compressive stress parameter that is widely used in buildings and constructions while arranging the thermal insulation of basements, roofs, floors and facades. Also used in the construction of railways and highways.

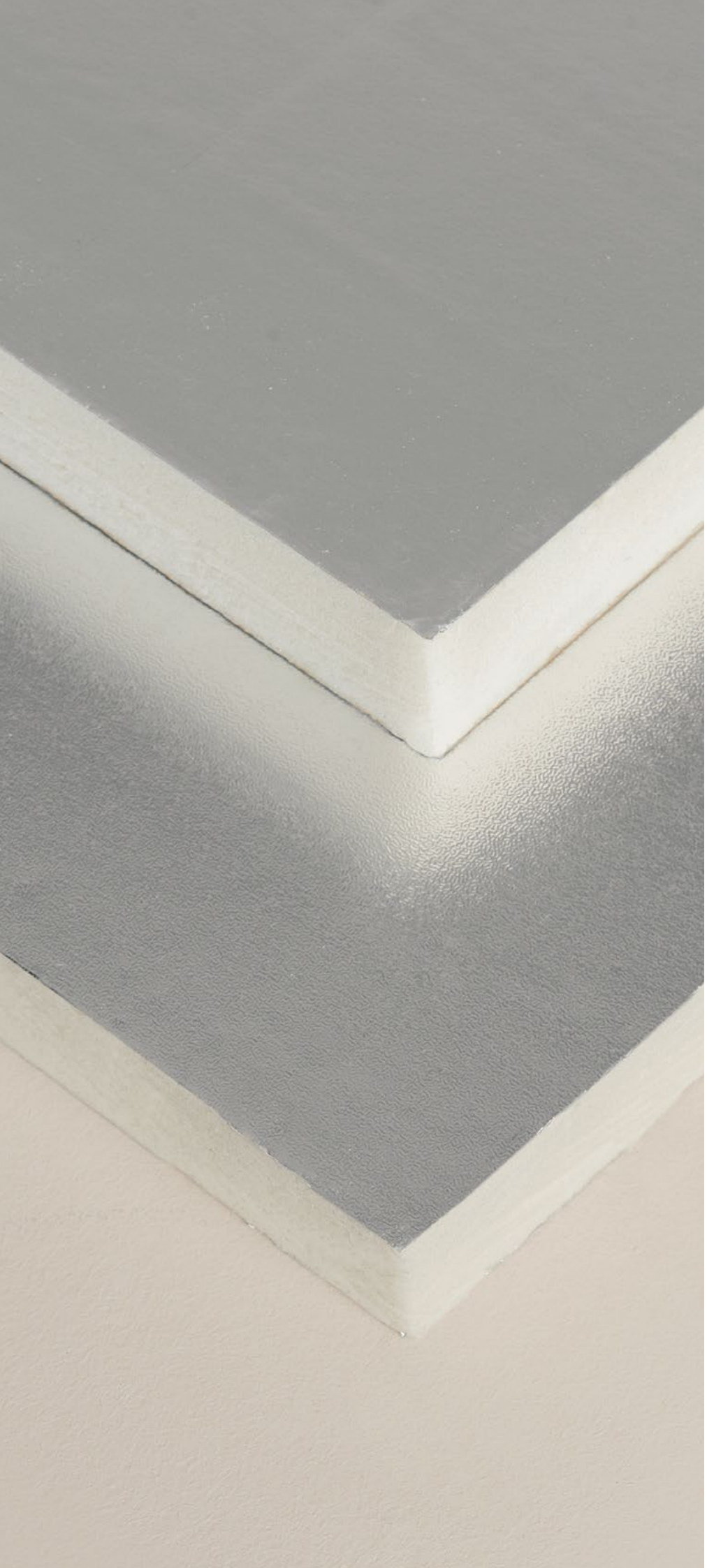


TECHNONICOL CARBON SOLID 500

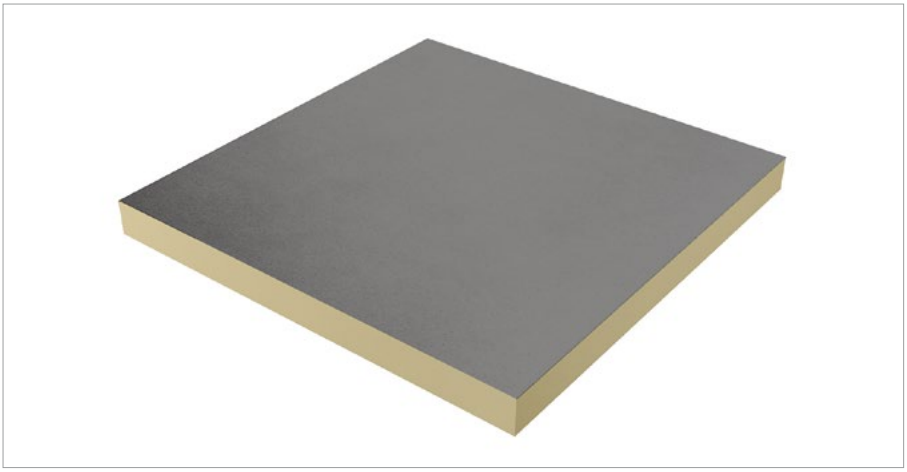
Extruded polystyrene TECHNONICOL CARBON SOLID 500 is a high-performance material with record compressive stress parameter that is widely used in buildings and constructions while arranging the thermal insulation of basements, operated roofs, loaded floors and foundations of transportation facilities.



PROPERTIES	TEST METHOD	CARBON ECO	CARBON PROF 300	CARBON SOLID 500
Thermal conductivity λ_D, W/m*K	ASTM C177	0.028-0.034	0.028-0.034	0.028-0.034
Thermal resistance (depending on thickness), R_D, m^2*K/W	ASTM C177	0.29-2.94	1.47-5.88	1.18-2.94
Compressive stress at 10% deformation, kPa	ASTM D1621 (EN 826)	≥200	≥300	≥500
Long term water absorption by immersion, %	ASTM C272 (EN 12087)	≤0.7	≤0.7	≤07
Reaction to fire - ignitability, Euroclass	EN ISO 11925-2	F	F	F
Length, mm	EN 822	1180-1500 (±8) 1500-4000 (±10)	1180-1500 (±8) 1500-4000 (±10)	1180-1500 (±8) 1500-4000 (±10)
Width, mm	EN 822	580-650 (±8)	580-650 (±8)	580-650 (±8)
Thickness, mm	EN 823	10-40 (±2) 50-100 (-2; +3)	50-120 (-2; +3) 130-200 (-2; +6)	40, 50, 60, 100 (-2; +3)



PIR



Thermal insulation PIR by TECHNONICOL based on rigid polyisocyanurate foam is a new generation of thermal insulation materials that significantly surpasses traditional solutions in terms of technical characteristics and consumer values. The material has long service life due to the minimal water absorption, resistance to the destructive effects of aggressive environments, as well as rotting. At the same time, it does not emit harmful substances under any operating conditions being an environmentally friendly and safe building material.

ABOUT THE MATERIAL

Polyurethane was first discovered and tested by Otto Bayer with a group of researchers in 1937. Since then polyurethane has firmly entered our lives, and now it is widely used in many productions: from clothing membranes to steering wheels, bumpers and many other parts of a car. This material is harmless to health and does not irritate the skin. Therefore, medical devices or, for example, heart valves are made primarily of polyurethane. Rigid polyurethane foam is the most common insulation material used in refrigerators due to its properties and compliance with the most stringent requirements.

Polyisocyanurate, or simply PIR, is a modified and improved polyurethane foam, which is known in the world since 1968. Nowadays, in the context of constantly rising energy prices, energy-saving materials like PIR are becoming extremely popular in various industries.

PRODUCTION QUALITY

Thermal insulation LOGICPIR by TECHNONICOL is a polymer framework of many closed and gas-filled cells, which form a rigid homogeneous structure with high strength. The molecular ring structure of the polymer with strong chemical bonds and the high density of these bonds between the elements makes their destruction difficult. Closed rigid cells make up more than 95% of the volume of the material and provide it with:

- record-low thermal conductivity;
- mechanical strength;
- minimal water absorption;
- high fire resistance.

Thus, thanks to its' chemical continuity, PIR boards by TECHNONICOL retain all the positive properties of polyurethane.

APPLICATION IN ROOFING SYSTEMS

The application of LOGICPIR boards solves a very important task for every investor – the construction of a durable roof with long maintenance-free service life. Several factors affect the durability of a roof: proper design and installation, selection of suitable building materials and components, external factors and weather conditions. One of the key points causing the damage to the system during installation and operation is dynamic loading. Roofing systems with PIR boards by TECHNONICOL were specially designed to address this factor. They are recommended for use on roofs intended for frequent attendance of personnel, for example, for adjustment of the equipment installed on the roof.

LOGICPIR thermal insulation boards are the great solution for use in different constructions of roofs: pitched and flat, exposed and ballasted (including green roof), operated and non-operated.

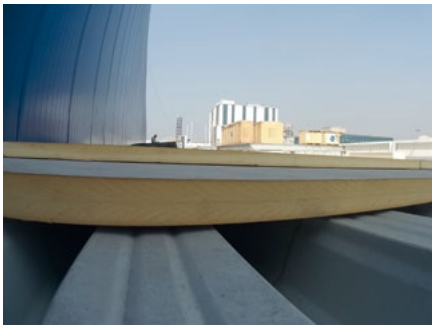
The material can be used with various types of the substrate, e.g. profiled metal deck, reinforced concrete, wood, OSB-3 boards, old roof covering, etc. The application of prefabricated slope shaped boards allows creating the slope for water draining fast and convenient.

MATERIALS RANGE

The use of thermal insulation materials is an obligatory stage of many construction and repair processes. Systems with LOGICPIR boards by TECHNONICOL are used for thermal insulation of flat and pitched roofs, floors, walls and facades.

- Standard PIR thermal insulation boards are used for thermal insulation in most application areas.

- Slope shaped boards are used to create the slope of 1.7 or 3.4% on flat roofs in order to drain water to funnels.



ADVANTAGES

RECORD-LOW THERMAL CONDUCTIVITY
Being an energy-saving material, LOGICPIR boards by TECHNONICOL have a record-low thermal conductivity starting from 0.022 W/m*K. Boards are available with L-shaped edges, so they fit tightly together and thus prevent thermal bridges.

RELIABILITY AND DURABILITY
Throughout more than 50-year service life, LOGICPIR boards retain its qualities thanks to the structure of the material: a rigid cell does not release a permanent gas, providing unique thermal characteristics of polyisocyanurate foam. The material functions effectively within a temperature range from -65°C to +110°C being suitable for use in any climate.

LIGHTWEIGHT
The use of PIR boards by TECHNONICOL minimizes an additional load on the supporting base and allows the installation of thermal insulation without reinforcing the supporting structures, which is especially important for roofs renovation. Transportation costs are substantially reduced as well.

SMALL THICKNESS
Due to the record-low thermal conductivity of LOGICPIR boards by TECHNONICOL, a smaller thickness of the insulation layer is used to achieve the required level of thermal resistance. The minimum thickness allows saving the maximum space.

ECOLOGICAL COMPATIBILITY
Polyurethanes are widely used in the manufacture of car parts, sports equipment, furniture, mattresses and pillows, shoes and clothes, adhesives and sealants, as well as many other usual things around us. Thermal insulation LOGICPIR by TECHNONICOL is a new generation of polyurethanes that is absolutely environmentally friendly and safe for human health and approved for use in children and medical institutions.

HIGH FIRE RESISTANCE
PIR boards by TECHNONICOL are a non-flammable material. When in contact with an open flame, polymer burns on the surface only. This creates a charcoal skin, which is an effective defence against further polymer damaging.

DYNAMIC LOAD RESISTANCE
The rigidity of the base is an indispensable parameter for maintaining the performance of the waterproofing material and the durability of the roofing system in general. LOGICPIR boards with the compressive strength of 150 kPa provide high resistance against deformation due to operation loads and comply with class 2 for the dynamic load (EN 826).

EASY TO INSTALL
Thanks to the light weight and minimum thickness of LOGICPIR boards, even one person can easily perform the installation of the insulation layer. In addition, the availability of special prefabricated slope shaped boards significantly reduces the time of installation of the whole roofing system as well.

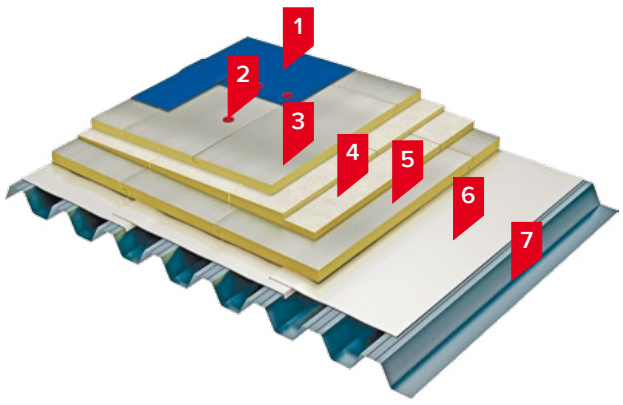
MINIMAL WATER ABSORPTION
The structure of LOGICPIR thermal insulation board consists of closed rigid cells, which do not allow water to come into the material, while the composite facers provide an additional vapor barrier. It is resistant to rotting, including in conditions of high humidity.

LOGICPIR

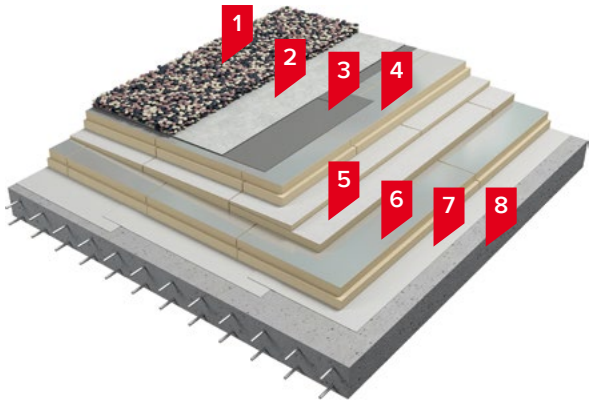
PIR THERMAL INSULATION BOARD

LOGICPIR is an innovative thermal insulation board made of PIR (Polyisocyanurate), which is used in flat and pitched roofing systems, floors, walls and facades. Being very rigid and perfectly flat, LOGICPIR is an ideal substrate for roofing materials. It has high compressive strength and a record low thermal conductivity value.

LOGICPIR is available with 2 types of the surface: aluminium foil or glass fiber mat. Can be supplied with flat or L-shaped edges. A variation with the slope shape is available for the creation of the slope of 1.7 or 3.4% in order to drain water on the roof to funnels.



1. PVC membrane LOGICROOF V-RP
2. Mechanical fixation
3. Thermal insulation board LOGICPIR
4. Thermal insulation board LOGICPIR Slope
5. Thermal insulation board LOGICPIR
6. Vapor barrier VAPORSTOP CA 500
7. Corrugated steel sheet



1. Ballast
2. Geotextile 300 g/m²
3. PVC membrane LOGICROOF V-GR
4. Thermal insulation board LOGICPIR
5. Thermal insulation board LOGICPIR Slope
6. Thermal insulation board LOGICPIR
7. Vapor barrier VAPORSTOP CA 500
8. Reinforced concrete base

PROPERTIES	TEST METHOD	LOGICPIR
Thermal conductivity λ_D, W/m*K	EN 13165	0.022 (aluminium foil covering) 0.026 (glass fiber covering)
Thermal resistance (depending on thickness), R_D, m^2*K/W	EN 12667	1.35-6.81 (aluminium foil covering) 1.15-5.77 (glass fiber covering)
Compressive stress at 10% deformation, kPa	EN 826	≥150
Long term water absorption by immersion, %	EN 12087	≤1
Reaction to fire - ignitability, Euroclass	EN 13501-1	E
Board sizes, mm	EN 822	1200×600, 2400×1200
Thickness (increments 10 mm), mm	EN 823	30-150
Surface type	-	aluminium foil or glass fiber mat

TECHNONICOL India Private Limited

Head Office in Mumbai
102, Joy Villa, Plot No. 58,
Jawahar Nagar Road No. 4, Goregaon (W),
Mumbai 400 104
Ph: +91 22 2872 8691
info@technonicol.in

Office in New Delhi
Unit No. G-31, ground floor,
TDI Centre, Jasola District Centre,
New Delhi 110 025
Ph: +91 11 4372 1455
info@technonicol.in

WWW.TECHNONICOL.IN