Roofing shingles are a construction material for 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 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/m² – for single-layer roofing shingles and 1500 g/m² – for multilayer ones). Our commitment to quality control, best raw materials and up-to-date technology guarantees years of superior performance to customers.

Almost anything can happen in your life, but your roof will not leak and will never let you down in technical terms. And it is important – to be certain that storms will not be stronger than the roof. Our roofing shingles have extremely good flexibility and will obediently follow even the most complicated roof shape.

The 3D spatial design of the tiles and warm tints of color that glisten and change depending on the light will remain trendy in the long term because they are bright and stylish at the same time. It is exactly what is required for a beautiful private house and the good energy thereof.

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. Having strong faith in the lean manufacturing philosophy TECHNONICOL built in quality control in 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 superior quality.
ADVANTAGES OF OUR ROOFING SHINGLES

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!

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

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

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.

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

LIGHTWEIGHT
Roofing shingles weight is just 12.5 kg/m² (COUNTRY collection) compared with 40 kg/m² weight of ceramic tiles. It results in the lower load and greater safety.

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!

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

SYSTEMS

SYSTEM WITH NAILING METHOD

1. Roofing shingles by TECHNONICOL
2. Underlay membrane ULTRAPLAST B
3. Wood decking
4. Counter battens
5. Rafter
6. Roofing nails

SYSTEM WITH TORCHING METHOD

1. Roofing shingles by TECHNONICOL
2. Underlay membrane ULTRAFLEX SA (self-adhesive)
3. BITUMEN PRIME COATING (Prime TECHNONICOL No.01)
4. Roof decking (non-flammable)

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.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>MULTILAYER</th>
<th>SINGLE-LAYER</th>
<th>HIP &amp; RIDGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty, years</td>
<td>60</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>Base per layer</td>
<td>Fiber-glass 110</td>
<td>Fiber-glass 110</td>
<td>Fiber-glass 110</td>
</tr>
<tr>
<td>Flow resistance at elevated temperature, °C</td>
<td>110</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Thickness per layer, mm</td>
<td>3.0±0.2</td>
<td>3.0±0.2</td>
<td>3.0±0.2</td>
</tr>
<tr>
<td>Bundle weight, kg</td>
<td>38.1</td>
<td>26.4</td>
<td>27.0</td>
</tr>
<tr>
<td>Weight per sqm, kg/m²</td>
<td>25.4</td>
<td>17.6</td>
<td>13.5</td>
</tr>
<tr>
<td>Coverage per bundle, m²</td>
<td>1.5</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Quantity on the pallet, m²</td>
<td>45.0</td>
<td>54.0</td>
<td>84.0</td>
</tr>
<tr>
<td>Installation method</td>
<td>a</td>
<td>a</td>
<td>a / c</td>
</tr>
</tbody>
</table>

*Installation methods: a – nailing; b – torching; c – torching with additional nailing for steep roofs (slope ≥45°).
ROOFING SHINGLES STRUCTURE

Roofing shingles have a well-thought-out structure that defines the physical characteristics and advantages of the product. The top layer is covered with hydrophobized colored basalt granules, which protect the material against the harmful influence of sunlight and mechanical impacts. Also, these bright granules create an aesthetic appearance embodied in a wide range of hues. Two layers of high-grade bitumen compound are used to provide waterproofing properties of the material and ensure its' flexibility having, at the same time, a flow resistance of more than +110°C. Glass fibre reinforcement guarantees the tensile strength and exact geometrical dimensions of roofing shingles. Finally, underside protection is needed to prevent the adhesion of shingles in a bundle.

TRANSPORTATION AND STORAGE

ROOFING SHINGLES STORAGE REQUIREMENTS:
- Bundles of roofing shingles should be stored on pallets sorted by production codes;
- Pallets of shingles should be stored in a dry, covered, ventilated area with the temperature of not more than 40°C;
- Do not stack pallets on top of each other;
- Transportation and storage of pallets in two or more rows is possible only when using the racks and special shelving units;
- To avoid sticking of shingles inside the bundle do not expose them to direct sunlight;
- In order to ensure unobstructed separation of roofing shingles from one another, it is recommended to slightly bend and shake the bundle before opening.

GUARANTEED STORAGE LIFE BEFORE INSTALLATION:
- CONTINENT collection – 36 months;
- WESTERN collection – 36 months;
- JAZZ collection – 24 months;
- COUNTRY AR collection – 24 months;
- TROPIC APP collection – 18 months;
- CLASSIC AR series – 18 months.
CONTINENT collection

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

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.
JAZZ collection

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.

Color Indigo

Color Sicily

MANUFACTURER’S WARRANTY

50 YEARS

335 1000
ROOFING SHINGLES GALLERY

TECHNOECO SHINGLAS MULTILEXER ROOFING SHINGLES

Color Seville

Color Alicante

Color Castile

Color Corrida
COUNTRY AR collection

COUNTRY AR 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. Copper-containing color granules prevent algae growth on the roof for more than 10 years.
ROOFING SHINGLES GALLERY

TECHNONICOL SHINGLAS MULTILAYER ROOFING SHINGLES

Color Alaska

Color Vermont

Color Nevada

Color Michigan
TROPIC APP collection: HEXAGONAL

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 on the roof for more than 10 years.
TROPIC APP collection: ACCORD

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 on the roof for more than 10 years.
CLASSIC AR series: MODERN

CLASSIC AR (algae resistant) series covers a wide array of attractive colors and various cutting patterns to suit any taste. High-grade bitumen coating is used to produce these single-layer roofing shingles. CLASSIC series offers an assured quality and comes with a manufacturer’s warranty of 30 years.
CLASSIC AR series: SONATA QUADRILLE

CLASSIC AR (algae resistant) series covers a wide array of attractive colors and various cutting patterns to suit any taste. High-grade bitumen coating is used to produce these single-layer roofing shingles. CLASSIC series offers an assured quality and comes with a manufacturer’s warranty of 30 years.
CLASSIC AR series: BEAVER PLUS

CLASSIC AR (algae resistant) series covers a wide array of attractive colors and various cutting patterns to suit any taste. High-grade bitumen coating is used to produce these single-layer roofing shingles. CLASSIC series offers an assured quality and comes with a manufacturer’s warranty of 30 years.
**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 x 0.25 m. Package: 12 lin. m (hips & ridge) and 20 lin. m (starter strip).

**UNDERLAY BITUMEN MEMBRANES**

**ULTRAPLAST B**

Waterproofing membrane is produced by two-sided placing of a high quality polymer-bitumen binder on a polyester base. The material withstands temperature fluctuations and high mechanical loads providing a long-term, reliable and effective protection as underlay membrane for pitched roofs. APP polymer provides additional flow resistance at elevated temperature that makes it possible to use the material in a very hot climate.

**ULTRAFLEX SA**

Self-adhesive polyester reinforced SBS-modified bitumen membrane is designed to complete secure application. 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). Cold application method prevents smoke, odors, noise and does not require any additional equipment and skills.

**PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>ULTRAPLAST B 2.0 mm</th>
<th>ULTRAFLEX SA 1.5 mm</th>
<th>ULTRAFLEX SA 2.0 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness, mm</td>
<td>EN 1849-1</td>
<td>2.0±0.20</td>
<td>1.5±0.20</td>
<td>2.0±0.20</td>
</tr>
<tr>
<td>Mass per unit area, kg/m²</td>
<td>EN 1849-1</td>
<td>2.8±0.28</td>
<td>1.8±0.20</td>
<td>2.3±0.20</td>
</tr>
<tr>
<td>Length x width, m</td>
<td>EN 1848-1</td>
<td>15 x 1</td>
<td>20 x 1</td>
<td>20 x 1</td>
</tr>
<tr>
<td>Softening point, °C</td>
<td>ASTM D36</td>
<td>≥145</td>
<td>≥100</td>
<td>≥100</td>
</tr>
<tr>
<td>Flexibility at low temperature, °C</td>
<td>EN 1109-1</td>
<td>≤-2</td>
<td>≤-20</td>
<td>≤-20</td>
</tr>
<tr>
<td>Flow resistance at elevated temperature, °C</td>
<td>EN 1110</td>
<td>≥120</td>
<td>≥90</td>
<td>≥90</td>
</tr>
<tr>
<td>Elongation L / T, %</td>
<td>ASTM D5147</td>
<td>40±8 / 45±9</td>
<td>35±20 / 45±20</td>
<td>35±20 / 45±20</td>
</tr>
<tr>
<td>Tensile strength L / T, N/50 mm</td>
<td>ASTM D5147</td>
<td>750±150 / 600±120</td>
<td>400±100 / 300±100</td>
<td>400±100 / 300±100</td>
</tr>
<tr>
<td>Tear resistance L / T, N</td>
<td>ASTM D4073</td>
<td>≥200 / ≥200</td>
<td>≥100 / ≥100</td>
<td>≥100 / ≥100</td>
</tr>
<tr>
<td>Peel resistance of joints: overlap to overlap / overlap to film, N/50mm</td>
<td>EN 12316-1</td>
<td>-</td>
<td>≥40 / ≥20</td>
<td>≥60 / ≥30</td>
</tr>
<tr>
<td>Protective covering type on the top</td>
<td>-</td>
<td>polymer film</td>
<td>polymer film or sand</td>
<td>polymer film or sand</td>
</tr>
<tr>
<td>Protective covering type on the bottom</td>
<td>-</td>
<td>polymer film</td>
<td>anti-adhesion film</td>
<td>anti-adhesion film</td>
</tr>
</tbody>
</table>
BITUMEN PRIME COATING

Ready to use BITUMEN PRIME COATING (Primer TECHNONICOL No.01) is intended for preparation of the surface before installation of torch-on or self-adhesive waterproofing material. 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.

UNIVERSAL WATER BASED PRIMER

Ready to use UNIVERSAL WATER BASED PRIMER (Primer TECHNONICOL No.04) is intended for preparation of the surface before installation of torch-on or self-adhesive waterproofing material. 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.

PROPERTIES

<table>
<thead>
<tr>
<th>BITUMEN PRIME COATING</th>
<th>UNIVERSAL WATER BASED PRIMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content of bitumen with emulsifier, %</td>
<td>-</td>
</tr>
<tr>
<td>Mass fraction of non-volatile substances, %</td>
<td>45-55</td>
</tr>
<tr>
<td>Drying time at 20°C, h</td>
<td>12</td>
</tr>
<tr>
<td>Relative viscosity, s</td>
<td>15-40</td>
</tr>
<tr>
<td>Softening temperature, °C</td>
<td>≥70</td>
</tr>
<tr>
<td>Consumption, l/m²</td>
<td>0.25-0.35</td>
</tr>
<tr>
<td>Bucket volume, l</td>
<td>3, 10, 20</td>
</tr>
</tbody>
</table>

NICOBAND SELF-ADHESIVE SEALANT TAPE

NICOBAND sealant tape – a convenient way to seal various cracks and joints. Can also be used to insulate junctions, for roofing repairs and for roof repair systems. The special UV protection layer of aluminium increases its service life outdoors and the assortment of colors makes it suitable for any roof. 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.

<table>
<thead>
<tr>
<th>WIDTH, cm</th>
<th>5</th>
<th>7.5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length: 3 m</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Length: 10 m</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

EXTRUDED POLYSTYRENE

TECHNONICOL CARBON PROF 300

Extruded polystyrene of increased thickness and compressive stress characteristics TECHNONICOL CARBON PROF 300 is a thermal insulating material widely used in buildings and constructions while arranging thermal insulation of basements, roofs, floors and facades. Also used for thermal insulation of railways and highways.

TECHNONICOL CARBON ECO

Extruded polystyrene TECHNONICOL CARBON ECO is a thermal insulating material, which is widely used in buildings and constructions while arranging thermal insulation of basements, roofs, floors and facades.

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>TECHNONICOL CARBON PROF 300</th>
<th>TECHNONICOL CARBON ECO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal conductivity λ, W/m*K</td>
<td>0.028-0.034</td>
<td>0.028-0.034</td>
</tr>
<tr>
<td>Compressive stress at 10% deformation, kPa</td>
<td>≥300</td>
<td>≥200</td>
</tr>
<tr>
<td>Long term water absorption by immersion WL(T) 0.7, %</td>
<td>≤0.7</td>
<td>≤0.7</td>
</tr>
<tr>
<td>Reaction to fire - ignitability, Euroclass</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Density, kg/m³</td>
<td>25-35</td>
<td>20-30</td>
</tr>
<tr>
<td>Length, mm</td>
<td>1180-4000 (±15)</td>
<td>1180-4000 (±15)</td>
</tr>
<tr>
<td>Width, mm</td>
<td>580-650 (±8)</td>
<td>580-650 (±8)</td>
</tr>
<tr>
<td>Thickness, mm</td>
<td>50-120 (±2; +3); 130-200 (±2; +8)</td>
<td>20-40 (±2); 50-100 (±2; +3)</td>
</tr>
</tbody>
</table>
OTHER ACCESSORIES

TECHNONICOL ROOFING NAILS
Special anticorrosive roofing nails with a circular cross-section and broad heads are used for quick and easy mechanical fastening of bitumen shingles to a wooden deck. Also used for mechanical fastening of other roof components. Head diameter ≥9 mm, shank length - 30 mm.

METAL FLASHINGS
Metal flashings are used to seal and protect joints from water penetration in such vulnerable areas as eaves, joints between roof and chimney or wall. Available in a variety of colors to fit the main tone of roofing shingles. Dimensions: length - 2 m, thickness - 0.45 mm.

MASTIC TECHNONICOL FIXER
Special polymer-bitumen mastic TECHNONICOL FIXER is used to provide extra adhesion of roofing shingles and other bitumen-based materials to such surfaces as wood, metal, concrete, brick, ceramic, etc., as well as for sealing of joints, penetrations, overlaps and connections. Ready to use mastic is available in different packages.

VALLEY ROLL MATERIAL
Used as waterproofing underlayment in roof valleys, which are prone to leakages under rain loads and thus require extra protection. This material is also used to seal joints between roofing and piping or vertical walls. Basalt covering is available in a wide variety of colors to fit the hue of roofing shingles. Dimensions: 1 m x 10 m.

TECHNONICOL RIDGE VENTILATION
A necessary element for pitched roofs that helps to remove excess moisture out of roofing system. Hip & ridge shingles (matching a basic roof color) are installed over the ridge ventilation to make it unnoticeable and to finalize the look of the roof. 1 ridge ventilation normally covers 20-25 m². Dimensions: 0.61 m x 0.29 m.

TECHNONICOL VENTILATION COMPONENTS
Used for complicated roof designs as extra ventilation components to remove excess moisture out of roofing system. 1 ventilation unit normally covers 5-10 m² of the roof area. Outlet diameter - 110 mm. 2 types are available depending on the type of installation. Colors: red, green, brown, grey, blue, black.