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BASALT

FIBER AND FIBER MATERIALS

Our products



Get mor infomation
about basalt roving
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Basalt assembled roving



Get mor infomation
about basalt chopped fiber
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Basalt chopped fiber



Get mor infomation
about basalt geogrid
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Basalt geogrid



Get mor infomation
about basalt rebar
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Basalt reinforcement rebar



Basalt roving



Using a natural volcanic basalt rock as raw material, basalt roving is produced by melting the rock in furnaces at 1450-1500 degrees C.

The molten material is then forced through platinum/rhodium crucible bushings to create fibers (roving).

These basalt fibers can be spun as they are, which results in direct basalt roving or it can be spun in a different way to make assembled roving.

This technology, named continuous spinning, results in continuous fibers.

Basalt roving is used in different industries.

It's used for production of the following products:



rebar for concrete reinforcement



profiles and pipes



high-pressure vessels

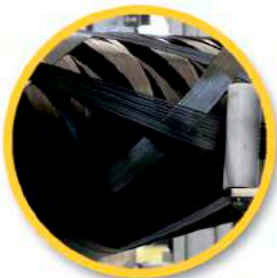


geogrids and various types of fabrics

Basic technologies of basalt roving processing are the following



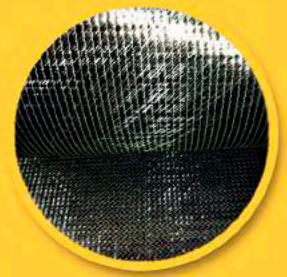
pultrusion



filament winding



weaving



multiaxial fabrics

Basalt roving

Technical details

| Product | Mechanical Properties | Values |
|-----------------------------|-------------------------------|--------------|
| Fiber up to 2000 tex | Tensile Strength (ASTM D2343) | 3100 MPa |
| | Tensile Modulus (ASTM D2343) | 88 to 92 GPa |
| | Elongation at Break | 3.5 % |
| | Tenacity | >65 cN/tex |
| Fiber from 2000 to 3500 tex | Tensile Strength (ASTM D2343) | 3000 MPa |
| | Tensile Modulus (ASTM D2343) | 86 to 90 GPa |
| | Elongation at Break | 3.5 % |
| | Tenacity | >60 cN/tex |
| Fiber above 3500 tex | Tensile Strength (ASTM D2343) | 2900 MPa |
| | Tensile Modulus (ASTM D2343) | 86 to 90 GPa |
| | Elongation at Break | 3.5 % |
| | Tenacity | >55 cN/tex |

| Sizing Available | Key Sizing Ingredient |
|-------------------------------|-----------------------|
| Unsize | De-Ionized Water Only |
| Polypropylene | Silane |
| Epoxy | Silane |
| Vinyl Ester, Polyester | Silane |
| Polyurethane, Polyamides, PET | Silane |

| General Property | Values |
|---------------------------------|--|
| Fiber Type | Continuous Basalt Filaments |
| Density according to DIN 6556 | 2.63 g/cm ³ |
| Moisture content for all sizing | < 0.1% |
| Loss of Ignition | Values are sizing dependent. Typical > 0.4%. |

| Packing Statistics | Values |
|---------------------------------------|---|
| Internal Payout Bobbin Height | 250mm |
| Internal Payout Bobbin Inner Diameter | 80mm |
| External Payout Bobbin Height | 270mm |
| External Payout Bobbin Inner Diameter | 76mm Cardboard Core |
| Wrapping | Thermo Retractable Film w Quality ID Number |
| Available Package Sizes | up to 15kg |
| Payout | Internal or External available on all AR's. |
| Packages per Shipping Container | 30 Pallets in 40ft Container |



Basalt chopped fiber

Produced by cutting continuous basalt fiber and coated in silane sizing. Chopped strands are the best way to reinforce thermoplastic resin and reinforce concrete.

Basalt chopped strands contains a special silicate, which gives it an excellent chemical resistance and an alkali tolerance.

Basalt fiber chopped strands are the perfect material to take the place of PP & PAN to reinforce cement and concrete to improve the stability, low-temperature crack and fatigue resistance.



Basalt chopped fiber is used in different industries.



Industrial floors



Cement and sand screeds



Plaster mixtures



Concrete products



Road construction



Hydraulic structure



Monolithic construction



Aerocrete and foam block

Basalt fiber is a green, healthy and environmentally friendly high-tech fiber product without environmental pollution. It is widely used in military and civilian fields.

It is not only of great theoretical significance but also of great strategic significance to strengthen the analysis and study of the properties of basalt fiber and its composite materials.

Basalt rebar



Basalt Rebar is an outstanding product for concrete reinforcement. It weighs 4 times less than steel rebar and its tensile strength is 3 times higher. Surface corrugation results in a better adhesion in concrete.

Basalt rebar is resistant to a corrosive environment. However, typical corrosion happens to steel materials. Therefore at least 4 cm concrete layers are needed to keep the steel reinforcement safe.

In case of basalt rebar concrete, this covering layer is reduced to 1 cm. This allows saving concrete and results in a lightweight construction.

Basalt rebar is used in different industries.

Spheres of application:



Industrial floors



Cement and sand screeds



Civil engineering



Concrete products



Road construction



Hydraulic structure



Monolithic construction



Pool construction

With basalt rebars, the concrete reinforcement contains mainly a natural raw material which does not need a separation after the end of the lifecycle of reinforced concrete.

Basalt geogrid



The construction mesh is made of basalt roving with acrylic impregnation and polyester thread.

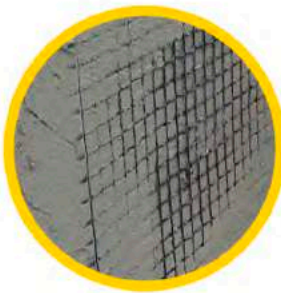
It is an effective and economically advantageous substitute to a traditional steel mesh due to its strength, low thermal conductivity and long-term retention of its qualities in aggressive environment, loads and temperature changes.

Basalt geogrid can also be used in construction masonry of industrial and civil buildings.

Sphere of application:



Road construction



Plaster layer



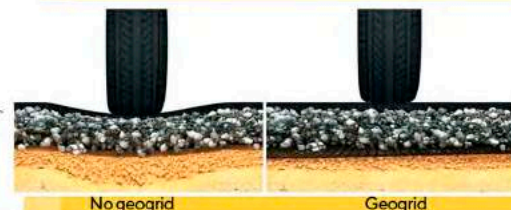
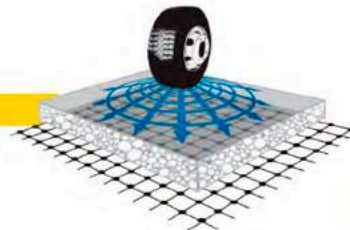
Masonry (Brickwork)



An innovative way of building and road repair using geogrid

- Long turnaround time
- Reduced thickness of asphalt pavements
- Minimum potential for cracking
- Reduces the cost of bulk materials
- Protects against waves on the asphalt
- Long-lasting road

Load distribution



No geogrid

Geogrid

Why to use basalt geogrids?

- ✓ - the use of geogrids can significantly reduce investment during construction up to 45%, repair and overhaul of highways,
- ✓ - slow down the development of cracks on the asphalt and cement concrete pavement,
- ✓ - to increase the turnaround time of roads,
- ✓ - reduce the thickness of the asphalt concrete pavement,
- ✓ - Saving construction materials up to 30% by improving the quality of the road,
- ✓ - Increase the service life of the road up to 50 years.

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TECHNOLOGIES, BUILDING TECHNOLOGIES ACTIVITIES

Sertifika No / Certificate No: QMS-21-03.208

03.03.2021
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03.03.2021
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