

2025

BASALT FIBRE

CORPORATE BROCHURES



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ABOUT US

50+

Countries exported

60+

Patents owned

2008

Since founded

60,000

Production area

ARK BASALT FIBER is a 16 years Chinese basalt fiber manufacturer that is only on basalt fiber material. Production of Basalt Fiber Raw Silk, Basalt Fiber Products and Basalt Fiber Composites.

ARK BASALT FIBER is a leading company in the basalt fiber industry in China, and is also the foremost manufacturer of basalt fiber and its composite materials in China. The company possesses the world's most advanced all-electric melting furnace technology for basalt melting and drawing production, and has maintained a leading international position in the technology of large leakage plates and large hearths.

For the semi-finished products, we cooperated with Southeast University and Established 'National Local Joint Engineering Research Centre for Basalt Fibre and Application Technology'.

As well, Taking the enterprise's own R&D personnel as the main body, the company has set up a scientific research team specializing in the research and development of basalt fibre and its composites by hiring professors and doctors from Donghua University, Wuhan University of Science and Technology, Zhejiang University, Zhejiang University of Science and Technology, Changchun Research Institute of Applied Chemistry and other universities, colleges and scientific research institutes to join the enterprise.

As a Chinese top new material BASALT FIBER innovator, we spend 20% of our income on technical research. Our main customers are from USA, Europe, North America, Russia and Japan.



BASALT FIBER PRIMARY YARN

01 _____

Chopped Basalt Fiber



02 _____

Twisted Yarn



03 _____

Zero-Twist Roving



01/

CHOPPED BASALT FIBER

Basalt fibre chopped yarn is a product made of continuous basalt fibre filament chopped into products, monofilament diameter is generally 5.5um~25um, length 6mm~100mm, according to different applications surface coated with different types of coupling agent.

The product has the advantages of dispersion, high temperature stability, low temperature crack resistance, anti-fatigue and anti-static, etc. It is suitable for reinforcing thermoplastic resins, and is a high-quality material for the manufacture of sheet moulding compounds (SMC), block moulding compounds (BMC), and dough moulding compounds (DMC), and is suitable for compounding with resins as a reinforcing material for the shells of automobiles, trains, and ships, and is a high-quality material for the reinforcing of cement concrete, asphalt concrete, and is used for the anti-seepage of hydropower station dams. It is used as reinforcing material for anti-seepage, anti-cracking and anti-pressure of hydroelectric dams and prolonging the service life of road pavement, and it can also be used in condensation towers of thermoelectric power plants, steam-cement pipelines of nuclear power plants, and used in high-temperature-resistant needle-punched felts: sound-absorbing sheets of automobiles, hot-rolled steel, aluminium tubes and so on.

Basalt Asphalt Chopped Strands Regular Specs

FILAMENT (μm)	LENGTH (MM)	SIZING AGENT TYPE	MOISTURE CONTENT (%)
17	6	261F	≤0.20

Basalt Cement Chopped Strands Regular Specs

FILAMENT DIAMETER(μm)	LENGTH (MM)	SIZING AGENT TYPE	MOISTURE CONTENT (%)
13	3	101Y5	≤0.20
20	6/12/18		



02/

TWISTED YARN

Basalt fibre textile yarn is a textile fibre made from single or multiple continuous basalt fibres by twisting (primary and secondary) and joining the strands. Textile yarn can be divided into weaving yarn and other industrial yarn, monofilament diameter 5.5um-13um, monofilament density 11tex-132tex.

The products have the advantages of strong spinnability, high strength, high temperature resistance, low temperature resistance and so on. Twisted yarns are used for weaving acid and alkali resistant, high temperature resistant fabrics and tapes, base fabrics for needle felts, base fabrics for electrical insulating boards, yarns for electrical insulation, sewing threads, cord, high grade temperature and chemical resistant fabrics, high grade insulating materials such as (electrical insulation and high temperature resistant) motors, electrical appliances, electromagnetism, high temperature, high elasticity, high modulus and high strength fabrics, and yarns for special surface treatments, such as anti-radiation and high temperature resistant woven fabrics, and so on.

Main Technical Index of Basalt Twisted Yarn

Filament diameter(μm)		≤16
Linear density (g/km)		11-800
Twist		16-300
Sizing agent type		Textile/Reinforcement
Oil content (%)		0.7±0.3
Moisture content (%)		≤0.2%
Dry yarn	Breaking strength (H/tex)	≥0.5
	Tensile strength (MPa)	>2500
Impregnated yarn	Elastic modulus (GPa)	>80
	Breaking elongation (%)	>2.0



03/

ZERO-TWIST ROVING

Basalt fiber zero-twist roving is made by combining single or multiple parallel continuous basalt fibre filaments without twisting, with a monofilament diameter of 11µm-25µm and monofilament yarn density of 100tex-2400tex. The products have the advantages of high tensile strength, good thermal stability, anticorrosion, stain resistance, aging resistance and so on. The untwisted yarns are used for winding all kinds of pipes, tanks and gas cylinders, weaving all kinds of chevron cloth, mesh cloth and geotextile, repairing and reinforcing in building structure, short-cut fibre for high temperature resistant sheet moulding compounds (SMC), bulk moulding compounds (BMC) and dough moulding compounds (DMC), and the substrate of thermoplastic composites.

Main Technical Index of Basalt Zero-Twist Roving

Filament diameter (µm)		9-22	Applicable resin	Use
Linear density (g/km)		33-9600	Epoxy, polyester etc	Wrapping and weaving
Sizing agent type		Textile/Reinforcement		
Oil content (%)		0.7±0.3	PE, PA, phenolic, etc	Short-cutting, SMC BMC, DMC
Moisture content (%)		≤0.2%		
Dry yarn	Breaking strength (H/tex)	0.4±0.1		
Impregnated yarn	Tensile strength (MPa)	≥2000	Vinyl resin, epoxy, unsaturated polyester	Wrapping and rebar
	Elastic modulus (GPa)	≥80		
	Breaking elongation (%)	≥3.1		



PRODUCTS

BASALT FIBER PRODUCTS

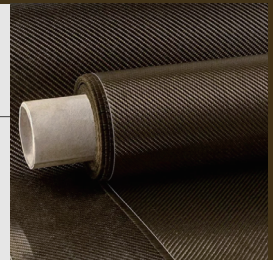
01

Basalt Fiber Board



02

Basalt Fiber Fabric



03

Basalt Fiber Geogrid



04

Basalt Fiber Insulating Sleeve



05

Basalt Fiber Mat



06

Basalt Fiber Mesh



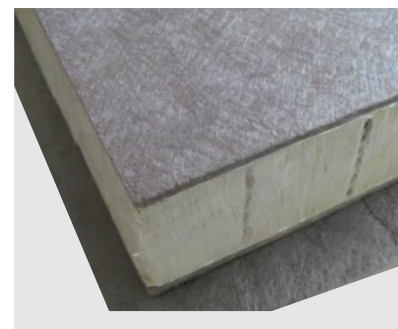
07

Basalt Fiber Unidirectional Fabric



01/

BASALT FIBER BOARD



Solid board is a three-dimensional interlaced basalt fiber non-woven formed by continuous basalt fiber chopping strands, combing, and needling, and mixed with a small amount of binder to be made under high temperature and pressure. Sandwich board is composed of thin solid board to make two panels, with the assembled rock sliver as the core material, the panel and the core material bonded by high temperature and high pressure to form a sandwich structure.

Basalt fiber board has excellent fire prevention, low construction cost, superior strength, environmental protection and health, long-lasting weather resistance, thermal insulation and energy saving, sound absorption and magnetic resistance, durability, insect and mold resistance, and good compatibility.

Building field: external insulation of external walls (thin plaster mortar system and integrated decoration system); interior wall ceiling, partition, sound absorption board

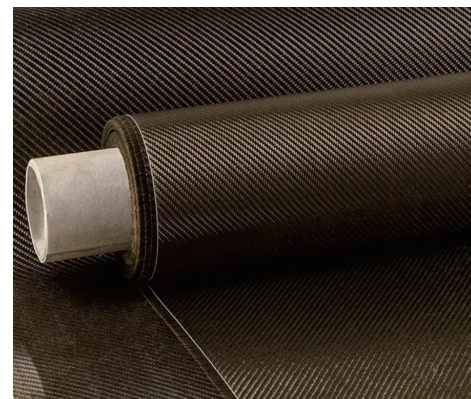
Performance comparison

Performance comparison	board	
	Solid board	Sandwich board
Tensile strength (KPa)	≥12	≥12
Thermal conductivity W (m.K), 25 ° C	≤0.036	≤0.040
Density (kg/m ³)	≥160	≥150
Compressive strength (kg/m ²)	≥380	≥125

02/

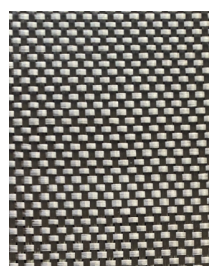
BASALT FIBER FABRIC

Basalt fibre cloth is a fabric woven with basalt fibre untwisted yarns or twisted yarns, with special and excellent properties such as non-combustible, corrosion-resistant, high-temperature-resistant, high-strength and insulating. According to the organisation structure, it can be divided into plain fabric, twill fabric, satin fabric, multi-axial fabric, unidirectional fabric and so on.

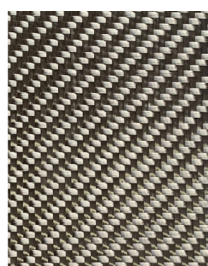


Basalt Fiber Cloth Common Specifications

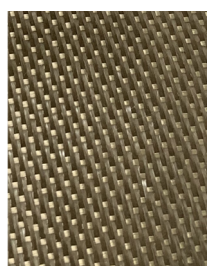
ORGANISATIONAL STRUCTURE	FIBER DIAMETER (μm)	CLOTH DENSITY (G/M ²)	WIDTH OF CLOTH (MM)
Satin Fabric	9~16	100/200/300/600	560-1500
Multi-axial Fabric		200/300/600/900	1000/1400
Plain Fabric		320	1270
Twill Fabric		350/450/680	1270
Unidirectional Fabric		200/300	100-1500



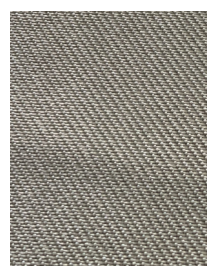
Plain fabric



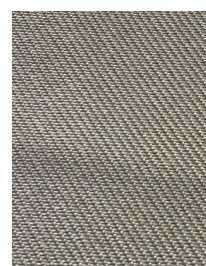
Twill fabric



Satin fabric



Aramid basalt
blended fabric



Multi-axial
fabric



Unidirectional
fabric

03/

BASALT FIBER GEOGRID

Basalt fiber geogrid is a semi-rigid product made by weaving high-strength basalt fibers into a grid like substrate and coating the surface. With warp and weft two-way very high tensile strength and low elongation, and has high temperature resistance, low cold resistance, acid corrosion resistance, small creep, high strength, small deformation and other excellent properties, can improve the concrete rutting resistance, crack resistance. Blocking and limiting aggregates, resistant to high and low temperature diseases, and reducing reflective cracks.



Regular Specs for Basalt Geogrid

MESH SIZE (MM)	AREA DENSITY (G/M ²)	BREAKING STRENGTH (KN/M)	BREAKING STRENGTH (%)	WIDTH (M)
25/25	235/350	60/90	< 4	1~6
50*50				

04/

BASALT FIBER INSULATING SLEEVE

The casing and braided tape are woven from basalt continuous fibers. They can be used by molding and surface treatment. They have excellent electrical insulation, high temperature resistance and chemical corrosion resistance, so they can be used as insulating bushings, basic reinforcement materials for various pipes, and reinforcement materials for high temperature composite pipes.

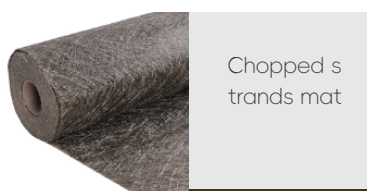


05/

BASALT FIBER MAT

Basalt non-woven is made from basalt chopped strands through processes such as needle punching, bonding agent composite, and wet papermaking.

Basalt fibre mat can be applied to advanced air filtration system, filtration, sound absorption, heat insulation and vibration prevention system of electronic industry, chemical industry, toxic and harmful gas, fume filtration system, automobile muffler, heat insulation, heat preservation and sound muffling system of ships and boats, and so on.



Regular Specs of Basalt Non-woven

NEEDLE PUNCHED FELT	THICKNESS (MM)	UNIT WEIGHT (KG/M ³)	WIDTH (CM)
	4~25	110~160	12~300
SHORT CUT RAW SILK FELT	AREA DENSITY (G/M ²)	WIDTH (CM)	BINDER
	300/350	104/127	Power type
SURFACE FELT	AREA DENSITY (G/M ²)	WIDTH (CM)	BINDER
	30/40/50/100	100	Emulsion type



06/

BASALT FIBER MESH

Basalt fiber mesh is a flexible mesh made from high-strength basalt fibers through processes of weaving, coating, and netting.

Regular Specs for Basalt Fiber Mesh

MESH SIZE(MM)	ROPE DIAMETER(MM)	BREAKING FORCE/KN (EXECUTIVE STANDARD: ISO23)	BREAKING ELONGATION (%)	NOTES
30*30	5	≥7	≥2.0	Basalt fiber untwisted roving is required to comply with GB/T 20310, with a tensile strength of over 2200MPa
80*80	8	≥15	≥2.0	
300*300	12	≥25	≥2.0	



07/

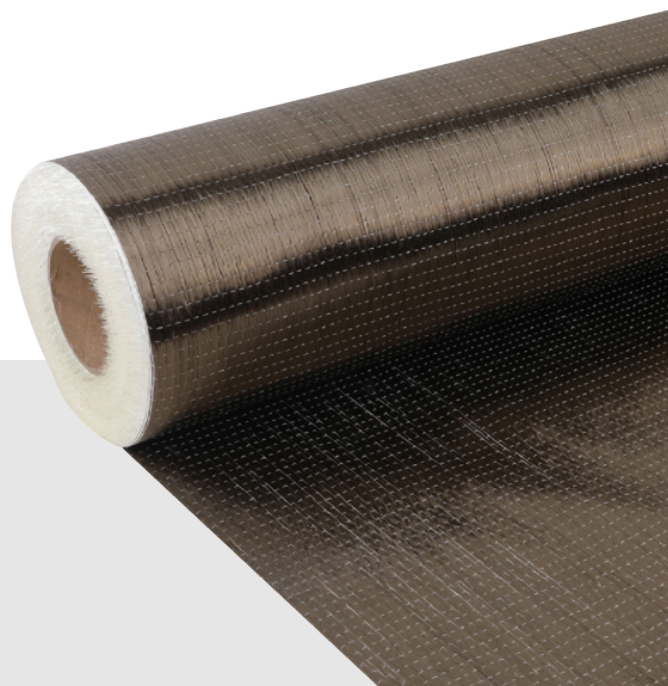
BASALT FIBER UNIDIRECTINAL FABRIC

Basalt fibre unidirectional Fabric is continuous basalt fibre untwisted roving woven into a special craft organization of the fabric, monofilament diameter is generally in the 11~13um, in the monofilament uniformly coated with polyester, epoxy resin coupling agent, in the comprehensive performance and cost-effective than carbon fibre is more prominent. It has the advantages of high strength, good toughness, convenient construction and good corrosion resistance.

It is used in the reinforcement, strengthening and repair of buildings and bridge structures; radomes, engine parts, radar antennas; tank armoured vehicle bodies, structural parts, wheel hubs, torsion bars and sets; sports water skis, alpine skis, surfboards and so on.

Regular specs of basalt unidirectional fabric

FILAMENT DIAMETER (UM)	AREA DENSITY (G/M ²)	WIDTH (MM)	BREAKING STRENGTH (N/25MM)	BREAKING ELONGATION (%)
13	200	100-1000	≥2000	≥2.0
13	300	100-1000	≥3000	≥2.0



PRODUCTS

BASALT FIBER REINFORCED COMPOSITE

01

Basalt Fiber Rebar





01/

BASALT FIBER REBAR

Basalt fiber rebar is made of high strength basalt fiber mixes with vinyl resin (epoxy resin) of pultrusion process.

It can be used in seismic observatories, harbour terminal protection works and buildings, metro stations, bridges, non-magnetic or electromagnetic concrete buildings, prestressed concrete roads, corrosion-resistant chemicals, floor slabs, chemical storage tanks, underground works, foundations for magnetic resonance imaging facilities, communication buildings, electronic equipment plants, nuclear fusion buildings, guideway concrete slabs for magnetic levitation railways, telecommunication transmission towers, TV station supports, fibre-optic cable Reinforcement core.

Regular Specs of Basalt Rebar

The nominal diameter range of basalt rebar is 3mm to 25mm. The recommended nominal diameters are 3mm, 6mm, 8mm, 10mm, 12mm, 14mm, 16mm, 18mm, 20mm, and 25mm.

PROJECT	UNIT	DEMAND
Density	g/cm ³	1.9~2.1
Elastic modulus	GPa	≥45
Standard value of tensile strength	MPa	≥750
Breaking elongation	%	≥1.6
Alkali resistance, retention rate of tensile strength	%	≥75

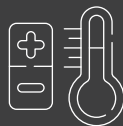
PROPERTIES



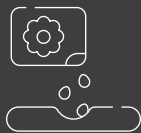
Mechanical



Electrical



Heat
Resistance



Corrosion
Resistance



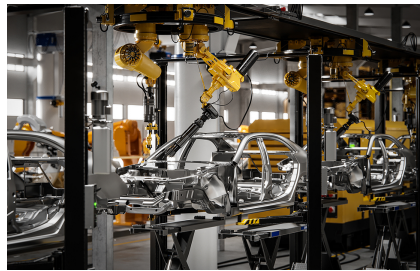
Environmental
Friendliness

APPLICATION



Transportation

Basalt fiber is widely used in transportation infrastructure due to its high strength, corrosion resistance, and durability.



Automotive

Basalt fibers can be used in body panels, bumpers, and interior parts to replace metals and fiberglass, reducing vehicle weight and improving fuel efficiency.



Shipbuilding

Basalt Fiber Reinforced Plastic (BFRP) for hulls, decks and superstructures with better corrosion resistance in seawater than fiberglass.



Construction

Basalt fiber demonstrates extensive applications in the construction sector due to its superior properties including high strength, corrosion resistance, thermal stability, lightweight characteristics, and excellent thermal/acoustic insulation.



Energy & Environmental Protection

Basalt fiber demonstrates significant potential in energy and environmental protection applications due to its eco-friendly production and superior material properties.



Aerospace and National Defence

Basalt fiber is increasingly used in aerospace and defense due to its lightweight, high strength, thermal stability, and radar transparency.
