HITEX

QUARTZ FIBER

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Hitex - The Strength to Innovate: Unveiling the Future with Advanced Composites.

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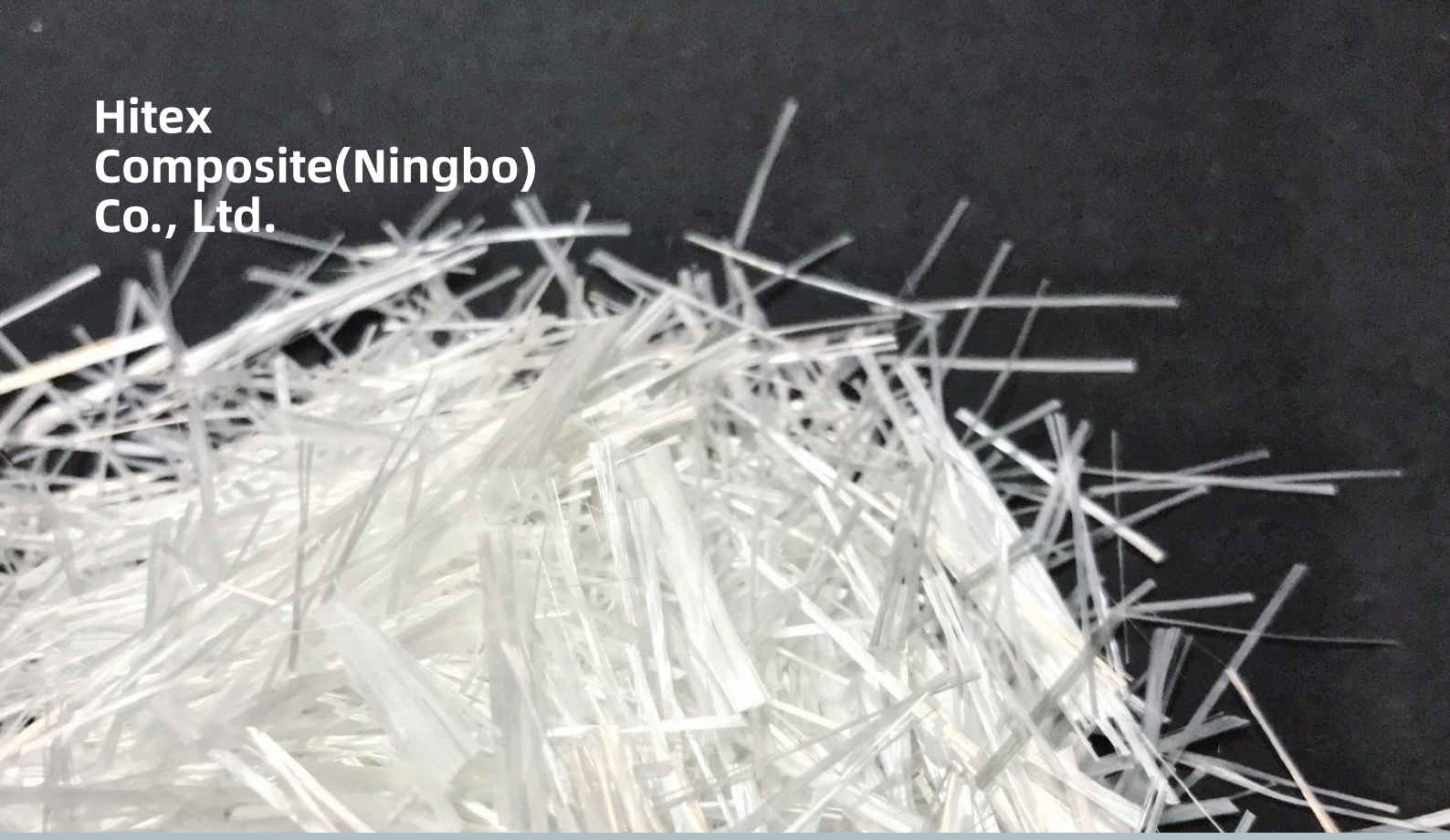
Insulation & Composites



Hitex Composite(Ningbo) Co., Ltd.

ABOUT HITEX

Welcome to Hitex Composites, your premier destination for top-quality composites and exceptional service. Our company has been providing high-quality composites to customers for many years, and we take great pride in our ability to consistently deliver excellence in both product quality and customer service.

At Hitex Composites, we specialize in the design, development, and manufacture of advanced composites for a wide range of industries, including aerospace, automotive, marine, and construction. We take advantage of our location in China to provide our customers with a competitive edge in terms of pricing, quality, and lead times. We have extensive experience in sourcing the highest quality raw materials from trusted suppliers, ensuring that we can offer our products at a competitive price without sacrificing quality.

Moreover, our state-of-the-art manufacturing facilities are equipped with the latest technology and staffed by skilled workers who are dedicated to producing the highest quality composite materials and products. This enables us to deliver products that meet or exceed the expectations of our customers.

In addition to our manufacturing capabilities, we offer fast turnaround times and flexible production schedules to accommodate the needs of our customers. Whether you need a small batch of custom products or a large-scale production run, we can deliver your order quickly and efficiently.

We believe that customer satisfaction is key to our success, and we go above and beyond to ensure that our clients receive the best possible service. Our team of experienced professionals is dedicated to providing personalized solutions tailored to your specific needs, and we work closely with you to ensure that your project is completed on time and within budget.

Whether you are looking for custom composite materials, high-quality composite products, or expert advice on composite design and engineering, Hitex Composites is your trusted partner. We are committed to providing you with the perfect service, high quality, and professionalism you deserve. Contact us today to learn more about our services and how we can help you take your project to the next level.

MAIN APPLICATION AREAS OF QUARTZ FIBER

Here is an introduction to **the characteristics and applications of quartz fiber** products:

High Temperature Resistance

Quartz fiber has exceptional heat resistance and can withstand temperatures up to 1100° C (2012° F) without significant loss in mechanical properties. This makes it suitable for applications in high-temperature environments, such as furnace insulation and aerospace components.

Excellent Chemical Stability

Quartz fiber exhibits excellent resistance to a wide range of chemicals, including acids, alkalis, and organic solvents. It is unaffected by most corrosive substances, making it a reliable choice for applications in chemical processing, laboratory equipment, and harsh industrial environments.

Low Thermal Expansion

Quartz fiber has a very low coefficient of thermal expansion, meaning it expands and contracts minimally with temperature changes. This characteristic makes it dimensionally stable even in extreme temperature variations, making it useful for applications where thermal stability is essential, such as optical fiber communication systems and precision instruments.

Good Electrical Insulation Properties

Quartz fiber is a non-conductive material, providing excellent electrical insulation properties. It has low dielectric constant and loss tangents, making it suitable for high-frequency applications, such as telecom cables, electric insulation, and electronic components.

Quartz Fiber Wool

Quartz fiber wool is a high-purity, high-temperature insulating material distinguished by its ability to withstand continuous exposure to temperatures up to 1000° C, excellent thermal insulation with low thermal conductivity, and significant chemical and thermal shock resistance. Compared to other high-temperature fiber wools, it demonstrates superior chemical stability, high tensile strength, and outstanding electrical insulating properties, albeit at a higher cost. It is often chosen for applications that require exceptional performance in extreme conditions, balancing its premium attributes against other fibers like ceramic or alumina-based products, which may be more cost-effective but with lower temperature resistance and possibly higher bio-solubility concerns.

Code	Fiber Diameter(μm)	SiO2 Content(%)	Packing(g/bag)	Slag ball content(%)
QZ100/3	1-3	99.95	10/50/100/250	≤ 1.0
QZ100/5	3-5			≤ 1.0
QZ100/9	5-9			≤ 4.0
QZ100/14	9-14			≤ 4.0

Quartz Fiber Twisted Yarn

Quartz Fiber Twisted Yarn is crafted from continuous high-purity quartz filaments (SiO_2 content ≥ 99.95%) with a filament diameter of 7-9μm, assembled into strands and processed with varying levels of twist and ply. This material boasts superb properties including high temperature resistance, ablation resistance, low heat conduction, anti-thermal shock capability, excellent dielectric properties, and chemical stability. It finds applications in industrial furnace linings, high temperature seals, cables, filtration in aggressive environments, thermocouple insulation, satellite thermal protection, automotive exhaust insulation, radomes, electromagnetic windows, and stealth materials for aerospace and defense usage.

Code	Process Parameters	Linear Desnsity(Tex)	Twist(T/M)	Fiber Diameter(μm)
QZ101T/51	25*2	51	70/140	(7.5-13.0) ±1.0
QZ101T/67	33*2	67		
QZ101T/95	32*3	95		
QZ101T/133	33*4	133		
QZ101T/190	33*6	190		
QZ101T/220	55*4	220		
QZ101T/267	33*8	267		

Hollow Quartz Fiber Yarn

Hollow Quartz Fiber Yarn is same as same as quartz fiber yarn except its hollow filaments. With the hollow filaments, quartz fiber yarn g ains much better properties in lower density, higher electrical conductivity, better wave permeability, more excellent dieletrical property and heat insulation.

Code	Process Parameters	Linear Desnsity(Tex)	LOI(%)	Fiber Diameter(μm)
QZ101H/95	33*3	95	1.0±0.2	9-12
QZ101H/195	33*6	195		
QZ101H/495	165*3	495		

Quartz Fiber Twistless Roving

Quartz fiber roving is a collection of continuous quartz filaments, gathered into a bundle, known for its remarkable high-temperature resistance, chemical stability, and excellent dielectric properties compared to other fiber materials. Quartz fiber roving possesses a unique combination of high tensile strength and low density, making it significantly lighter than glass fiber and more thermally stable than carbon fiber over a broader temperature range. With a silica (SiO_2) content typically above 99.9%, it outperforms most other fibers in terms of thermal and chemical inertness. This makes quartz fiber roving especially suited for applications requiring durability in extreme conditions, such as aerospace, defense, and high-performance industrial uses.

Code	Process Parameters	Linear Desnsity(Tex)	Fiber Diameter(μm)
QZ101R/267	267	33*8	(7.5-13.0)±1.0
QZ101R/400	400	33*12	
QZ101R/667	667	33*20	
QZ101R/640	640	80*8	
QZ101R/960	960	80*12	
QZ101R/1600	1600	80*20	

Quartz Fiber Chopped Strands

Quartz fiber chopped strands are short, cut lengths of quartz fibers that exhibit superior thermal resistance, chemical inertness, and excellent electrical insulating properties when compared with other fiber materials. With high silica content, they maintain structural integrity at temperatures where glass fibers would soften and carbon fibers may lose their mechanical properties. Quartz chopped strands are typically used to reinforce composites for high-temperature applications in industries like aerospace, electronics, and specialized manufacturing, offering a unique balance of lightweight, high-strength, and long-term performance under challenging conditions.

Code	Length(mm)	Linear Desnsity(Tex)	Fiber Diameter(μm)
QZ101CS/3	3	33/80	7.5±1.0
QZ101CS/6	6		
QZ101CS/12	12		

Quartz Fiber Sewing Thread

Quartz fiber sewing thread is known for its exceptional high-temperature resistance, enduring up to 1050° C without significant degradation, surpassing other high-temp threads like aramid, fiberglass, or ceramic. It's ideal for aerospace, automotive, and industrial applications requiring extreme heat resistance, such as insulation blankets and protective clothing. Additionally, quartz thread maintains tensile strength at high temperatures and offers excellent electrical insulation properties.

Code	Diameter(mm)	Linear Desnsity(Tex)	Breaking Strength(daN)	Binder Content(%)
QZ101ST/12	0.36	133(33*2*2 Z160)	8	0.5
QZ101ST/18	0.43	205(33*2*2 Z160)	13	
QZ101ST/24	0.51	272(33*2*4 Z160)	18	
QZ101ST/12	0.36	168(33*2*2 Z160)	6.8	PTFE: 20%
QZ101ST/18	0.43	250(33*2*3 Z160)	11.2	
QZ101ST/24	0.51	340(33*2*4 Z160)	15.6	

Quartz Fiber Fabric

Quartz fiber fabric, woven from high-purity quartz fibers, offers exceptional heat resistance, chemical stability, and mechanical strength. It finds diverse applications in aerospace, shipbuilding, and chemical industries for insulation, soundproofing, and corrosion resistance. In aerospace, it plays a vital role in thermal shielding systems and heat-resistant components, while in chemical industries, it serves as a reliable corrosion-resistant material for equipment and pipelines.

Code	Thickness(mm)	Weave	Warp x Weft(count/cm)	Weight(g/m^2)	W(mm)*L(m)
QZ105/100-100	0.10	Plain	18*18	110	1000*100
QZ105/120-100	0.12	2/2Twill	12*12	128	1000*100
QZ105/140-100	0.14	Plain/Twill	16*14	165	1000*100
QZ105/200-100	0.20	Plain	12*10	210	1000*100
QZ105/220-100	0.22	8Satin	16*16	240	1000*50
QZ105/280-100	0.28	8Satin	36*20	280	1000*50
QZ105/500-100	0.50	Plain	10*10	350	1000*50

Quartz Fiber Tape

Quartz fiber tape is made by quartz fiber yarn woven into a tape with woven structure of plain.
It offers excellent thermal insulation, high temperature resistance, and mechanical strength. Commonly used for wrapping, insulating, and reinforcing applications in industries such as aerospace, automotive, and electrical. It provides insulation against heat, fire, and chemicals while enhancing structural integrity. Quartz fiber tape is utilized for thermal barrier coatings, electrical insulation, and reinforcement of composite materials, contributing to the performance and reliability of various components and systems in demanding environments.

Code	Thickness(mm)	Weaving	Weight(g/m^2)	Width(mm)
QZ106/110-5	0.11	Plain	3.8	10-100
QZ106/140-5	0.14		7.86	
QZ106/200-5	0.20		4.15	
QZ106/280-5	0.28		13.5	
QZ106/500-5	0.50		23.3	

Quartz Fiber Sleeve

Quartz fiber sleeve is braided by Quartz fiber, SiO2 ≥ 99.9%. It offers exceptional thermal insulation, high temperature resistance, and chemical inertness. Commonly used as a protective covering for wires, cables, hoses, and pipes in high-temperature environments. It provides insulation against heat, flame, and abrasion while maintaining flexibility and durability.

Code	Inner Dia.(mm)	Weight(g/m)	Roll Length(m)
QZ107/0.5	0.5	0.85	50-100
QZ107/1	1	1.7	
QZ107/3	3	3.4	
QZ107/5	5	5.2	
QZ107/8	8	7.09	
QZ107/10	10	10.7	
QZ107/15	15	20.5	
QZ107/20	20	30	
QZ107/22	22	35	
QZ107/25	25	40.5	
QZ107/30	30	46.3	
QZ107/35	35	53	30-50
QZ107/40	40	59.7	
QZ107/45	45	66.5	
QZ107/50	50	74	
QZ107/55	55	83	
QZ107/60	60	90.5	
QZ107/65	65	110	
QZ107/70	70	132	

Quartz Fiber Needle Mat

Quartz fiber needle mat is a high-temperature resistant, interlocked non-woven insulation material made from quartz fibers without the need for binders, through mechanical needling. It can withstand continuous temperatures up to 1000° C, and due to its higher purity, it offers superior thermal stability and electrical insulation compared to high silica needle mats. While both are suitable for high-temperature insulation applications, the exceptional purity and structural integrity of QUARTZ FIBER needle mats may offer advantages in extreme conditions.

Code	Thickness(mm)	Density(kg/m^3)	Fiber Diameter(μm)	Length x width(m x mm)
QZ108	2-25	100-180	7-9	25/50/100x1050

Quartz Fiber Felt

Quartz fiber felt is produced from 3-5 or 9-14 microns quartz fiber wool that is impregnated with an organic binder. It offers excellent thermal insulation, high temperature resistance, and chemical inertness. Commonly used as insulation material in high-temperature applications such as furnaces, kilns, and industrial equipment. It effectively retains heat, reduces energy loss, and maintains stable operating temperatures in various industrial processes. Quartz fiber felt is also utilized in aerospace, automotive, and construction industries for its lightweight and durable insulation properties, contributing to energy efficiency and safety in diverse applications.

Code	Thickness(mm)	Density(kg/m^3)	Fiber Diameter(μm)	Dimension(mm)
QZ110/2	2	10-20	3-5 9-14	300*300 450*450 600*600 500*1000
QZ110/4	4			
QZ110/6	6			
QZ110/8	8			
QZ110/10	10			

Quartz Fiber Wet-Laid Mat

Quartz fiber wet-laid mats exhibit superior thermal resistance up to 1000° C, outperforming fiberglass mats which typically withstand around 500° C-600° C. With higher chemical stability and better dielectric properties due to purer quartz fibers, these mats provide excellent electrical insulation. The production process yields a smooth and consistent mat, offering advantages in high-precision applications, and in uses requiring high-performance insulation and superior laminate surface quality.

Code	Area Weight(g/m^2)	Thickness(mm)	Tensile Strength(N/50mm)	Wetting Out(s)	Width(mm)
QZ110WL/30	30	0.03	≥ 20	≤ 10	50-2500
QZ110WL/50	50	0.05	≥ 30	≤ 20	
QZ110WL/30	30	0.03	≥ 25	≤ 10	
QZ110WL/50	50	0.05	≥ 40	≤ 16	
QZ110WL/90	90	0.09	≥ 100	/	
QZ110WL/105	105	0.11	≥ 110	/	

Quartz Fiber Filter

Quartz fiber filter is composed of high-purity quartz fibers formed into a porous structure. They exhibit excellent chemical resistance, thermal stability, and mechanical strength. Commonly used in air and liquid filtration applications where high purity and durability are required, such as pharmaceutical manufacturing, environmental monitoring, and semiconductor production. Quartz fiber filters efficiently capture particles, contaminants, and impurities while maintaining consistent flow rates and minimal pressure drop. Their superior performance and reliability make them essential for critical filtration processes in various industries.

Code	Dimension(mm)	Shape	Package(p/box)	Thermal Resistance
QZ113/25	Φ: 25	Round	25/100	500-900
QZ113/47	Φ: 47			
QZ113/90	Φ: 90			
QZ113/102	Φ: 102			
QZ113/110	Φ: 110			
QZ113/150	Φ: 150			
QZ113/250*200	250*200	Rectangle		
QZ113/400*300	400*300			

Quartz Fiber Filter Cartridge

Quartz fiber filter cartridge is composed of high-purity quartz fibers arranged densely to form a filtration medium. They boast exceptional chemical resistance, thermal stability, and mechanical strength. Commonly used for liquid filtration applications in industries such as pharmaceuticals, electronics, and food and beverage. Quartz fiber filter cartridges effectively remove particles, contaminants, and impurities from liquids while maintaining high flow rates and low pressure drop. Their superior performance and durability make them ideal for critical filtration processes where purity and reliability are paramount.

Type	H/ QFCΦ32X120mm		H/ QFCΦ25X90mm		
Weight	2.0±0.2g		1.2±0.1g		
Background Values	SiO_2	Fe_2O_3	Al_2O_3	CaO	MgO
	57.12	0.36	14.66	16.53	3.36
Drag force (air flow rate: 20L/nin)	14-16mmHg		16-18mmHg		
RWL	The ratio of weight loss is not more than 0.2%, baking from 60 minutes to 120 minutes at the actual temperature				
Collection efficency	(Oil Mist: to0.3μm Oil Mist Particle)				

Quartz Fiber Textile & Combination Products

Quartz fiber textile & combination products are composed of high-purity quartz fibers woven, knitted, or combined with other materials. They exhibit exceptional heat resistance, chemical inertness, and mechanical strength. Commonly used in high-temperature applications such as thermal insulation, fire protection, and reinforcement in industries like aerospace, automotive, and construction. These products offer superior thermal and chemical stability, making them suitable for demanding environments where conventional materials may degrade.

Type	Fiber Volume Fraction	Combination Textile Density	Normal Spacing	Thread Count(cm)
3D Orthogonlity Textile	45%(Adjustable)	1.60-1.75g/cm^3	4-5mm	8-15(Adjustable)
Sultured Multilayered Textile	45%(Adjustable)	1.60-1.75g/cm^3	4-5mm	Same as the original fabric

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