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PRODUCTS CATALOG



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HIGH-PRESSURE FIBERGLASS LINE PIPE



GRP pipeline are made of glass fiber roving as reinforcement, epoxy resin as the matrix material, molded by winding.

Scope of Production

Diameter: DN40-DN900;

Pressure rating: 3.45MPa- 34.5MPa.

Product Standards

API Spec 15HR-2016 High Pressure Glass Fiber Piping Specification

SY/T 6267-2006 High Ppressure Glass Fiber Pipe Code

Applications

Oil, gas, water mixture transport in petroleum, petrochemical and other areas.

Product Characteristics

Corrosion resistance, light weight, long service life, no easy scaling or waxing.

PRODUCT PARAMENTERS

Acid anhydride GRE line pipe (design as per API-15HR) Temperature Resistant Level

Medium temperature: $\leq 65.5^{\circ}\text{C}$

Physical Properties

Density: 1.95 g/cm^3 (121.74 lbs/ft^3) Specific gravity: 1.95

Thermaldynamic Properties

Heat conductivity coefficient: $0.40 \text{ W/m}^{\circ}\text{C}$ ($0.23 \text{ BTU/ft/hr/}^{\circ}\text{F}$) Coefficient of linear expansion : $14 \times 10^{-6} \text{ mm}^{\circ}\text{C}$ ($6.1 \times 10^{-5} \text{ in/in/}^{\circ}\text{F}$)

Flow Coefficients

Hazen-Williams factor: $C = 150$

Absolute roughness: 0.0053 mm ($0.00021''$)

Elastic Coefficients

Hoop elastic modulus: 24.1 GPa ($3.5 \times 10^6 \text{ psi}$)

Axial elastic modulus: 11.9 GPa ($1.7 \times 10^6 \text{ psi}$)

Poisson ratio(minimum): 0.38



HIGH-PRESSURE FIBERGLASS LINE PIPE

Product Parameters

Nominal diameter		Rated pressure		Connection	ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in	MPa	psi	in	mm	mm	m	m
DN40	1 1/2	12	1750	API 5B EUE (1.9")	38	2.6	26	9
		14	2000		38	3.3	26	
		16	2300		38	4.0	26	
		20	2900		38	4.6	26	
		22	3200		38	5.3	26	
		25	3600		38	5.9	26	
DN50	2	10	1500	API 5B EUE (2 3/8")	48	2.6	40	9
		12	1750		48	3.3	40	
		14	2000		48	4.0	42	
		18	2600		48	4.6	42	
		20	2900		48	5.3	42	
		22	3200		48	5.9	42	
DN65	2 1/2	25	3600		48	7.3	44	
		7	1000	API 5B EUE (2 7/8")	60	2.6	48	9
		10	1500		60	3.3	48	
		12	1750		60	4.0	50	
		14	2000		60	4.6	50	
		16	2300		60	5.3	50	
		18	2600		60	5.9	50	
		20	2900		60	6.6	52	
		22	3200		60	7.3	52	
		25	3600		60	7.9	54	
DN80	3	8.5	1250	API 5B EUE (3 1/2")	76	3.3	60	9
		10	1500		69	4.0	60	
		12	1750		69	4.6	60	
		14	2000		69	5.3	60	
		16	2300		69	5.9	60	
		18	2600		69	7.3	62	
		20	2900		69	7.9	62	
		22	3200		69	8.6	62	
		25-JG	3600		69	9.6	64	

HIGH-PRESSURE FIBERGLASS LINE PIPE

Nominal diameter		Rated pressure		Connection	ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in	MPa	psi	in	mm	mm	m	m
DN100	4	5.5	800	API 5B EUE (4 1/2")	94	3.3	74	8.8
		7	1000		94	4.0	74	
		10	1500		94	5.3	74	
		12	1750		94	5.9	74	
		14	2000		94	7.3	74	
		16	2300		94	7.9	76	
		20	2900		94	9.2	76	
		25-JG	3600		94	11.0	76	
DN150	6	3.5	500	API 5B EUE (7")	148.6	3.3	110	8.7
		5.5	800		148.6	4.6	110	
		7	1000		148.6	5.9	110	
		8.5	1250		148.6	7.3	112	
		10-JG	1500		135	8.6	112	
		12-JG	1750		135	9.2	112	
		14-JG	2000		135	9.8	112	
		16-JG	2300		135	11.5	112	
DN200	8	3.5	500	API 5B EUE (8 5/8")	194	4.0	130	8.6
		5.5	800		194	5.9	130	
		7	1000		194	7.3	135	
		8.5-JG	1250		194	8.5	135	
		10-JG	1500	API 5B EUE (9 5/8")	209	10.7	140	
		12-JG	1750		209	13.2	140	
		14-JG	2000		209	15.4	140	
DN250	10	3.5	500	Trapezoidal thread	250	4.6	155	11.2
		5.5	800		250	7.3	160	
		7	1000		250	9.2	165	
		8.5	1250		250	11.2	175	
DN300	12	3.5	500		300	5.4	185	11.2
		5.5	800		300	8.5	190	
		7	1000		300	11.0	195	
		8.5	1250		300	13.4	200	
DN400	16	3.5	500		400	12.0	255	11.2
DN500	20	3.5	500		500	15.0	320	
DN600	24	3.5	500		580	17.5	370	

Note: API 5B EUE stands for external thickened long round threads conforming to API 5B.

HIGH-PRESSURE FIBERGLASS LINE PIPE

Amine epoxy GRE line pipe (design as per API-15HR) Temperature Resistant Level

Medium temperature: $\leq 93.3^{\circ}\text{C}$

Physical Properties

Density: 1.95 g/cm^3 (121.74 lbs/ft^3) Specific gravity: 1.95

Thermodynamic Properties

Heat conductivity coefficient: $0.40 \text{ W/m}^{\circ}\text{C}$ ($0.23 \text{ BTU/ft}^2\text{/hr}^{\circ}\text{F}$) Linear expansion coefficient: $15.8 \times 10^{-6} \text{ mm/mm}^{\circ}\text{C}$ ($8.8 \times 10^{-6} \text{ in/in}^{\circ}\text{F}$)

Flow Coefficients

Hazen-Williams factor: $C = 150$

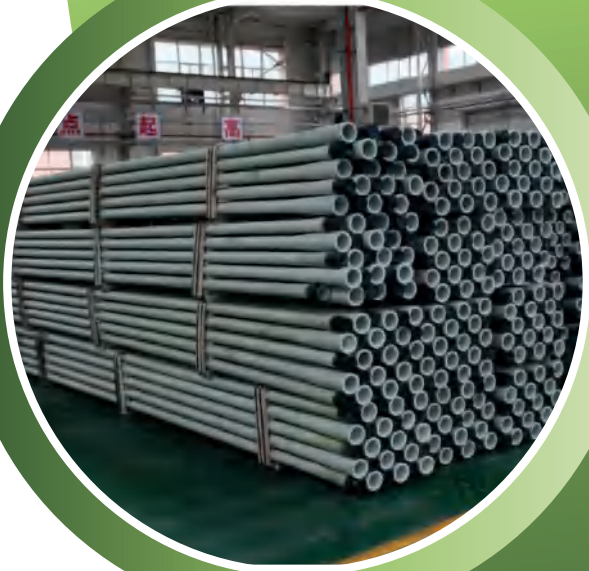
Absolute roughness: 0.0053 mm ($0.00021''$)

Elastic Coefficients

Hoop elastic modulus: 22.8 GPa ($3.2 \times 10^6 \text{ psi}$)

Axial elastic modulus: 12.6 GPa ($1.82 \times 10^6 \text{ psi}$)

Poisson ratio (minimum): 0.38



HIGH-PRESSURE FIBERGLASS LINE PIPE

Product Parameters



Nominal diameter		Rated pressure		The connection method	ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in	MPa	psi	in	mm	mm	m	m
DN40	1 1/2	10	1500	API 5B EUE (1.9")	38	2.6	26	9
		12	1750		38	3.3	26	
		14	2000		38	4.0	26	
		16	2300		38	4.6	26	
		20	2900		38	5.3	26	
		22	3200		38	5.9	26	
		25	3600		38	7.2	26	
DN50	2	8.5	1250	API 5B EUE (2 3/8")	48	2.6	40	9
		10	1500		48	3.3	40	
		12	1750		48	4.0	42	
		14	2000		48	4.6	42	
		16	2300		48	5.3	42	
		18	2600		48	5.9	42	
		20	2900		48	6.6	44	
		22	3200		48	7.3	44	
		25	3600		48	8.6	44	

HIGH-PRESSURE FIBERGLASS LINE PIPE



Nominal diameter		Rated pressure		The connection method	ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in	MPa	psi	in	mm	mm	m	m
DN65	2 1/2	7	1000	API 5B EUE (2 7/8")	60	2.6	48	9
		8.5	1250		60	3.3	48	
		10	1500		60	4.0	50	
		12	1750		60	5.3	50	
		14	2000		60	5.9	50	
		16	2300		60	6.6	52	
		18	2600		60	7.3	52	
		20	2900		60	8.6	52	
		22	3200		60	9.2	54	
DN80	3	7	1000	API 5B EUE (3 1/2")	76	3.3	60	9
		8.5	1250		69	4.0	60	
		10	1500		69	5.3	60	
		12	1750		69	5.9	60	
		14	2000		69	7.3	62	
		16	2300		69	8.6	62	
		18	2600		69	9.6	64	
		20-JG	2900		69	12.0	66	8.8

HIGH-PRESSURE FIBERGLASS LINE PIPE

Nominal diameter		Rated pressure		Connection	ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in	MPa	psi	in	mmmm		m	m
DN100	4	5.5	800	API 5B EUE (4 1/2")	94	3.3	74	8.8
		7	1000		94	4.0	74	
		8.5	1250		94	5.3	74	
		10	1500		94	6.6	74	
		12	1750		94	7.9	76	
		14	2000		94	9.2	76	
		16-JG	2300		94	10.6	76	
DN150	6	3.5	500	API 5B EUE (7")	148.6	3.3	110	8.7
		5.5	800		148.6	5.2	110	
		7	1000		148.6	6.6	112	
		8.5-JG	1250		135	8.6	112	
		10-JG	1500		135	9.8	112	
		12-JG	1750		135	11.5	112	
DN200	8	3	400	API 5B EUE (8 5/8")	194	4.0	130	8.6
		4.5	650		194	5.9	130	
		6	850		194	7.3	135	
		7-JG	1000		194	8.5	135	
		8.5-JG	1250	API 5B EUE (8 5/8")	209	11.2	140	
		10-JG	1500		209	13.2	140	
DN250	10	3.5	500	T-thread	250	5.3	155	11.2
		5.5	800		250	8.5	160	
		7	1000		250	11.0	165	
		8.5	1250		250	13.3	175	
DN300	12	3.5	500		300	6.4	185	11.2
		5.5	800		300	10.1	190	
		7	1000		300	13.0	195	
		8.5	1250		300	16.0	200	
DN400	16	3.5	500		400	13.0	255	11.2
DN500	20	3.5	500		500	16.0	320	
DN600	24	3.5	500		580	18.5	370	

Note :

1. All the products are one-piece joint other than those identified as coupling connection (JG).
2. The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis.
3. API 5B EUE stands for external thickened long round threads conforming to API 5B. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer requirements.

GRE TUBING

It is downhole GRE tubing which is made of high strength glassfiber as the reinforcement and epoxy resin as the base material.

Scope of Production

Diameter: DN40-DN100;

Pressure rating:10MPa-25MPa;

Can be designed and produced according to customer's requirements.

Product Standards

SY/T 7043 High Pressure Fiberglass Tubing for Petroleum and Natural Gas Industries SY/T 6267-2006 Specification for High Pressure Fiberglass Line Pipe

Applications

Used for general water injection wells, sewage reinjection wells, polymer injection wells, etc..

Product Characteristics

Corrosion resistance, long service life, smooth inner wall, scale-proof and wax-proof.



Spec.	Pressure rating	Thread spec.	Nominal ID	Coupling OD	Nominal weight	Nominal length
in	MPa	in	mm	mm	kg/m	m
2	16	2 3/8	48	84	2.5	9.0
	20	2 3/8	48	92	2.9	9.0
2 1/2	12	2 7/8	56	104	2.6	9.0
	14	2 7/8	56	104	3	9.0
	16	2 7/8	56	104	3.5	9.0
	20	2 7/8	56	104	4.2	9.0
3	17	3 1/2	62	107	4.2	8.7
	20	3 1/2	62	107	4.4	8.7
	20	3 1/2	62	120	6	8.7

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer demands.

GRE CASING



It is downhole GRE casing which is manufactured by micro-controlled filament winding of epoxy resin and high-strength glass fiber roving.

Production Range

Diameter: DN100-DN250; pressure rating: 10MPa-25MPa;

Can be designed and produced according to customer's demands. Product Standards API 15 HR Specification for High Pressure Fiberglass Line Pipe SY/T 6267-2006 Specification for High Pressure Fiberglass Line Pipe Applications Used for Casing damage well repair, water source well, CBM straight well, etc..

Product Characteristics

Corrosion resistance, long service life, light weight and low job costs.

Spec.	Pressure rating	Thread spec.	Nominal ID	Coupling OD	Nominal weight	Nominal length
in	MPa	in	mm	mm	kg/m	m
4	12	4	82.5	112	4.7	8.4
	14	4	82.5	112	5.4	8.4
	17	4	82.5	112	6.3	8.4
	20	5	94	165	13.1	8.7
5	17	5 1/8	108.6	142	9.8	8.4
6	17	7	148	212	15	8
	10	7	157	200	12.1	8.4
DN164	10	8 7/16	164	234	16.9	8.7
	12		164	234	18.2	8.7
	14		164	234	19.5	8.7
DN209	7	9 5/8	209	270	16	8.7

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer demands.

GRE SCREEN TUBING

GRE screens are made by winding process using high-strength glass fiber as reinforcement and epoxy resin as the base material and subject to being bored and slotted.

Scope of Production

Diameter: DN100-DN250;
Pressure rating: 10MPa-25MPa.

Product Standard

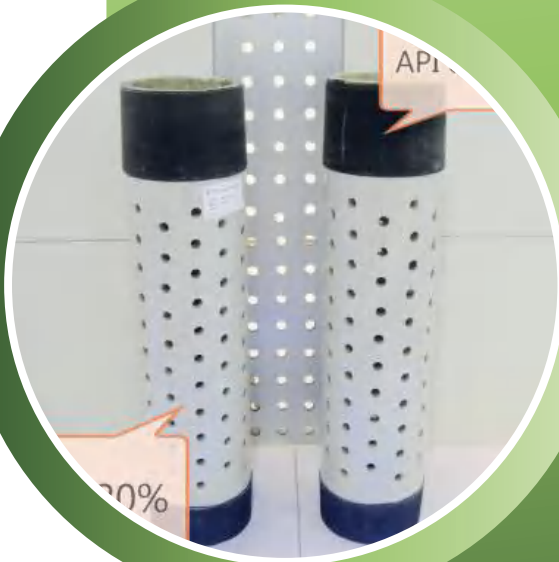
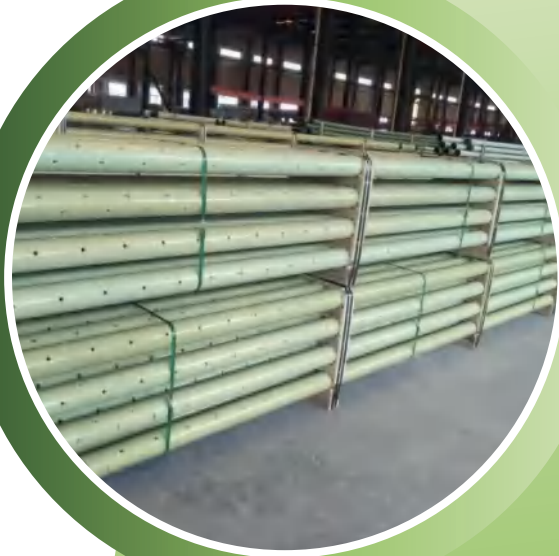
SY/T 6267-2006 Glass Fiber Pipeline Specification

Applications

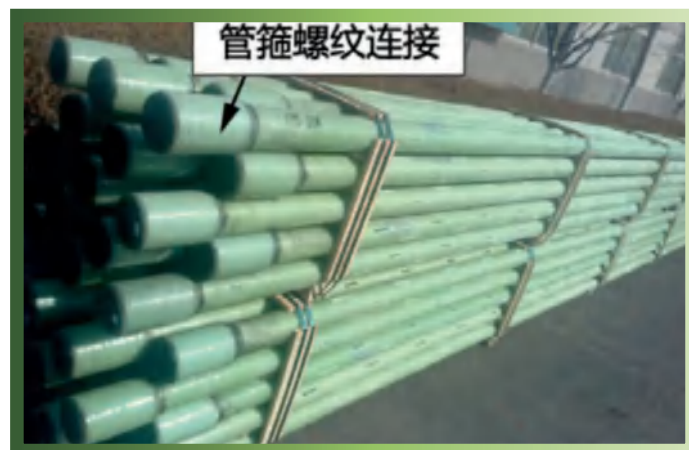
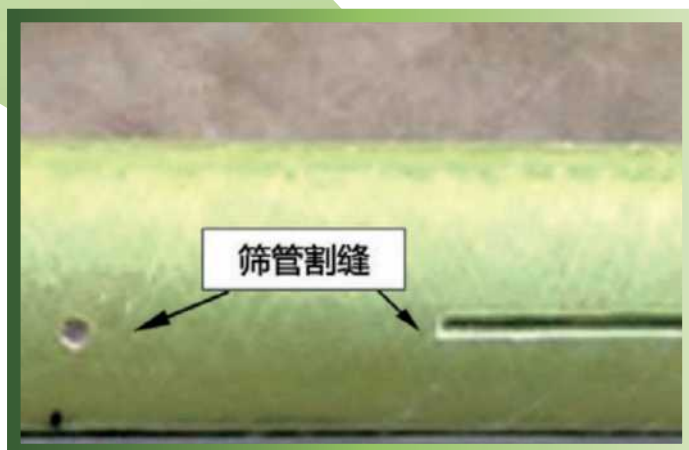
Filtering screens for water source wells, screens for horizontal CBM wells, etc.

Product Characteristics

Corrosion resistance, long service life, easily drillable, no safety hazard. Product Characteristics Corrosion resistance, long service life, light weight and low job costs.



Product Parameters



Nominal diameter	Thread spec.	ID	Coupling OD	Nominal length
in	in	mm	mm	m
3 1/2	4 1/2	76	124	9.0
7	8 1/4	164	234	8.5
8 5/8	9 5/8	209	272	8.5

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer demands.

STRATIFIED WATER INJECTION TUBING

Downhole stratified water injection GRE pipe is made of high-strength glass fiber as reinforcement and epoxy resin as the base material and is made by winding process.

Scope of Production

Diameter: 1.6"-4";

Pressure rating: 10MPa-25MPa

Product Standards

API 15HR-2001 Specification for High Pressure
Fiberglass Line Pipe

ISO 14692:2002 Glass-reinforced Plastics (GRP)
Piping

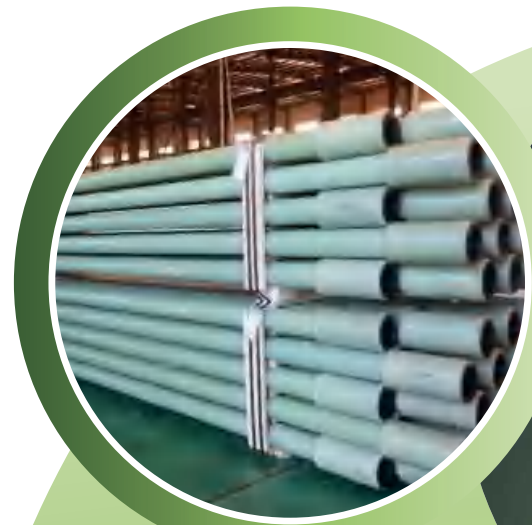
SY/T 6267-2006 Specification for High Pressure
Fiberglass Line Pipe

Applications

Applicable to zonal injection wells, casing
protection single layer injection wells and other
fields.

Product Characteristics

Corrosion-proof, salt/wax-proof, high strength
wear threads, easy make-up and break-out,
reusable.



Nominal diameter	Pressure rating	Thread spec.	ID	Coupling OD	Nominal length
in	MPa	in	mm	mm	m
2 1/2	20	2 7/8	56	110	8.7

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer's demands.

FLEXIBLE COMPOSITE PIPE FOR HIGH PRESSURE TRANSMISSION



It is coiled pipe made by continuous extrusion and winding process using continuous fiber as the reinforcement and thermoplastic resin as the base material.

Scope of Production

Diameter: DN40-DN200;

Pressure rating: 2.5MPa-32MPa;

Can be designed and produced according to customer's demands.

Product Standard

SY/T6662.2-2012 Non-metallic Composite for Petroleum and Natural Gas Industries-Flexible Composite Pipe for High Pressure Transmission

Applications

Petroleum, natural gas, coal mine, etc..

Product Characteristics

Corrosion resistance, long service life, smooth inner wall, flexible, coiled, quick installation, reusable.

Min. diameter	Pressure rating	Min. thickness	Wall thickness tolerance	Minimum storage bending radius
mm	MPa	mm	mm	mm
38	20	10.5	+0.5 -0	1600
38	2.5	8.0	+0.5 -0	1600
50	12	11.0	+0.5 -0	2000
50	2.5	8.5	+0.5 -0	2000
76	12	12.5	+0.5 -0	2800
76	2.5	10	+0.5 -0	2800

LOW-PRESSURE GRP LINE PIPE

GRP pipes are manufactured by winding technique using glass fiber and its products as the reinforcing materials and using thermosetting resin like unsaturated polyester resin and epoxy resin as the base materials.

Scope of Production

Diameter: DN50-DN2000;

Pressure rating: 0-6.9MPa;

Can be designed and produced according to customer's demands.

Product Standards

API Spec 15LR-2001 Specification for Low Pressure Fiberglass Line Pipe and Fittings

SY/T 6266-2004 Low Pressure Fiberglass Line Pipe and Fittings
JC/T 552-2011 Filament-wound Thermosetting Resin Pressured Pipe

Applications

Oil field, chemical industry, municipal, water conservancy, etc..

Product Characteristics

Corrosion resistance, long service life, light weight, no easy scaling and waxing.



1)Reference wall thickness of UPR (unsaturated polyester resin) low-pressure GRP pipe(mm)

Nominal diameter	Connection	Pressure rating	ID	Nominal wall thickness	Nominal length
mm		MPa	mm	mm	m
DN50	Socket (locking) joint/ flat butt joint	0.6	50	4.5	11
		1.0		4.5	
		1.6		4.5	
		2.5		4.5	
DN65		0.6	65	4.5	
		1.0		4.5	
		1.6		4.5	
		2.5		5.5	
DN80		0.6	80	4.5	
		1.0		4.5	
		1.6		4.5	
		2.5		5.5	
DN100		0.6	100	4.5	
		1.0		4.5	
		1.6		5.5	
		2.5		5.5	
DN150		0.6	150	5.0	
		1.0		5.2	
		1.6		5.6	
		2.5		6.9	
DN200		0.6	200	5.6	
		1.0		6.4	
		1.6		7.2	
		2.5		9.8	
DN250		0.6	250	5.6	
		1.0		6.9	
		1.6		8.1	
		2.5		11.8	
DN300		0.6	300	5.9	
		1.0		6.7	
		1.6		9.4	
		2.5		12.7	
DN350		0.6	350	6.4	
		1.0		7.3	
		1.6		10.8	
		2.5		14.7	

Nominal diameter	Connection	Pressure rating	ID	Nominal wall thickness	Nominal length
mm		MPa	mm	mm	m
DN400	Socket (locking) joint/ flat butt joint	0.6	400	7.5	11
		1.0		8.5	
		1.6		12.2	
		2.5		17.3	
DN450		0.6	450	8.0	
		1.0		9.5	
		1.6		13.8	
		2.5		20.5	
DN500		0.6	500	8.3	
		1.0		9.6	
		1.6		14.5	
		2.5		21.9	
DN600		0.6	600	9.0	
		1.0		12.5	
		1.6		17.5	
		2.5		26.5	
DN700		0.6	700	10.0	
		1.0		13.5	
		1.6		20.0	
		2.5		/	
DN800		0.6	800	10.5	
		1.0		15.5	
		1.6		/	
		2.5		/	
DN900		0.6	900	11.5	
		1.0		16.5	
		1.6		/	
		2.5		/	
DN1000		0.6	1000	12.5	
		1.0		/	
		1.6		/	
		2.5		/	

2) Technical parameters of low-pressure epoxy resin pipeline

Nominal diameter		Connection	Pressure rating	Nominal ID	Nominal wall thickness	Minimum bending radius	Nominal length
mm	in		MPa	mm	mm	m	m
DN25010		T-thread Socket locking joint taper to taper adhesive	2.5	250	4.0	150	11.2
			3.5		4.6	155	
			4.5		6.0	155	
			5.5		7.3	160	
			6.9		9.2	165	
DN30012			2.5	300	6.0	180	
			3.5		5.4	185	
			5.5		8.5	190	
			6.9		11.0	195	
DN40016			2.5	400	8.0	250	
			3.5		11.3	255	
DN50020			2.5	500	10.5	310	
			3.5		15.0	320	
DN60024			2.5	600	13.5	380	
			3.5		18.0	380	
DN70028			2.0	700	15.5	440	
			2.5		19.0	445	

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer demands.

FIBERGLASS REINFORCED PLASTIC MORTAR PIPE

Pipelines are fabricated by winding technology using glass fiber and its products as reinforcing materials, UPR as base material and silica sand as filling.

Scope of Production

Diameter: DN400-DN4000;

Pressure rating: 0-2.5MPa;

Stiffness class: 1250-100000N/m²;

Can be designed and produced according to customer's requirements.

Product Standard

GB/T 21238-2016 Glass Fiber Reinforced

Plastic Mortar Pipes Applications

Oil field, chemical industry, municipal, water conservancy, power station, etc.

Product Characteristics

Corrosion resistance, long service life, light weight, smooth inner wall.



Table of product basic parameters

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length
mm		N/m ²	MPa	mm	mm	mm
DN400	Socket (locking) connection	SN3750	0.25	400	6.1	12
			0.6		6.1	
			1.0		5.9	
		SN5000	0.25		6.7	
			0.6		6.7	
			1.0		6.4	
		SN10000	0.25		8.1	
			0.6		8.1	
			1.0		8.1	
			2.5		7.7	
		DN500	SN3750	0.25	500	
0.6				7.2		
1.0				7.1		
SN5000			0.25	8.0		
			0.6	8.0		
			1.0	7.7		
SN10000			0.25	11.4		
			0.6	11.4		
		1.0	9.6			
		2.5	9.4			
DN600	Socket (locking) connection	SN3750	0.25	600	8.7	
			0.6		8.3	
					8.3	
		SN5000	0.25		9.6	
			0.6		9.6	
			1.0		9.2	
		SN10000	0.25		12.1	
			0.6		12.1	
			1.0		11.7	
			2.5		11.0	

FIBERGLASS REINFORCED PLASTIC MORTAR PIPE

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length	
mm		N/m ²	MPa	mm	mm	mm	
DN700	Socket (locking) connection	SN3750	0.25	700	9.7	12	
			0.6		9.7		
			1.0		9.4		
		SN5000	0.25		11.2		
			0.6		11.2		
			1.0		10.4		
		SN10000	0.25		13.8		
			0.6		13.6		
			1.0		13.2		
			2.5		12.5		
		DN800	SN3750	0.25	800		11.8
				0.6			11.3
1.0				10.0			
SN5000			0.25	12.8			
			0.6	12.5			
			1.0	11.7			
SN10000			0.25	15.5			
			0.6	15.5			
			1.0	15.0			
		2.5	14.2				
DN900		SN3750	0.25	900	13.4		
			0.6		12.5		
			1.0		11.7		
		SN5000	0.25		14.8		
			0.6		13.8		
			1.0		12.9		
		SN10000	0.25		19.3		
			0.6		17.7		
			1.0		16.4		
			2.5		15.5		

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length		
mm		N/m ²	MPa	mm	mm	mm		
DN1000	Socket (locking) connection	SN3750	0.25	1000	14.6	12		
			0.6		13.7			
			1.0		13.0			
		SN5000	0.25		16.2			
			0.6		15.1			
			1.0		14.4			
		SN10000	0.25		20.7			
			0.6		19.4			
			1.0		18.0			
			2.5		17.3			
		DN1100	SN3750		0.25		1100	16.1
					0.6			14.9
1.0				14.2				
SN5000			0.25	17.9				
			0.6	16.5				
			1.0	15.6				
SN10000			0.25	23.0				
			0.6	21.2				
			1.0	19.8				
			2.5	18.9				
DN1200		SN3750	0.25	1200	17.2			
			0.6		16.1			
			1.0		15.4			
		SN5000	0.25		19.6			
	0.6		17.9					
	1.0		16.9					
	SN10000	0.25	24.7					
		0.6	22.9					
		1.0	21.5					
		2.5	20.6					

FIBERGLASS REINFORCED PLASTIC MORTAR PIPE

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length
mm		N/m ²	MPa	mm	mm	mm
DN1400	Socket (locking) connection	SN3750	0.25	1400	20.4	12
			0.6		18.4	
			1.0		17.7	
		SN5000	0.25		22.7	
			0.6		20.5	
			1.0		19.5	
		SN10000	0.25		29.2	
			0.6		26.4	
			1.0		24.8	
			2.5		23.8	
		DN1500	SN3750	0.25	1500	
0.6				19.9		
1.0				18.7		
SN5000			0.25	24.4		
			0.6	22.1		
			1.0	20.7		
SN10000			0.25	31.4		
			0.6	28.5		
			1.0	26.3		
		2.5	25.3			
DN1600		SN3750	0.25	1600	23.6	
	0.6		21.2			
	1.0		20.0			
	SN5000	0.25	26.2			
		0.6	23.4			
		1.0	22.0			
	SN10000	0.25	33.7			
		0.6	30.3			
		1.0	28.2			
2.5		26.9				

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length	
mm		N/m ²	MPa	mm	mm	mm	
DN2200	Socket (locking) connection	SN3750	0.25	2200	29.7	12	
			0.6		27.6		
			1.0		25.3		
		SN5000	0.25		37.8		
			0.6		35.3		
			1.0		32.6		
		SN10000	0.25		48.7		
			0.6		42.5		
			1.0		41.5		
			2.5		40.4		
DN2400		SN3750	0.25	2400	32.6		
			0.6		30.3		
			1.0		28.4		
		SN5000	0.25		41.8		
			0.6		38.8		
			1.0		34.0		
		SN10000	0.25		53.4		
			0.6		46.6		
DN2600			SN3750	0.25	2600		36.3
				0.6			33.5
	1.0			31.5			
	SN5000		0.25	45.2			
			0.6	40.5			
			1.0	35.4			
	SN10000		0.25	55.8			
			0.6	48.9			
			1.0	47.2			
			2.5	45.8			

FIBERGLASS REINFORCED PLASTIC MORTAR PIPE

Nominal diameter	Connection	Stiffness level	Pressure rating	Nominal ID	Nominal wall thickness	Nominal length
mm		N/m ²	MPa	mm	mm	mm
DN2800	Socket (locking) connection	SN3750	0.25	2800	39.6	12
			0.6		36.0	
			1.0		34.0	
		SN5000	0.25		49.4	
			0.6		45.1	
			1.0		42.0	
		SN10000	0.25		62.0	
			0.6		56.5	
			1.0		53.0	
			2.5		51.0	
DN3000	Socket (locking) connection	SN3750	0.25	3000	41.0	
			0.6		38.1	
			1.0		36.2	
		SN5000	0.25		52.0	
			0.6		47.0	
			1.0		45.3	
		SN10000	0.25		67.0	
			0.6		61.7	
			1.0		58.2	
			2.5		54.0	

Note :

The above parameters are general information of our products and are design parameters based on special materials and technical status and cannot be used as inspection basis. In addition, our products are not limited to the above sizes and can be designed and manufactured as per customer demands.

SPECIAL PURPOSE GRP PIPING



Composite material pipelines are made by continuous winding of special resin, fiber and its fabric, and through vacuum perfusion and other molding techniques which can meet the special performance requirements.

Scope of Production

Can be designed and produced according to customer's demands.

Product Standards

Q/DG 2-TO2-2011 Guidelines for Design of Composite Tower Structure of Overhead Transmission Line
QJ-2468-1993 General Specification for Solid Strategic Missile Launchers
GJB 1225A-2007 General Specification for Submarine-strategic Missile Launchers

Applications

Military industry, marine industry, aviation, etc..

Product Characteristics

Corrosion resistance, light weight, convenient shipment and high designability.

Application Cases

GRE tower, carbon fiber reinforced GRE transmission shaft, polyurethane composite pole, GRE missile launcher.

MARINE-OFFSHORE PIPES

Marine-offshore pipes are made by winding process using high strength glassfiber and carbon fiber as reinforcement and epoxy resin as the base material.

Applications

Marine platforms and ships.

Product Standards

CCS Rules for Classification of Sea-Going Steel Ships and Rules for Materials and Welding IMO Resolution A.753(18) Guidelines for the Use of Plastic Pipes onboard Ships

Product Characteristics

Fire-proof, anti-static, corrosion resistance, light weight and long service life.



Table of Product Basic Parameters

Nominal diameter	Nominal ID	Nominal thickness	Nominal OD	Wall thickness tolerance	Nominal weight
in	mm	mm	mm	mm	Kg/m
1.5	38.10	5.0	48.1	+0.5 -0	1.2
2	50.00	5.0	60.0	+0.5 -0	1.6
2.5	60.00	5.0	75.0	+0.5 -0	2.0
3	80.00	5.0	90.0	+0.5 -0	2.4
4	100.00	5.0	110.0	+0.5 -0	3.0
6	150.00	5.4	160.8	+0.5 -0	4.8
8	200.00	7.0	214.0	+0.5 -0	8.3
10	250.00	8.4	266.8	+0.5 -0	12.5
12	300.00	9.5	319.0	+0.5 -0	16.9
14	350.00	10.8	371.6	+0.5 -0	22.4
16	400.00	12.1	424.2	+0.5 -0	28.7
18	450.00	14.2	478.4	+0.5 -0	37.9
20	500.00	15.1	530.2	+0.5 -0	44.7
22	550.00	16.2	582.4	+0.5 -0	52.7
24	600.00	17.6	635.2	+0.5 -0	62.5
26	650.00	18.2	686.4	+0.5 -0	69.9
28	700.00	19.8	739.6	+0.5 -0	81.9
30	750.00	21.0	792.0	+0.5 -0	93.1
32	800.00	22.2	844.4	+0.5 -0	104.9
36	900.00	24.8	949.6	+0.5 -0	131.9

LARGE GRP STORAGE TANKS

GRP vessels are fabricated on site by filament winding, jetting molding, contact molding, etc. using fiberglass and its products as the reinforcing materials and resin as the base material.

Scope of Production

Diameter $\geq 4.5\text{m}$; capacity $\geq 100\text{m}^3$;
Can be designed and produced according to customer's demands.

Product Standards

HG/T 20696-1999 Specification of FRP Equipment Design for Chemical Industry
HG/T 3983-2007 Filament Wound Glass-fiber Reinforced Thermosetting Resin Chemical Resistant Large Tanks Made

On Site Applications

Petroleum, chemical, medicine, food brewing, etc..

Product Characteristics

Corrosion resistance, long service life, light weight;
Convenient construction and installation;
Low thermal conductivity and good thermal insulation performance.



Table of design parameters for large GRP storage tanks

Diameter	Volume	Length	Diameter	Volume	Length
mm	m ³	mm	mm	m ³	m
1800	10	4080	3200	30	4000
	15	6050		40	5250
	20	8010		50	6490
2200	15	4130	3600	40	4230
	20	5450		50	5210
	30	8080		60	6200
2600	30	5870	4000	60	5110
	35	6810		80	6700
	40	7750		100	8290

Note :

The above specification parameters are for reference only, and can be customized according to customer's requirements.



SMALL GRP STORAGE TANKS

GRP vessels are fabricated in shops by filament winding, jetting molding, contact molding with fiberglass and its products as the reinforcing materials and resin as the base material.

Scope of Production

Diameter $\leq 4\text{m}$; capacity $\leq 150\text{m}^3$;

Can be designed and produced according to customer's demands.

Product Standards

JC/T 587—2012 Filament Wound Glass Fiber Reinforced Thermosetting Resin Corrosion Resistant Vertical Tanks
JC/T 718—2012 Filament Wound Glass Fiber Reinforced Thermosetting Resin Corrosion Resistant Horizontal Tanks

Applications

Petroleum, chemical industry, medicine, food brewing and other fields.

Product Characteristics

Corrosion resistance, long service life;

Light weight, convenient construction and installation;

Low thermal conductivity, good thermal insulation performance.



Design parameters of composite small GRP storage tanks

Diameter	Volume	Length	Diameter	Volume	Length
mm	m ³	mm	mm	m ³	mm
1800	10	4080	3200	30	4000
	15	6050		40	5250
	20	8010		50	6490
2200	15	4130	3600	40	4230
	20	5450		50	5210
	30	8080		60	6200
2600	30	5870	4000	60	5110
	35	6810		80	6700
	40	7750		100	8290

Note :

The above specification parameters are for reference only, and can be customized according to customer's requirements.



FRP INTEGRATED PREFABRICATED PUMP STATION

It is an assemblage of FRP barrel, submersible sewage pump, integrated pipe network and automated control system, used for slow storage and the lifting of city sewage, rainwater, etc..

Scope of Production

Diameter $\geq 1\text{m}$; capacity $\geq 5\text{m}^3$;
Can be designed and produced according to customer's demands.

Product Standards

JC/T 587-2012 Glass Fiber Winding Reinforced Thermosetting Resin Anti-corrosive Vertical Storage Tank GB50141-2008 Specification for Construction and Acceptance of Water Supply and Drainage Structures

Applications

Municipal water supply and drainage, sewage treatment and other areas.

Product Characteristics

Corrosion resistance, long service life;
High integration, small footprint;
Short construction period and low comprehensive cost.



Diameter	Height	Volume
mm	mm	m ³
1200	6000	7
1600	6000	12
2000	6000	18
2500	8000	40
3000	8000	56
3800	10000	110
6500	10000	330

Note: the above specification parameters are for reference only, and can be customized according to customer's requirements.

The integrated pump station with diameter $\geq 4000\text{mm}$ can be made and assembled on site.

SF DOUBLE WALLED TANKS



With glass fiber as reinforcement material and resin as matrix material, the double walled oil tank is formed by making a layer of impermeable shell outside the single-layer steel tank through the spray process and contact forming process.

Scope of Production

Diameter $\leq 4\text{m}$; capacity $\leq 100\text{m}^3$

Can be designed and produced according to customer's demands.

Product Standard

SH/T 3178-2015 The Technical Specification of Buried SF Double Walled Tank Used for Gas Station

Applications

Gas station product oil and chemical plant hazardous chemical storage areas.

Product Characteristics

Environmental protection and anti-seepage, no pollution; Corrosion resistance, long service life; Light weight, convenient construction and installation.

SF Table of design parameters for SF double walled tanks

Volume	Diameter	Length	Shell thickness	Head thickness	Thickness of outer layer
m ³	mm	mm	mm	mm	mm
10	1900	3916	≥6	≥7	≥4
20	2400	4840	≥6	≥7	≥4
	2600	4600	≥7	≥8	≥4
30	2400	7100	≥6	≥7	≥4
	2600	6250	≥7	≥8	≥4
40	2400	9300	≥6	≥7	≥4
	2600	8050	≥7	≥8	≥4
50	2400	11560	≥7	≥8	≥4
	2600	10080	≥7	≥8	≥4

Note: the above specification parameters are for reference only, and can be customized according to customer's requirements.



FF DOUBLE WALLED TANKS



Double walled vessels are fabricated by winding and jetting of fiberglass and its products as the reinforcing materials and resin as the base material.

Scope of Production

Diameter $\leq 4\text{m}$; capacity $\leq 100\text{m}^3$

Can be designed and produced according to customer's demands.

Product Standard

SH/T 3177-2015 The Technical Specification of Buried FF Double Walled Tank Used for Gas Station

Applications

Storage of product oil in gas stations and storage of hazardous chemicals in chemical plants.

Product Characteristics

Environmental protection and anti-seepage, no pollution; Corrosion resistance, long service life; Light weight, convenient construction and installation.

Table of design parameters for FF double walled tanks

Volume	Diameter	Length
m ³	mm	mm
10	1900	3916
20	2400	4840
	2600	4600
30	2400	7100
	2600	6250
40	2400	9300
	2600	8050
50	2400	11560
	2600	9930

Note: the above specification parameters are for reference only, and can be customized according to customer's requirements.



LINED FF DOUBLE WALLED TANKS



FF double walled tank is formed by vacuum grouting in steel storage tanks using glass fiber as reinforcement and resin as the base material.

Scope of Production

Same capacity as the metal tank;
Can be designed and produced according to customer's demands.

Product Standard

SH/T 3177-2015 The Technical Specification of Buried FF Double Walled Tank Used for Gas Station

Applications

The renovation of double-walled tank in open gas station.

Product Characteristics

Environmentally friendly, seepage-proof, no pollution; Corrosion resistant and long service life;
No need of excavation, short construction period.

HIGH-STRENGTH COMPOSITE MATERIAL LINER

It is made by lining the inner wall of metal tanks with vacuum priming technology using glassfiber and it's products as reinforcing materials and resin as the base material.

Scope of Production

Same as metal tank capacity; normal thickness $\leq 4\text{mm}$. Pressure rating: atmospheric pressure

Product Standard

Q/0502 SXD 010-2017 High-strength Composite Material Liner for Vertical Steel Storage Tanks

Applications

Corrosion prevention in metal storage tanks for oil fields and chemical industries.

Product Characteristics

Corrosion resistant, long service life; Advanced construction technology and high product quality; Good adhesion performance, good corrosion proof.



GRP PRESSURE VESSEL



Vessels are manufactured by 3-dimensional enveloped winding technology using glass fiber and its products as the reinforcing materials and resin as the base material, which can withstand certain pressure.

Scope of Production

Diameter $\leq 4000\text{mm}$; capacity $\leq 150\text{m}^3$;

The product of inner diameter and pressure $\leq 2.4\text{MPa}\cdot\text{m}$;

Can be designed and produced according to customer's demands.

Product Standard

Q/SXD 007-2017 Fiberglass Reinforced Thermosetting Resin Pressure Vessel

Applications

Oil, water and gas three-phase separator, filter, absorber, reactor and other fields.

Product Characteristics

Corrosion resistance, long service life;

Light weight, convenient construction and installation;

Low thermal conductivity, good thermal insulation performance.

Table of design parameters for GRP pressure vessel

Diameter	Volume	Length	Diameter	Volume	Length
mm	m ³	mm	mm	m ³	mm
1800	10	4080	3200	30	4000
	15	6050		40	5250
	20	8010		50	6490
2200	15	4130	3600	40	4230
	20	5450		50	5210
	30	8080		60	6200
2600	30	5870	4000	60	5110
	35	6810		80	6700
	40	7750		100	8290

Note: the above specification parameters are for reference only, and can be customized according to customer's requirements.

FIBERGLASS AND CARBON FIBER CONTINUOUS SUCKER ROD

The composite material continuous sucker rod is made of carbon fiber as the main reinforcing material by way of pultrusion.

Scope of Production

Φ14mm-Φ25mm

Product Standard

Q/SH1020 2596 - 2017 Composite Carbon Fiber Material Continuous Sucker Rod

Applications

Conventional well, corrosion well, deep well, etc.

Product Characteristics

Light weight, high strength, corrosion resistance, eccentric wear resistant.

System Matching

Pumping unit, downhole service vehicles, design and analysis software.

(1) pumping unit characteristics

Long stroke, low SPM; stroke length and SPM adjustable; low energy consumption, easy installation. (2) service vehicle performance Safe and reliable; rapid movement; high operational efficiency; Fast in place; Easy to operate.

(3) design and analysis software

Accurate design prediction and full analysis functions.



PRODUCT PARAMETERS

Basic mechanical properties of pultruded sections

Diameter	Breaking load	Setting depth	Temperature resistance
mm	KN	m	°C
16	260	1500	≤150
19	370	2000	
22	500	3000	
25	650	4000	



GRP PULTRUDED SECTIONS



The composite materials with the same cross section shape are prepared by extrusion molding process with glass fiber and its fabric as the reinforcement material.

Scope of Production

Max. overall dimension: 1000mm x 300mm

We can design, produce and assemble square tubes, round rods, U groove and other profiles in various shapes according to customer's requirements.

Product Standard

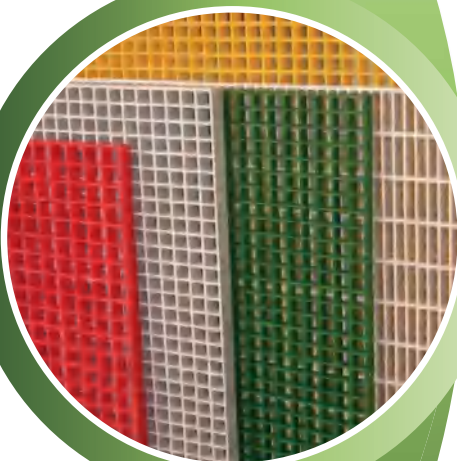
GB/T 31539-2015 Fiber Reinforced Composite Materials Are Used to Pull and Extrude Profiles

Applications

Applicable to oilfields, chemical industry, electric power, construction, etc..

Product Characteristics

Corrosion resistance, light weight, fatigue resistance, maintenance free.



·Application Cases

(1) Oilfield and chemical industry



Fence for wellsite



Protruded platform and grating for chemical plants

(2) Electric power



Marker Pole

(3) Construction industry



Highway isolation fence



Window frame

SMC MOULDED PRODUCTS

The product is made of sheet molded plastics (SMC) by molding process.

Scope of Production

Thin wall parts within the range of 4200mm x 2800mm of orthographic projection. Can be designed and customized according to customers' requirements.

Product Characteristics

Good appearance, high production efficiency, accurate size, light and high strength.

Application

Automobile, rail transit, municipal, oil field, electric power, communications, etc..

·Application Cases

(1) Oilfield



SMC Plastics



Protective cover for pumping unit
Wellhead guard

(2) Automobile industry



Wind deflector for trucks



Automobile bumper

(3) Rail transit



Cable tray

(4) Municipal and electric power



Moulded manhole cover



Meter box

BMC MOULDED PRODUCTS

The product is made from the raw material of BMC by molding process.

Scope of Production

Parts within an orthographic area of 3200mm x 1800mm and wall thickness of 50mm; Can be designed and customized according to customers' requirements.

Product Characteristics

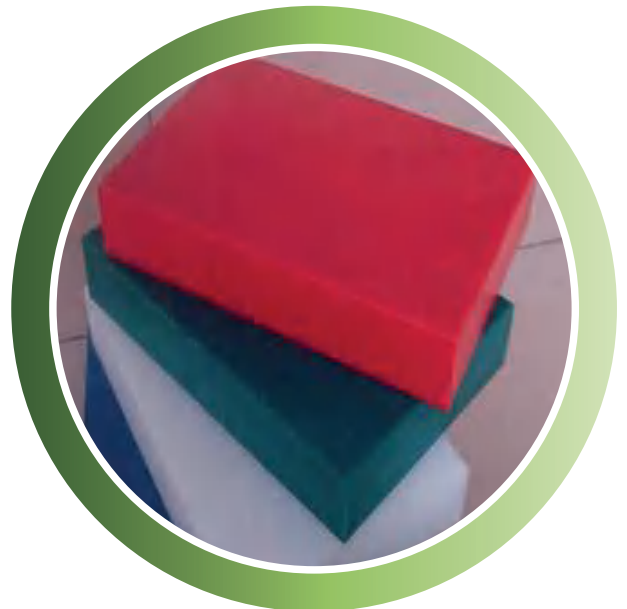
Good appearance quality, good electrical insulation, accurate size.

Applications

Electric power communication, automobile, rail transit, municipal, oil field, etc..



BMC plastics



BMC panels

Application Cases
(1) Electric power



Electric insulator

(2) Communication



Circuit breaker housing

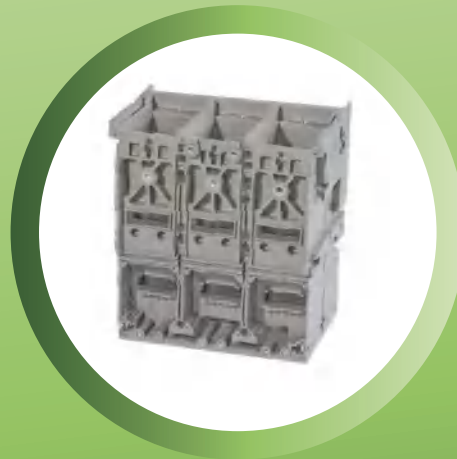
(3) Other areas



Car mirrors



Electric meter Electric box

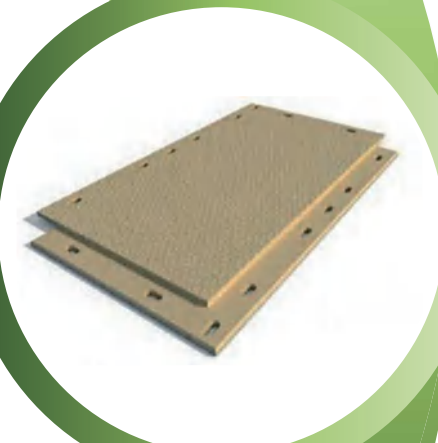


Switch housing



Outdoor LED lamp base

HIGH STRENGTH GRP MAT



This large, high-strength GRP mat with hollow structure is made by die-casting molding process using ultra-high molecular weight polyethylene as raw material.

Scope of Production

Type A (platform mat):

4571.9mm×2285.9mm×101.6mm (15'×7 1/2'×4");

Type B (paving mat):

4305.2mm×2285.9mm×101.6mm (14 1/8'×7 1/2'×4")

Product Characteristics

Light weight and high strength, corrosion resistant, wear resistant, long life, easy installation, reusable.

Applications

Engineering construction, military, emergency rescue and disaster relief and other areas of the road laying, rapid road repair, rapid platform construction, etc..

Application Cases

(1) Field of engineering construction



(2) Military industry



(3) Other areas



ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE FIBER BULLETPROOF PRODUCTS



These bulletproof products are mainly made of ultra-high molecular weight polyethylene fiber by molding, RTM and other molding process.

Scope of Production

Bulletproof clothing, bulletproof helmet, protective plate of armored vehicle, etc.;

Can be designed and customized according to customers' requirements.

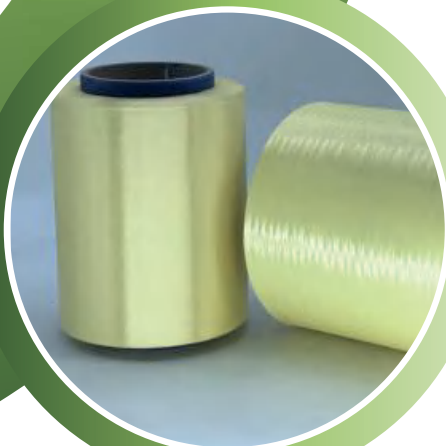


Product Characteristics

Light and high strength, corrosion resistance, aging resistance, impact resistance, comfort to wear.

Applications

Military, police, etc..



Application Cases

(1) Bullet-proof vest



(2) Bulletproof helmet



(3) Armor plate



GRP PANEL PRODUCTS

The “sandwich” structure plate is made by the multi-layer composite forming technology with the core material being the supporting material and the skin being the surface material.

Scope of Production

Width $\leq 3000\text{mm}$; thickness $\leq 150\text{mm}$;

Can be designed and customized according to customers' requirements.

Product Characteristics

Light weight, corrosion resistance, fatigue resistance, long service life and strong design ability.

Applications

Automobile, construction, military industry, etc..

·Application Cases

(1) Automobile industry

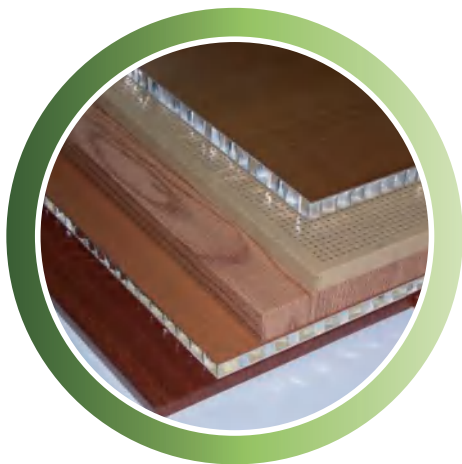


Van



Refrigerator car

(2) Construction field



Decorative plate

(3) Military field



Artillery box

(4) Other areas



Camp



Building curtain wall



Military cabin



Mobile toilet

GRP CRAFTWORKS

GRP craftworks are made of glassfiber fabric, fillings, resin which are laid on the mold alternatively subject to solidification, dressing and assembly.

Scope of Production

Can be designed according to customer's demands, which is suitable for products of big dimension, small batch and complicated shape.

Applications

Widely used in buildings, offices, households.

Product Characteristics

Corrosion resistant, beautiful shape, good texture, environment friendly.





TYPICAL PROJECTS



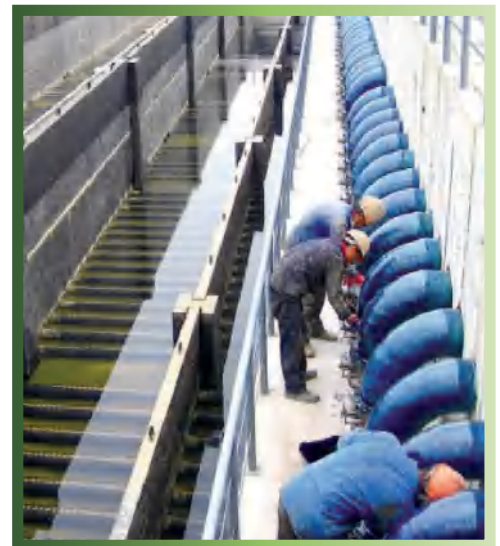
GRP Water Supply Project for Tahe Oilfield in Xinjiang Specification:
DN300mm-DN500mm, PN1.6MPa Length :110km



GRP Pipe Network Project for Seawater
Desulfuration in Shougang-owned Electric Power Plant Specification:
DN300mm-DN1200mm, SN10000N/m²



河南新乡自来水供水玻璃钢管网工程
规格型号: DN800mm、PN0.8MPa
Henan Xinxiang Drink Water Supply GRP Pipe Network Project
Specification: DN800mm,PN0.8MPa



GRP Pipe Network Project for Seawater
Desulfuration in Shougang-owned Electric Power
Plant Specification: DN300mm-DN1200mm,
SN10000N/m²



DN1200mm PN0.6MPa
FRP Pipeline Project supplying water from Laiwu Xueye Reservoir To
Laigang Specification :DN1200mm, PN0.6MPa



DN80mm PN25MPa
GRE Pipeline Project for Injecting Water Injection to Carboniferous
Block 3 of Northwest Oilfield, Sinopec
Specification: DN80mm, PN25MPa



DN40mm PN25MPa
High-pressure GRE Pipeline Water Injection Project for Yanchang
Oilfield Dingbian Production Plant No.3185 Wuxingzhuang Station
Specification: DN40mm, PN25MPa



DN40mm-DN150mm PN5.5MPa-PN25MPa
GRE Pipeline Water Injection Network Project for Yanchang Oilfield
West Block Yiwu No.1 Water Injection Station
Specification: DN40mm-DN150mm, PN5.5MPa-PN25MPa



DN1400mm-DN1600mm SN10000N/m²
FRP Pipeline Project for Interception of Sewage from Wastewater
Treatment Plant at Zibo Zhoucun District North Suburb
Specification: DN1400mm-DN1600mm, SN10000N/m²



DN1600mm SN10000N/m²
Circulating Water and Cooling Water FRP Pipeline Project for Sinopec
Shengli Electric Power Plant
Specification: DN1600mm, SN10000N/m²



High pressure GRE downhole tubing being run in hole at Yong 35-10
well



High pressure GRE downhole tubing transported to the 8th Offshore
Platform



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