



HONGBANG SINCE 1979

## HONGBANG COMPOSITES

# FRP Product Brochure

### Catalogue

1. Epoxy profiles
2. Basalt fiber profiles
3. Carbon fiber profiles
4. Other glass fiber profiles
5. Specific application of FRP profiles
6. Specification sheet

## 1.1 Epoxy profiles - large section $\varphi 600$ round tube



$\varphi=600\text{mm}, T=5.8\text{mm}$

环氧树脂拉挤圆管

Epoxy pultruded round pipe

5米直线度(Straightness)  $\leq 8\text{mm}$

拉伸强度(Tensile Strength)  $> 600\text{mpa}$

抗压强度(Compressive Strength)  $> 550\text{mpa}$

剪切强度(Plane Shear Strength)  $\geq 50\text{mpa}$

弹性模量(Compressive Modulus)  $\geq 50\text{Gpa}$



## 1.2 Epoxy profiles - super large section I-beam



**320x250mm, T=50mm**

# 1.3 Epoxy Profiles - Bending Epoxy Profiles



Our company exports FRP planting and breeding greenhouses all the year round, using FRP epoxy I-beam and square tube to form a scaffold structure, which has the characteristics of high snow load (above 800mm), high wind load, light weight, etc., and is widely used in high altitude and alpine regions.

<https://www.hongbangfrp.com/>

## 1.4 Epoxy profiles - other epoxy profiles

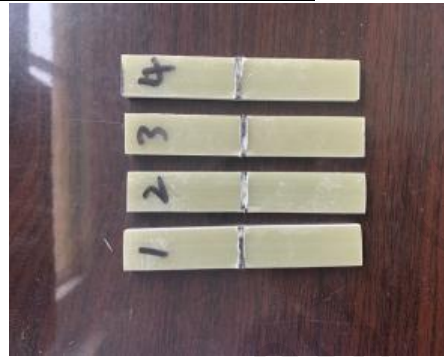
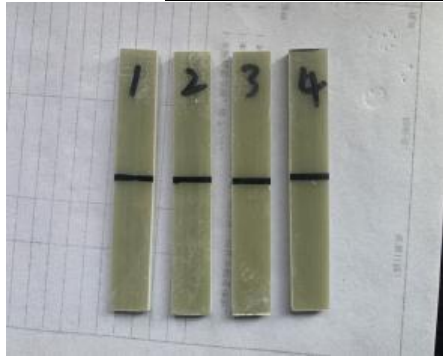


Our company has always been committed to the research and development of epoxy large cross-section profiles, and can undertake customized epoxy resin pultrusion profiles of various cross-sections, large, medium and small. The epoxy resin pultruded profile has the characteristics of high tensile and high compressive strength, and various test parameters are 4-8 times greater than that of the unsaturated resin pultruded profile.

# 1.5Epoxy Profiles-Test Reports

Before bending experiment

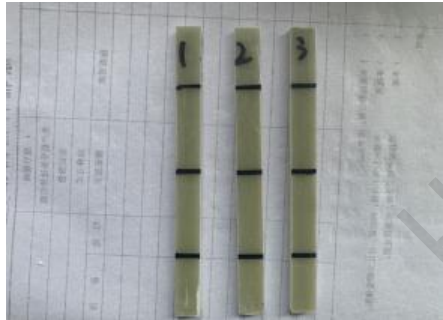
After bending experiment



Bending experiment		
	Bending strength	Elastic Modulus
1	1227.2Mpa	44695
2	1175.4Mpa	43580
3	1191.6Mpa	0
4	1216.0Mpa	44295
average value	1202.6Mpa	

Before impact test

After impact test



Impact test	
	Impact strength
1	980KJ/m <sup>2</sup>
2	980KJ/m <sup>2</sup>
3	870KJ/m <sup>2</sup>
average value	943.3KJ/m <sup>2</sup>

Before stretching

After stretching



Stretching test	
	Stretching strength
1	579.07Mpa
2	560.49Mpa
average value	569.78Mpa

检验检测报告  
Test Report

No. HBC/CR-1802201 共 19 页 第 5 页  
Page 5 of 19 pages

序号 No.	检测项目 Test Item	检测依据 Test Method	检测结果 (MPa) Result
1	拉伸强度 (90°) Tensile Strength	ASTM D3039/D3039M-17	583
2	拉伸弹性模量 (90°) Tensile Modulus of Elasticity	ASTM D3039/D3039M-17	4.69*10 <sup>4</sup>
3	拉伸强度 (0°) Tensile Strength	ASTM D3039/D3039M-17	46.6
4	拉伸弹性模量 (0°) Tensile Modulus of Elasticity	ASTM D3039/D3039M-17	1.43*10 <sup>4</sup>
5	抗压强度 (90°) Compressive Strength	ISO6041/ISO6041-10*	764
6	抗压弹性模量 (90°) Compressive Modulus	ISO6041/ISO6041-10*	4.01*10 <sup>4</sup>
7	抗压强度 (0°) Compressive Strength	ISO6041/ISO6041-10*	174
8	抗压弹性模量 (0°) Compressive Modulus	ISO6041/ISO6041-10*	1.08*10 <sup>4</sup>
9	层内剪切强度 (90°) In-plane Shear Strength	ASTM D5378/D5378M-12	101
10	层内剪切弹性模量 (90°) In-plane Shear Modulus of Elasticity	ASTM D5378/D5378M-12	7.85*10 <sup>3</sup>
11	层内剪切强度 (0°) In-plane Shear Strength	ASTM D5378/D5378M-12	51.6
12	层内剪切弹性模量 (0°) In-plane Shear Modulus of Elasticity	ASTM D5378/D5378M-12	6.51*10 <sup>3</sup>
13	承载强度 (0°压缩) Bearing Strength (0° Compression Loading)	ASTM D653-10	87.8
14	承载强度 (90°压缩) Bearing Strength (90° Compression Loading)	ASTM D653-10	91.0

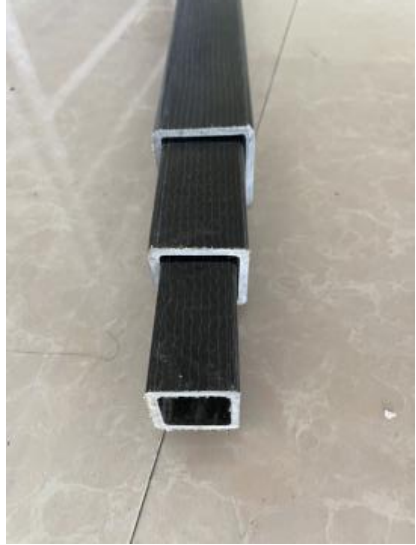
批准 Approved by: 刘志强 审核 Checked by: 孙 编制 Checked by: 孙  
职位 position: 副总经理

No. HBC/CR-1802201 共 19 页 第 6 页  
Page 6 of 19 pages

序号 No.	检测项目 Test Item	检测结果 (MPa) Result	
		单值 Single value	平均值 Average value
1	拉伸强度 (90°) Tensile Strength (90°)	597.656	583
		575.635	
		574.943	
		541.329	
		579.138	
		550.394	
2	拉伸弹性模量 (90°) Tensile Modulus of Elasticity (90°)	567.820	4.69*10 <sup>4</sup>
		613.113	
		573.138	
		618.735	
		648.835	
		570.587	
3	拉伸弹性模量 (0°) Tensile Modulus of Elasticity (0°)	48607.298	4.69*10 <sup>4</sup>
		49027.395	
		42149.322	
		41814.654	
		53833.205	
		48876.521	
4	抗压强度 (90°) Compressive Strength (90°)	48927.875	764
		45152.192	

继续  
To be continued...

## 2.1 Basalt fiber profiles - square tube, round tube, I-beam, profile



Compared with glass fiber profiles, basalt fiber profiles have higher material properties, anti-oxidation and anti-corrosion properties; The basalt fiber profiles produced by our company are widely used in marine aquaculture, housing construction, photovoltaic and other fields.

# 2.2 Basalt Fiber Profiles-Test Report



河北德臻检测技术有限公司  
Hebei Dezhen Testing Technology Service.,LTD  
检验检测报告  
Test Report

No: DZTC/BG-22032602 共 2 页 第 2 页

序号 No.	检验检测项目 Test Item	技术要求 Technical Requirements	检验检测结果 Test Result	单项判定 Item Conclusion
1	拉伸强度 Tensile strength	≥400 MPa	792 MPa	合格 Qualified
2	拉伸弹性模量 Modulus of elasticity in tension	≥30 GPa	41.8 GPa	合格 Qualified
3	压缩强度 Compressive strength	≥300 MPa	308 MPa	合格 Qualified
4	压缩弹性模量 Compressive modulus of elasticity	≥25 GPa	29.7 GPa	合格 Qualified
5	弯曲强度 Flexural strength	≥400 MPa	709 MPa	合格 Qualified
6	弯曲弹性模量 Flexural modulus	/	3.55*10 <sup>4</sup> MPa	/
7	层间剪切强度 Interlaminar shear strength	≥28 MPa	31.5 MPa	合格 Qualified

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Test Report

No: DZTC/BG-22032604 共 2 页 第 2 页

序号 No.	检验检测项目 Test Item	单位 Units	检验检测结果 Test Result
1	面内剪切强度 In-plane shear strength	MPa	41.5
2	面内剪切模量 In-plane shear modulus	GPa	2.87*10 <sup>4</sup>

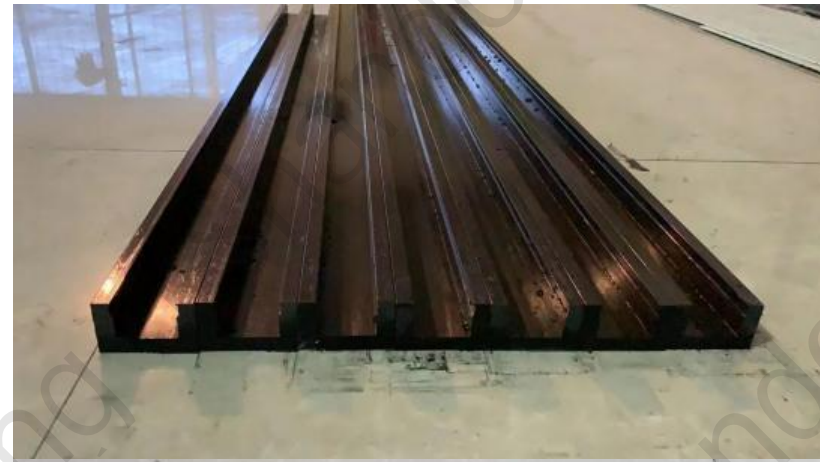
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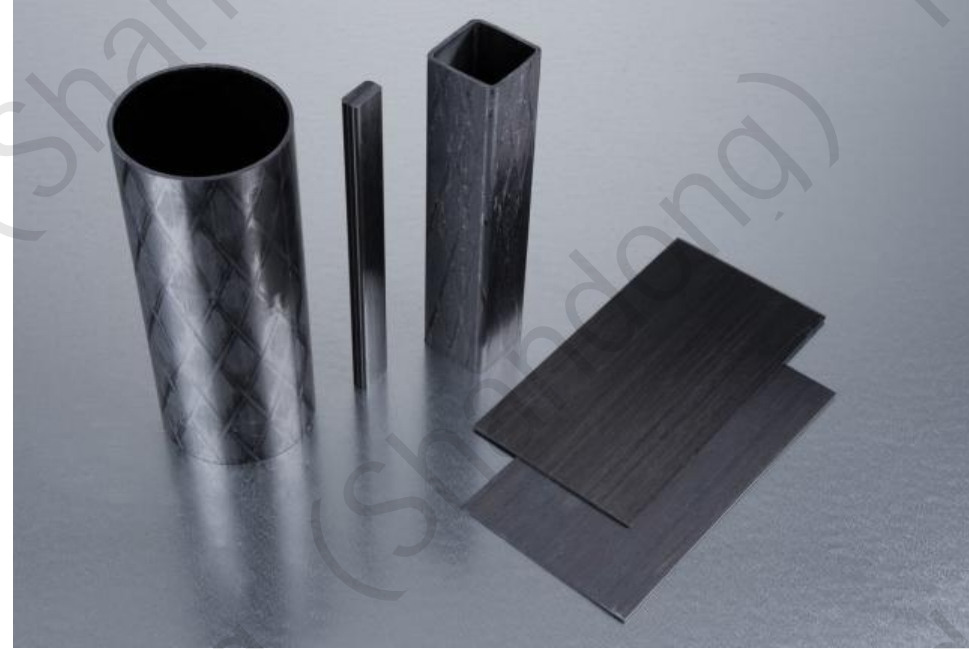
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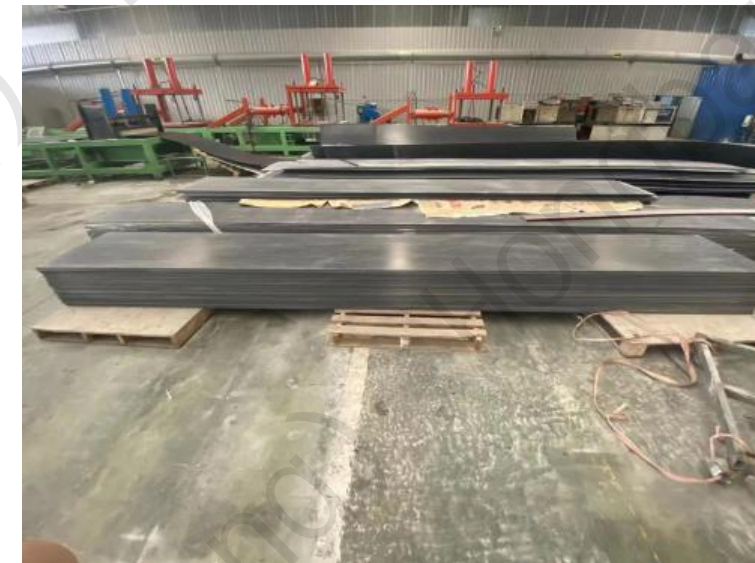
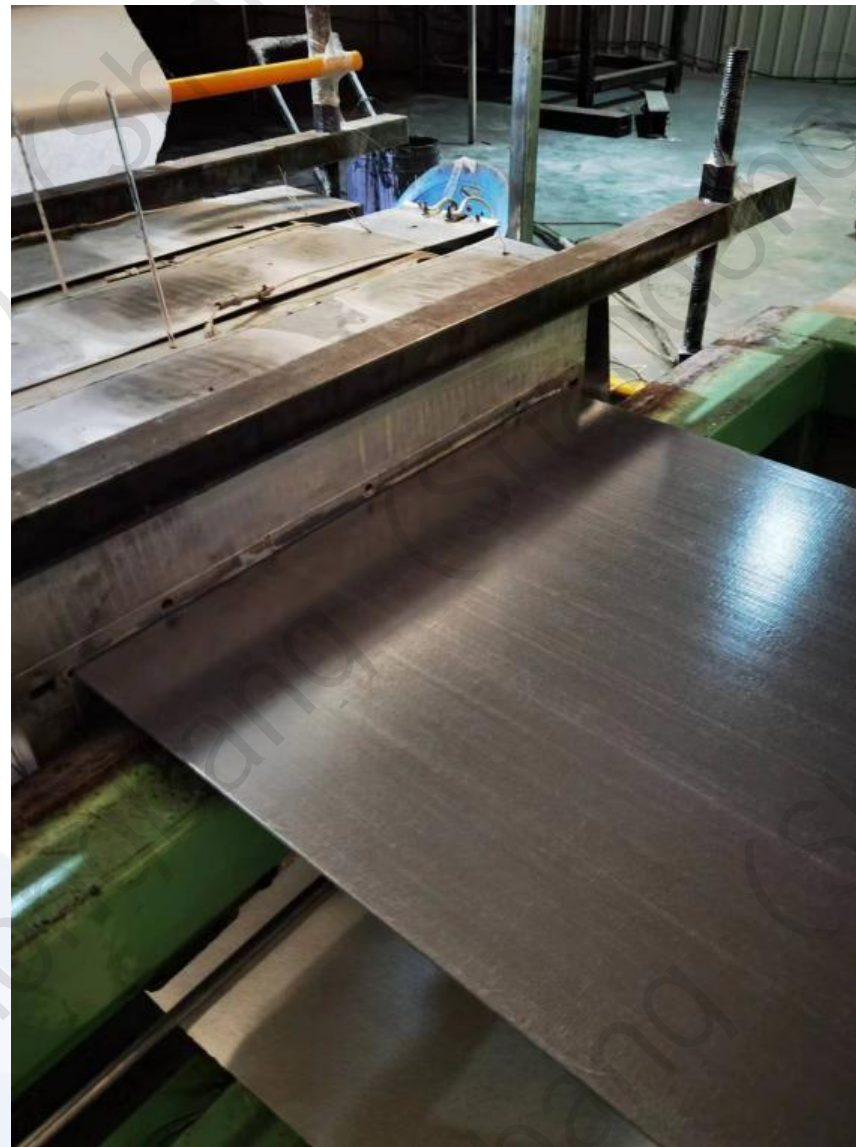
### 3.1 Carbon fiber profiles



## 3.2 Carbon fiber profiles



# 4.1 Other glass fiber profiles--FRP flat plate



## 4.2 Other fiberglass profiles - vinyl resin I-beam (350x150x30x17mm)



## 4.3.1 Other fiberglass profiles - imitation wood profiles



# 4.3.2 Other Fiberglass Profiles-Imitation Wood Profile Pattern Template



Patterns can be customized on demand

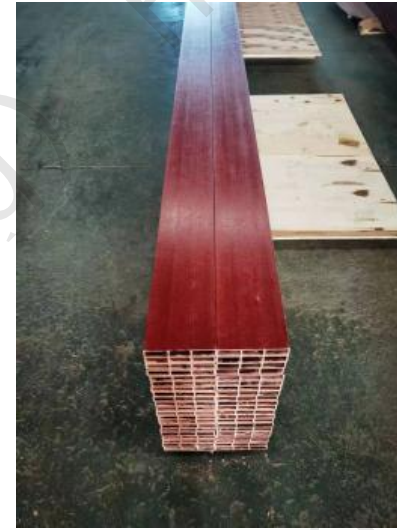
<https://www.hongbangfrp.com/>

## 4.4 Other fiberglass profiles-tool handle



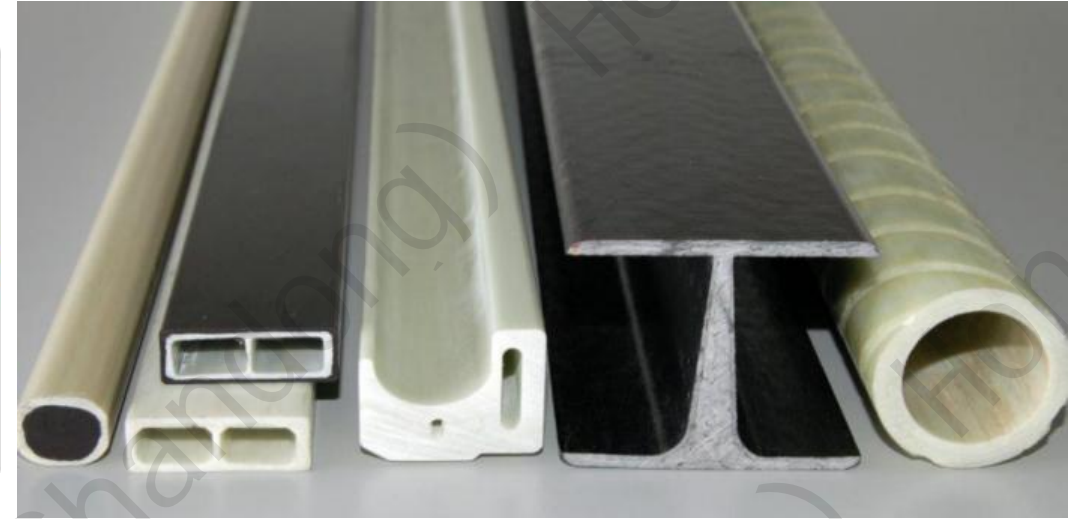
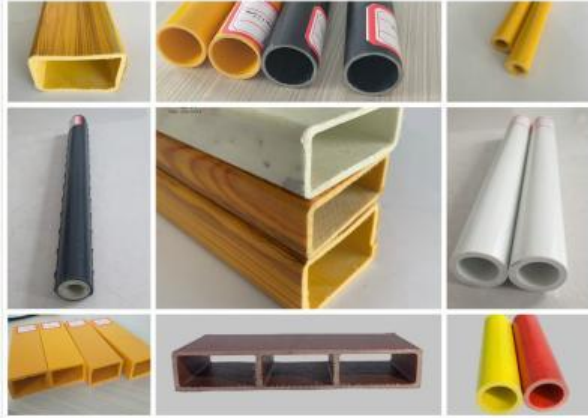
可定制直柄和弯柄两种形式

# 4.4 Other Fiberglass Profiles-Other Customized Profiles





# 4.4 Other Fiberglass Profiles-Other Customized Profiles and Test Reports



河北德臻检测技术有限公司  
Hebei Dezhen Testing Technology Service.,LTD  
检验检测报告  
Test Report  
No: DZTC/BG-22032603 共 2 页 第 2 页

序号 No.	检验检测项目 Test Item	技术要求 Technical Requirements	检验检测结果 Test Result	单项判定 Item Conclusion
1	拉伸强度 Tensile strength	≥400 MPa	632 MPa	合格 Qualified
2	拉伸弹性模量 Modulus of elasticity in tension	≥30 GPa	41.2 GPa	合格 Qualified
3	压缩强度 Compressive strength	≥309 MPa	307 MPa	合格 Qualified
4	压缩弹性模量 Compressive modulus of elasticity	≥25 GPa	33.2 GPa	合格 Qualified
5	弯曲强度 Flexural strength	≥400 MPa	548 MPa	合格 Qualified
6	弯曲弹性模量 Flexural modulus	/	2.46×10 <sup>4</sup> MPa	/
7	层间剪切强度 Interlaminar shear strength	≥28 MPa	35.9 MPa	合格 Qualified

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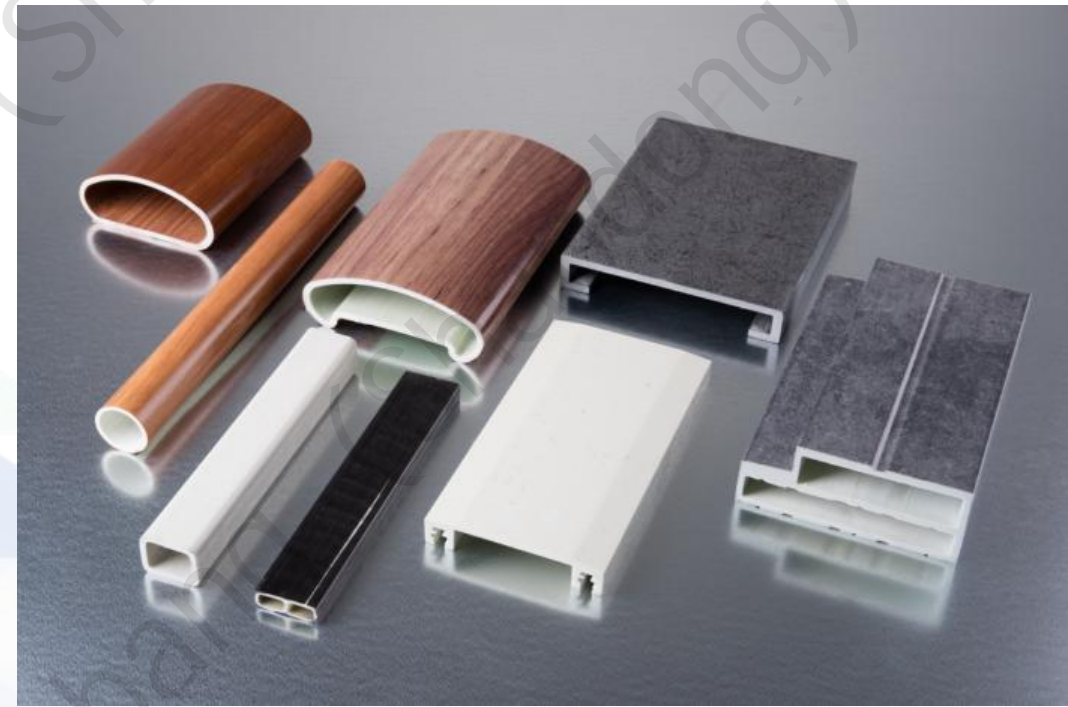
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检验检测报告  
Test Report  
No: DZTC/BG-22032605 共 2 页 第 2 页

序号 No.	检验检测项目 Test Item	单位 Units	检验检测结果 Test Results
1	面内剪切强度 In-plane shear strength	MPa	40.3
2	面内剪切模量 In-plane shear modulus	GPa	2.93×10 <sup>4</sup>

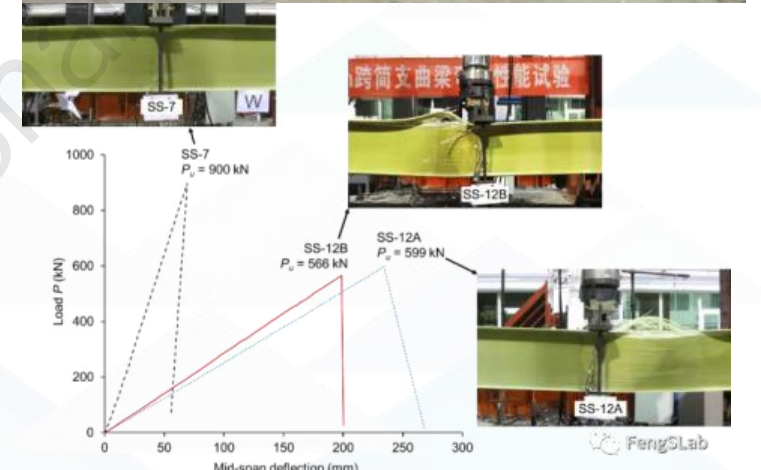
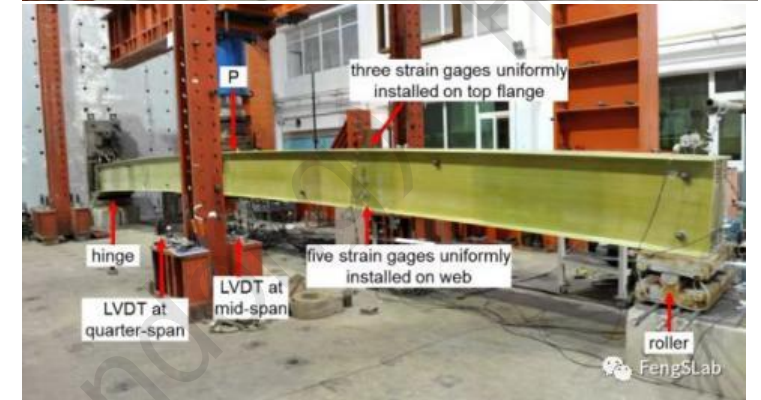
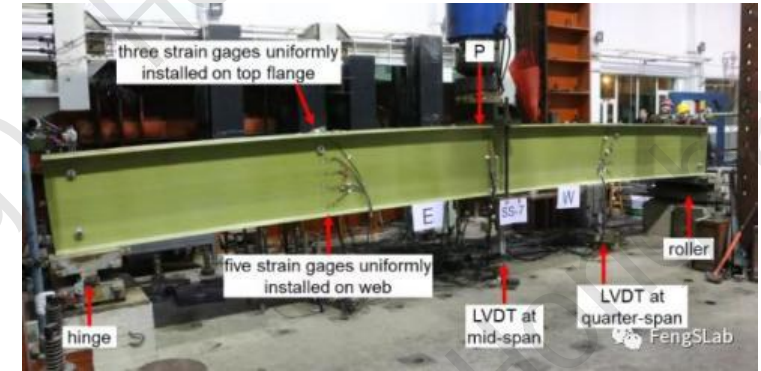
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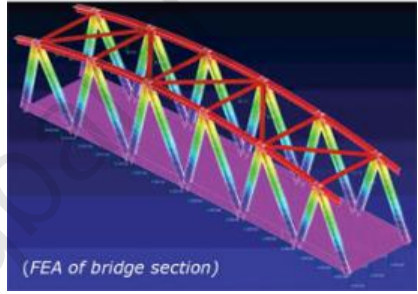
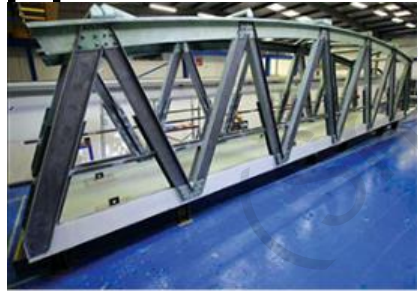
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# 5.1.1 Specific application of FRP profiles-bridges -large arch bridges



# 5.1.2 Specific application of FRP profiles - bridges - landscape and application bridges



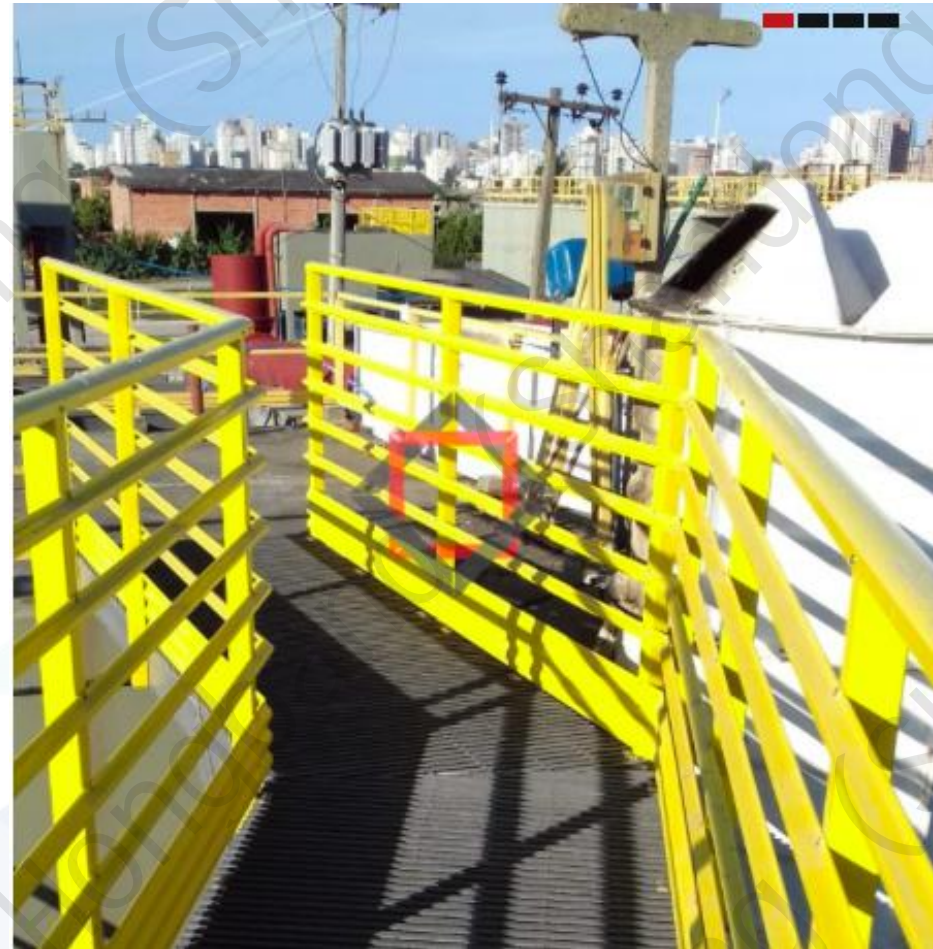
# 5.1.3 Specific application of FRP profiles-bridges -truss structures and truss bridges



B

D

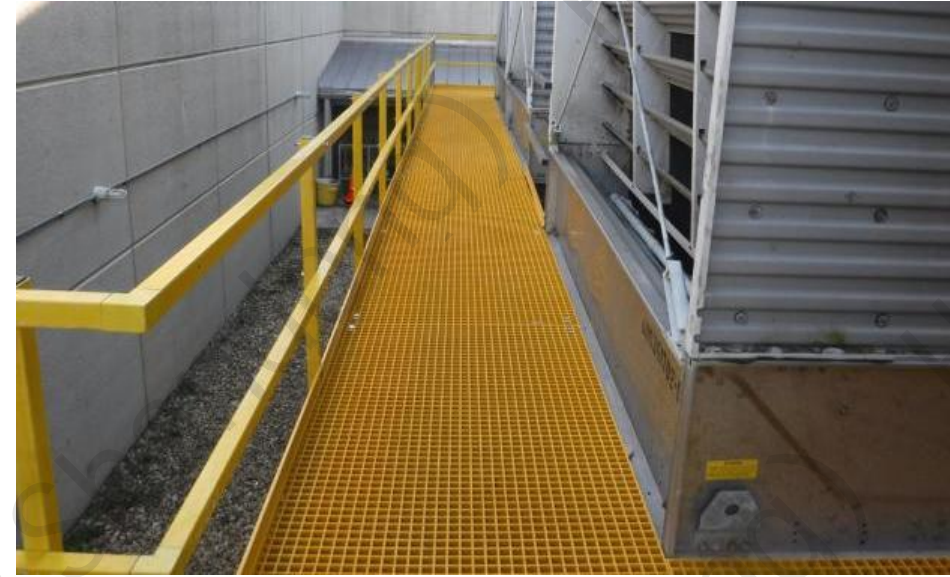
## 5.2 Specific application of FRP profiles-work platform and handrail



## 5.2 Specific application of FRP profiles- Working platform



## 5.2 Specific application of FRP profiles-work platform and handrail



## 5.3 Specific application of FRP profiles -photovoltaic





# 5.4 Specific application of FRP profiles-mariculture and offshore fishing rafts



# 6.1 Specification sheet

NO.	Product name	size (mm)
1	frp rod	φ4.5
		φ6
		φ3mm
		φ12
		7*7

4	frp beam	38*15	5
		90*40	3
		180*40	3*4
		100*50	8
		100*100	10
		150*120	10
		200*100	10
		360*150	17.7*29.4

2	frp tube	φ6
		φ5
		φ16
		φ20
		φ20
		φ22
		φ23
		φ24
		φ25
		φ26
		φ30
		φ32
		φ32
		φ33
		φ36
		φ45
		φ50
φ60		
φ70		
φ76		
φ80		
φ100		

3	frp square tube	19*19
		30*30
		30*40
		30*50
		40*15
		40*40
		40*50
		50*50
		50*70
		50*100
		50*120
		63*38
		73*73
		80*100
		100*100
150*150		
28Hexagon		

## 6.2 Specification sheet

5	frp plate	370*4
		185*11
		710*6
		1000*6

6	frp angle	15*15	2
		30*30	3
		50*25	3
		50*50	3
		50*50	4.8
		50*76	8
		56*35	
		100*100	10
		150*150	10

7	frp flat bar	15*2.5	
		20*3	
		32*5	
		50*5	
		50*6	
		60*12	
		100*3	
	T bar	63*3	

8	frp cable tray	100*50	5
9	frp u channel	70*35	bottom15*both sides3
		50*25	3
		48*45	3
		90*48	3
		180*49	3
		70*40	3
		110*40	3
		111*40	5
		53*19.5	
		100*50	10
		112*59	2.5
		110*40	3
160*70	9		
170*50	4		

## 6.3 Specification sheet



10	frp wire rod	Φ6	
		Φ12.7*Φ1700	
		Φ12.7*Φ1500	
		Φ12.7*Φ1200	
		Φ12.7*Φ1100	
11	frp special profiles	35*31	5
		130*21	
		150*25	3
		50.8*30.16	9.53
		123凸bottom size	7
		500*50	
		38*21	
		67*86*77*40	
		115*79*49	
		102*74	
		118.5*30	
		47.9*25.5	
		120*20	
27*20			

# 6.4 Specification sheet

frp grating



NO.	Mesh size	standard panel	weight ( kg/m2)	Open Area %	Rib Thickness (Top/bottom)
1	38*38*25	1405*4205*25	12.4	68	6.4mm/5.0mm
		1225*3665*25	12.4	68	6.4mm/5.0mm
		1220*4040*25	12.4	68	6.4mm/5.0mm
2	38*38*38	1220*3660*38	19.5	68	7mm/5.0mm
3	38*38*30	1220*3660*30	16	68	7mm/5.0mm
4	38*38*40	1525*3660*40	22	68	7mm/5.0mm
5	38*38*50	1220*3660*50	27	68	7mm/5.0mm
6	50*50*50	1220*3660*50	23.7	74	7mm/5.0mm
7	50*50/25*25*30	1000*4000*30	18	58	8mm/5.0mm
8	100*25*25	1007*4010*25	13	67	7mm/5.0mm
9	38*152*38	1225*3660*38	16	77	7mm/5.0mm
10	100*40*65	1015*1295*65	23	77	7mm/5.0mm
11	38*38*65	1220*3660*65	43	60	8.5mm/5.0mm
		1032*2020*65	50	54	10mm/8.0mm
12	40*40*40/13*13	1010*4040*40	27.5	36	6.5/4.5/5.0mm
13	38*38*25/19*19	1220*4040*25	17	40	7mm/5.0mm
14	38*38*38/19*19	1220*4040*38	24	40	7mm/5.0mm
15	38*38*30/19*19	1220*3660*30	19.5	40	7mm/5.0mm
16	100*100*80	1530*4970*80	24		8.3mm/6mm
17	25*25*38	700*3120*38	24		6mm/4.5mm



**Hailey Guo**

MARKETING MANAGER



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FRP(GFRP • CFRP • BFRP)

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FRP PRODUCTS DESIGN,  
MANUFACTURING,  
DEVELOPMENT AND RESEARCH  
ADVANCED PRODUCTION EQUIPMENT



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