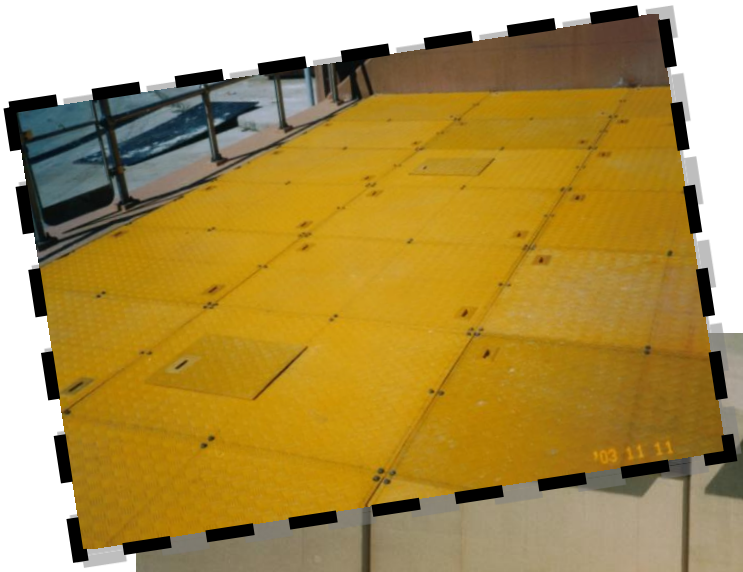
玻璃鋼拉擠型材

FRP PULTRUSION PROFILES



Hong Kong Tel: (852) 2311 9980 Fax: (852) 2311 6386 **Macau** Tel: (853) 6616 1523 Fax: (853) 2872 3348

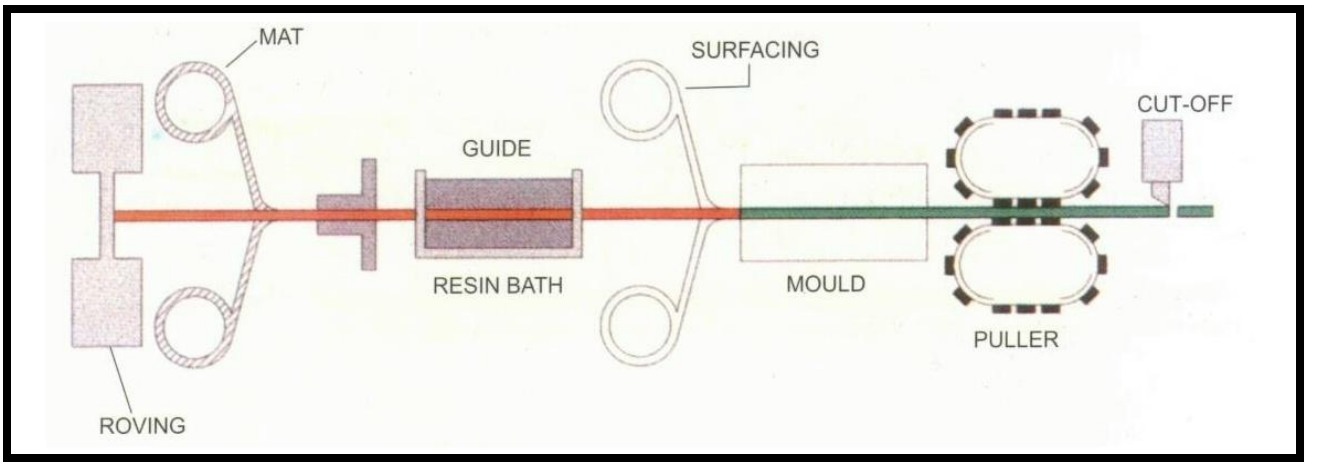
Website: www.cmsasia.com **Email:** info@cmsa-asia.com

公司簡介
About Us

我司供應 的系列拉擠玻璃鋼型材包括各種尺寸方管、矩形管、圓管、角材、工字材、槽材、棒材等標準型材以及為顧戶定製的各種異型材。玻璃鋼型材通過適當的連接和組合製成產品，在不同的領域得到廣泛的應用。如: 玻璃鋼格柵平台，走道，爬梯，護攔，冷卻塔托架，體育器材，工具柄和其他承載結構件。”**JDG”** 系列拉擠玻璃鋼型材均附合BS 476 Part 7 及ASTM E84 阻燃規格。

Our series of pultrusion profiles include square tube, rectangular tube, round tube, L-angle, I-beam, channel, rod, and other custom profiles. After proper combination and connection, they could be widely used in many fields such as: FRP grating platform, walkways, ladder, guardrail, plant of cooling tower, sporting profiles, tool handles and other load structures. **“JDG”** FRP products are comply with BS 476 Part 7 and ASTM E84 fire tests.

拉擠成形
Pultrusion Process



JDG FRP products are produced by the pultrusion process using a combination of “E” glass reinforcement, in the form of continuous rovings, continuous strand mats and surface veils. These high strength fibers are embedded in a premium polyester or vinyl ester resin matrix. The Pultrusion Process is State-of-the-Art technology which allows continuous production high strength, structural sections thereby eliminating the risk of process variability and lower strength inherent in the manual production of these critical composites. The process is controllable to an optimum degree which ensures consistent production at any level of product performance requirement. The process is also capable of repeatability regardless of any time delay between runs or specific operator expertise, experience or state of mind.

The pultrusion process thereby eliminates the factor of manual processing and provides a consistent, quality product with physical properties that can be accurately predicted from established engineering data and procedure.

產品特性
Characteristics

拉擠工藝 是由無撚玻璃纖維粗紗，玻璃纖維氈等增強材料在拉擠成型機的牽引下，通過樹脂浴槽浸漬樹脂，再經過成型模具加熱定型生產玻璃鋼材的機械化複合材料成型工藝。

Pultrusion Process is a mechanized process for FRP composites, involves pulling a collection of fibers in the form of roving, mat or fabric through a resin bath and then through a heated die to cure the resin, and then take shapes of profiles.

玻璃鋼拉擠型材 既是一種材料，更是一種結構，具有極強的可設計性。可以通過原材料的選擇和鋪層工藝的設計來達到特定的性能，公司具有多年的生產和設計經驗，可以滿足顧客的特殊要求。

FRP Pultruded Profiles are more than a kind of structure, which is very designable. Changing the choice of the materials and designs of the lamination process can make special properties for it; our company has years of experience for produce and design to meet customer's special inquiry.

拉擠型的優點
Advantage Of Pultrution Profiles

耐腐蝕，抗老化
Corrosion resistant and ageing

可設計性強
Very designable

輕質高強
Light weight and high strength

任意切割，易於安裝
Very easy of assembly and can be cut discretionarily

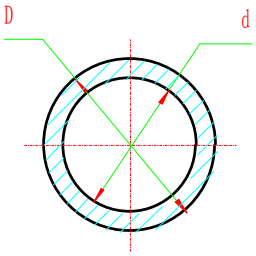
無磁性、不導電
Non-magnetism and non-conductive

顏色任意
Abundant colors for choice

產品規格
Specification

拉擠型材規格表 Table For Profiles Specification

1. Tube

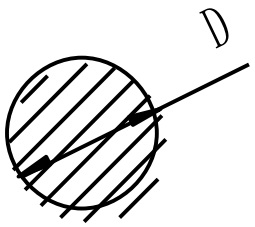


No.	Specification D/d	Surface	D (mm)	d (mm)	Thickness (mm)	Weight (kg/m)
1	19/14	Stitched mat	19	14	2.5	0.25
2	22.23/18.4	Stitched mat	22.23	18.4	1.8	0.23
3	25.4/21.2	Stitched mat	25.3	21.2	2.05	0.28
4	25.4/20.5	CSM	25.2	20.4	2.25	0.31
5	25.4/19.1/19	Stitched mat	25.25	19.1/19	2.85/3.1	0.41
6	25.4/18.4	Stitched mat	25.25	18.4	3.0	0.45
7	25.7/19.2	CSM	25.4	19.1	3.15	0.40
8	27.25/22	CSM	27	22	2.5	0.35
9	28/24	CSM	27.8	23.95	1.8	0.28
10	31/25	Stitched mat	30.9	25.2/25.3	2.9	0.48
11	31.7/26.75	CSM	31.45	26.65	2.25	0.39
12	31.7/26.15	CSM	31.45	26.1	2.6	0.44
13	32/27.5	CSM	31.75	27.4	2.15	0.36
14	32/26	CSM	31.8	26.0	2.9	0.47
15	32.3/28.2	CSM	32.05	28.2	1.95	0.33
16	32.3/27	CSM	32.15	26.9/27	2.7	0.44
17	32.3/26	CSM	31.95	26.0	2.95	0.49
18	32.3/22	CSM	31.9	21.9	4.85	0.76
19	33.7/27.7	CSM	33.5	27.7	3.0	0.50
20	39/34	CSM	39	34	2.5	0.52
21	45/35	Stitched mat	44.9	35	4.65	1.18
22	50/42	Stitched mat	49.8	42	3.9	1.07
23	75/67	Stitched mat	75	67	3.50	1.69
24	110/90	Stitched mat	109.8	90	9.9	5.90

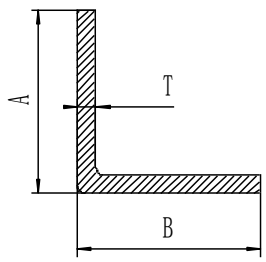
產品規格
Specification

拉擠型材規格表 Table For Profiles Specification

2. Rod

No.	D (mm)	Sectional area (mm^2)	Weight (kg/m)	Sectional drawing
1	8	49.24	0.1	
2	12.7	127.68	0.25	
3	18	254.47	0.51	
4	19	277.72	0.57	
5	22	380.13	0.76	
6	23.7	0.432	0.88	
7	25	490.87	0.98	
8	28	603.13	1.23	
9	30	692.37	1.41	
10	32	787.76	1.61	

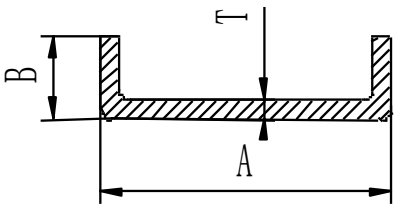
3. Angle

No.	A (mm)	B (mm)	T (mm)	Weight (kg/m)	Sectional drawing
1	40	40	4	0.58	
2	50	50	5	0.90	
3	75	75	6	1.64	
4	76.2	76.2	8	2.19	
5	76	76	6.35	1.76	

產品規格
Specification

拉擠型材規格表 Table For Profiles Specification

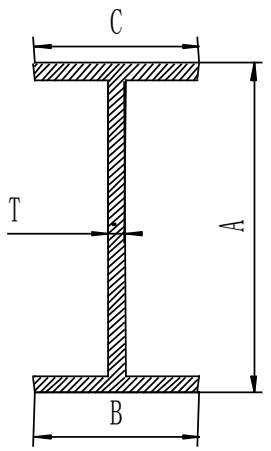
4. Channel

No.	A (mm)	B (mm)	T (mm)	Weight (kg/m)	Sectional drawing
1	50	30	5	0.95	
2	52	30	5	0.97	
3	57	60	3	0.97	
4	60	50	5	1.43	
5	70	26	3/4	0.75	
6	79	28.5	3	0.74	
7	84	30	5.5	1.39	
8	100	35	5	1.52	
9	100	50	6	2.14	
10	101.6	35	4.8	1.48	
11	150	40	10	3.99	
12	150	50	6	2.71	
13	152.4	42	6.35	2.70	
14	152.4	42	9.5	3.92	
15	200	50	10	5.32	
16	203.2	56	9.5	5.35	
17	250	70	12	8.34	

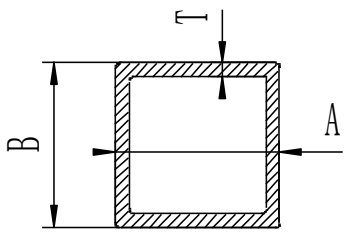
產品規格
Specification

拉擠型材規格表 Table For Profiles Specification

5. I Beam

No.	A (mm)	B (mm)	C (mm)	T (mm)	Weight (kg/m)	Sectional drawing
1	25	15	15	4	0.4	
2	25	15	40	4	0.6	
3	38	15	15	3.4	0.47	
4	38	15	15	4	0.5	
5	50.8	15	25.4	4.2	0.7	
6	50.8	50.8	50.8	4.2	1.16	
7	58	15	15	5	0.73	
8	76.2	76.2	76.2	6.35	2.61	
9	101.6	50.8	6.35	6.35	2.37	
10	152.4	76.2	6.35	6.35	3.58	
11	200	100	100	10	7.2	

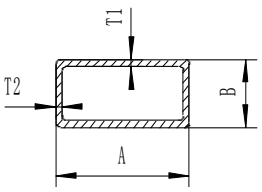
6. Square Tube

No.	A (mm)	B (mm)	T (mm)	Weight (kg/m)	Sectional drawing
1	**25.4**	**25.4**	**2**	0.36	
2	**25.4**	**25.4**	**3.2**	0.54	
3	**38**	**38**	**4**	1.03	
4	**50**	**50**	**4**	1.40	
5	**50**	**50**	**5**	1.71	
6	**50**	**50**	**6**	2.01	
7	**50.8**	**50.8**	**6.35**	2.15	
8	**75**	**75**	**6**	3.15	
9	**76**	**76**	**6.35**	3.36	
10	**80**	**80**	**6**	3.37	
11	**100**	**100**	**8**	5.59	
12	**120**	**120**	**8**	6.81	
13	**120**	**120**	**5**	4.37	
14	**150**	**150**	**8**	8.63	

產品規格
Specification

拉擠型材規格表 Table For Profiles Specification

7. Rectangular Tube

No.	A (mm)	B (mm)	T1 (mm)	T2 (mm)	Weight (kg/m)	Sectional drawing
1	38	25.4	2	2	0.45	
2	42	20	2	2	0.44	
3	70	26	3	3	1.03	
4	80	50	5	5	2.28	
5	117.5	92.1	4.8	4.8	3.65	
6	150	100	8	8	7.11	
7	190.5	101.6	9.5	9.5	9.86	
8	228	152	6	6	8.39	

8. Special Profiles

Flat rod, kick plate, Flat sheet, survey and draw the meter, grating bar, T -profile, oval tube, the large grating panel, the chair reed and so on

9. The Custom Profiles

Our company has the strong design and research ability, can produce per the customer’s special request.

拉擠格柵
Pultruded Grating

拉擠格柵 採用拉擠成型的 "I" 或 "T" 字型材作為承載件，特殊棒材作為連接穿杆，通過一定裝配工藝製成。拉擠格柵包括標準格柵和顧客定製格柵，顧客定製格柵可以按顧客要求或顧客具體使用條件，改變承載件的形狀、尺寸或間距，連接穿杆的間距，表面可用菱形或加砂平板封閉，也可直接加防滑砂等。

Pultruded Grating is made by a particular assembly process, which using "I" or "T" shapes as its main load-bearing part and using special rod to go through the bearing bar. Our pultruded grating includes standard grating and custom grating, custom grating can be designed to meet customer's requirement or special using condition by changing the shape, size and space of the bearing bars, the surface can be covered with lozenge panel, grit panel, or added the anti-slippery sand directly.

拉擠格柵標準規格系列 Standard Specification For Pultruded Grating

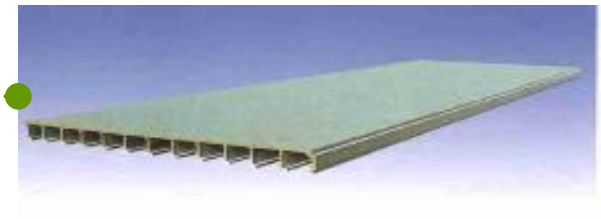
標準連接穿杆間距為6英寸 Standard space for cross bar is 6"

Type	Thickness (mm)	Bar Width (mm)	Open Space (mm)	Open Area (%)	Approx. Weight (kg/m^2)
JDI-6010	25.4	15.2	22.8	60	13.2
JDI-5010	25.4	15.2	15.2	50	15.9
JDI-4010	25.4	15.2	10.1	40	18.5
JDI-2110	25.4	40	10.8	21	14.5
JDI-6015	38.1	15.2	22.8	60	15.8
JDI-5015	38.1	15.2	15.2	50	19.1
JDI-4015	38.1	15.2	10.1	40	22.4
JDI-3320	50.8	25.4	12.7	33	21.1
JDI-5020	50.8	25.4	29.6	53	15.4
JDI-6023	58	15.2	22.8	60	21.6
JDI-5023	58	15.2	15.2	50	26.3
JDI-4023	58	15.2	10.1	40	31.0

注：產品重量以實際重量為準

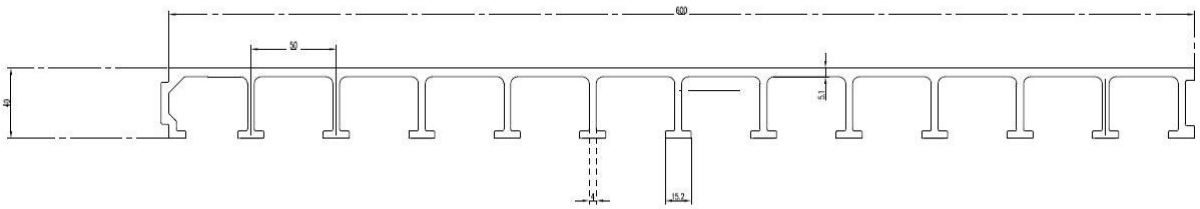
Remark: The product weight is decided by the practical weight.

玻璃鋼地板格柵
Pultruded Flooring Panel



玻璃鋼地板格柵 是採用拉擠工藝一次成型的大型玻璃鋼地板，產品表面封面，可防止所體揮發，標準產品表面加有防滑砂。

Pultruded Flooring Panel is a big size FRP panel which is by pultrusion technology and in holistic shape, the product is with cover on surface to prevent the gas volatilization, the standard product has anti-slippery sand on the surface.



地板格柵規格
Specification

產品代號
Product Code: JDI60040

產品寬度
Product Width: 600mm

產品高度
Product Height: 40mm

面板厚度
Face Plate Thickness: 5mm

腹板厚度
Ventral Plate Thickness: 4mm

產品重量
Product Weight: 12kg/m (20kg/m2)

特性
Property

阻燃
Anti-flammable

安全防滑
Anti-slippery and safety

易安裝、保養
Easy of installation and maintenance

優良的電磁性能
Excellent electromagnetism property

拉擠格柵
Pultruded Grating

格柵選型 Choices Of Pultruded Grating

樹脂選擇
Resin Choice

拉擠格柵樹脂體系有鄰苯樹脂、間苯樹脂、乙烯基樹脂三種類型，不同類型的樹脂可以滿足各種環境條件下的耐腐蝕性能要求。
Pultruded grating has three resin types: GP, ISO, VE. Different types can meet the requirement of corrosion-resistance properties in different working environments and conditions.

顏色選擇
Color Choice

標準色：黃色、灰色。 可根據顧客需要選擇其他任何顏色。
Standard colors: yellow and gray. Other colors can be made at customer's inquiry.

表面選擇
Surface Choice

標準拉擠格柵表面為帶有小凹槽的防滑面，特殊的防滑要求可通過表面增加防滑砂獲得，如有密封要求，可以選用帶防滑砂或菱形封面格柵。
Anti-skid surface with little groove is our standard surface of pultruded grating, surfaces with particular demand also can be made by adding the anti-skid grit, if customer has requirement for seal, then gratings with grit and lozenge cover can be used.

格柵型號選擇
Type Choice Of Pultruded Grating

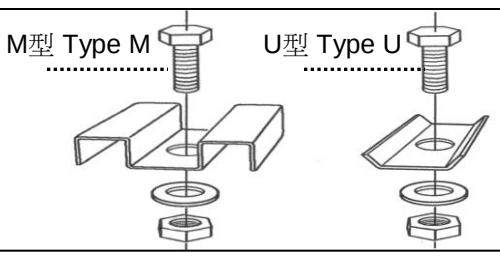
格柵的型號選擇主要考慮使用時的承載形式、最大工作負荷、允許的變形撓度和支承結構跨距，參考我公司提供的格柵承載性能表選取最合適的格柵類型，建議最大撓度不應超過支承跨距的1/100。
The choice of grating type depends on the loading form, maximum loading weight, the deflection allowed and the supporting structure span for its working place, customer can choose the ideal type according to our table of loading weight properties, the maximum deflection should not more than 1% of the loading span.

特殊要求
Special Inquiry

我公司具有很強的拉擠格柵產品開發及製造能力。如顧客對格柵的負載、耐腐蝕、阻燃等有特殊要求，我公司可提供專門的設計和製作。
Our company has strong product and research ability. The special specifications (such as loading weight, corrosion resistant, fire-resistant, etc) also could be made to meet customer's inquiry.

安裝
Installation

本公司配有FRP格柵用安裝連接件。可供顧客選用。
Our company provides series of spare parts for customer's choice.



拉擠格柵
Pultruded Grating

應用領域
Fields Served

污水處理
sewage treatment

給水排水
Water supply and drainage

化工
Chemical industry

石油
Oil industry

電力
Power engineering

造紙
Pulp and paper

工程建築
Construction engineering

紡織印染
Spinning

船舶
Mari Marine engineering

具體適用
Applications

操作平台
Operation terrace

樓梯走道
Stair walkway

樓梯扶欄
Ladder handrail

地坪
Ground floor

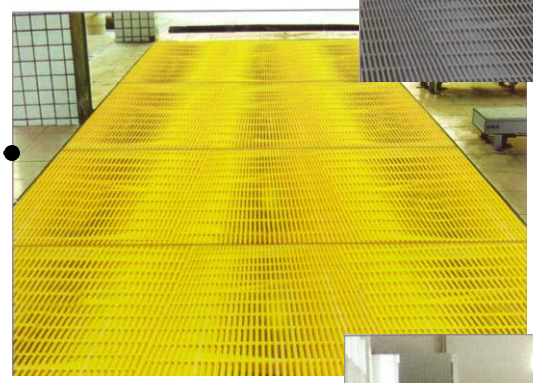
地溝蓋板
Trench cover

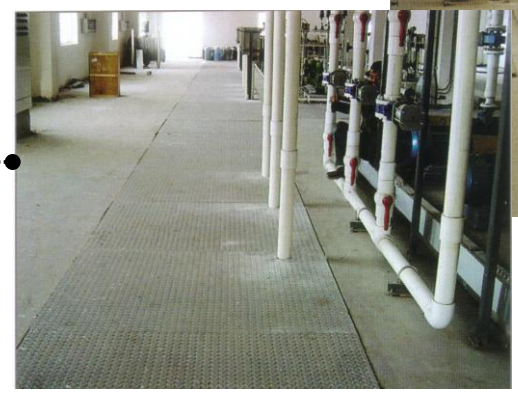
走道
Sidewalk

步行天橋
Foot bridge

設備安全欄
Equipment safety fence

腳手架
Scaffold





護欄爬梯
Guardrail and Ladder

護欄規格系列 Series Of Guardrail Specifications

標準護欄高度1000-1200，立柱間距800-1000
Standard Height: 1000-1200, Pole Span: 800-1000

型號 Type	扶手 Handrail	橫檔 Cross-rod	立柱 Stand pole	踏腳板 Tread
JDFL-50	50*50*4 方管 Square tube	50*50*4 方管 Square tube	50*50*4 方管 Square tube	101.6*3 板材 Panel sheet
JDFL-38	38*38*4 方管 Square tube	38*38*4 方管 Square tube	50*50*4 方管 Square tube	101.6*3 板材 Panel sheet
JDFL-57	57*60*3 槽材 Channel	38*38*4 方管 Square tube	50*50*4 方管 Square tube	101.6*3 板材 Panel sheet
JDFL-32	38*38*4 方管 Square tube	㎡32*3 圓管 Round tube	50*50*4 方管 Square tube	101.6*3 板材 Panel sheet

注: 產品規格可根據顧客要求專門製作，也可由顧客指定其他規格型材。護欄安裝可以採用專門底座，也可直接採用不銹鋼螺栓連接。

Remarks: Specification can be custom; and customers can also specify other specifications. Special base can be used for guardrail installation or using the stainless bolt to connect directly.

護欄 Guardrail

踢腳板 Kick Plate

底座 Base

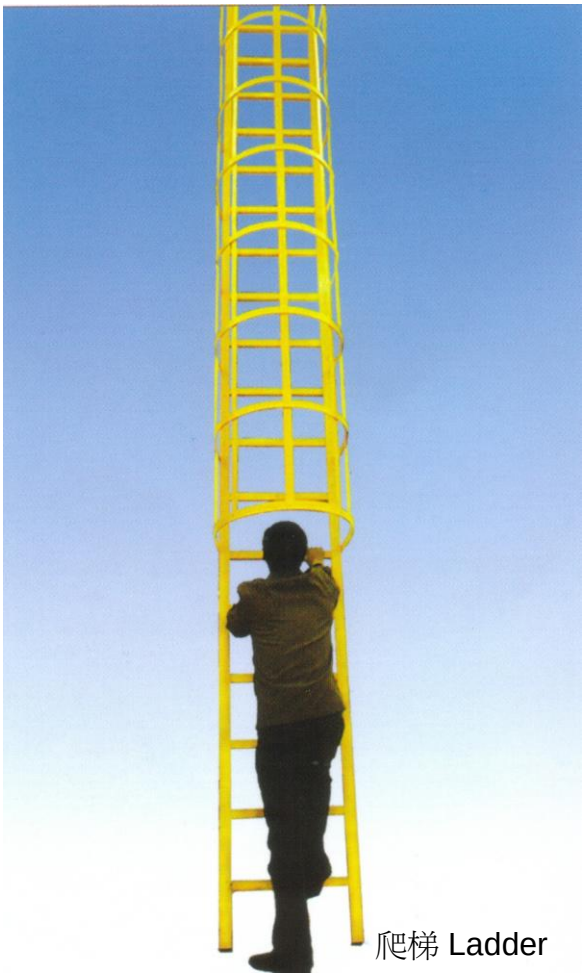
護欄爬梯
Guardrail and Ladder

爬梯結構組成 Structure of The Ladder

型號 Type	梯樑 Beam of ladder	踏輥 Tread rod	其它 Others
直梯 JDFT-1 Vertical ladder JDFT-1	50*50*4 方管 Square tube	⊄32*3 圓管 Round tube	可配護籠 Guarding cage can be installed
直梯 JDFT-2 Vertical ladder JDFT-2	50*50*4 方管 Square tube	38*38*4 方管 Square tube	可配護籠 Guarding cage can be installed
斜梯 JDFT-1 Gradient ladder JDFT-3	100*40*10 槽材 Channel	JDI-5015 格柵 Grating	可配防滑面板 Anti-skid panel can be installed

注：產品規格可根據顧客要求專門製作，也可由顧客指定其他規格型材。

Remarks: Specifications can be made according to customer's requirement; customers can also specify other specifications.

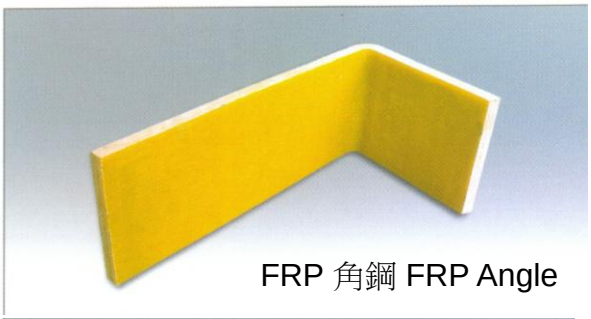


爬梯 Ladder

安裝
Installation

公司配套提供安裝用各種FRP配件：
角鋼頂帽 護籠 防滑面板

Types of FRP fittings can be supplied:
Angle, Screw cap, Guarding cage and anti-skid panel.



FRP 角鋼 FRP Angle

FRP 防滑面板FRP Anti-Skid Panel

護欄爬梯
Guardrail and Ladder

優點
Properties

易於運輸及現場安裝
Easy of transportation and field installation

安全
Safety

耐腐、輕質、使用壽命長
Corrosion resistant, light weight and long life

可按顧客要求設計
Very designable to customer's demand

應用領域
Applications

踏步護欄
Stair Tread and Rail

平台斜梯
Platform and Diagonal Ladder

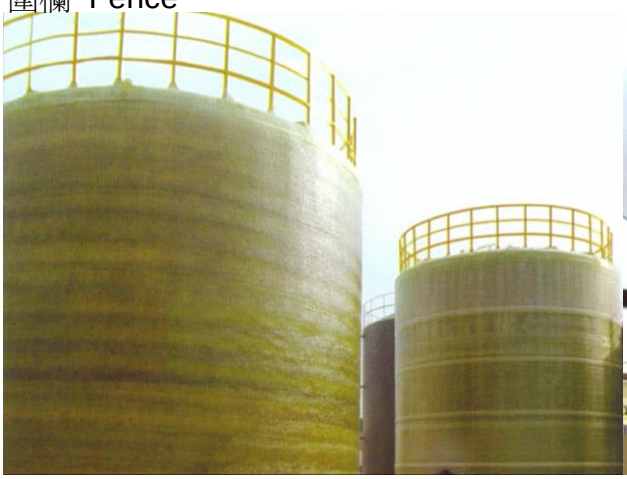
平台走道扶欄
Platform and Sidewalk Handrail

平台直梯
Vertical Ladder Landing

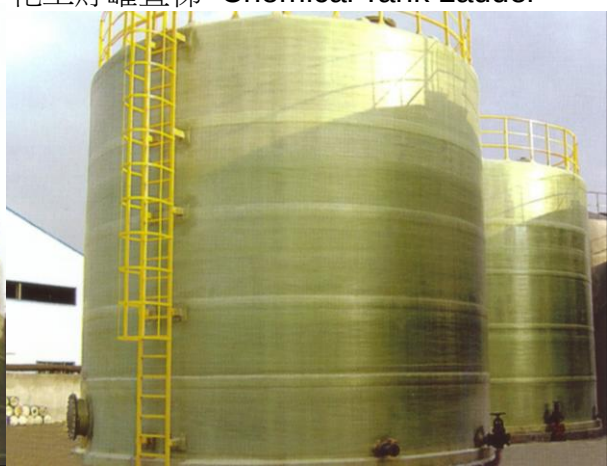
圍欄
Fence

化工貯罐直梯
Chemical Tank Ladder

圍欄 Fence



化工貯罐直梯 Chemical Tank Ladder



Hong Kong Tel: (852) 2311 9980 Fax: (852) 2311 6386 **Macau** Tel: (853) 6616 1523 Fax: (853) 2872 3348
Website: www.cmsasia.com **Email:** info@cmsa-asia.com