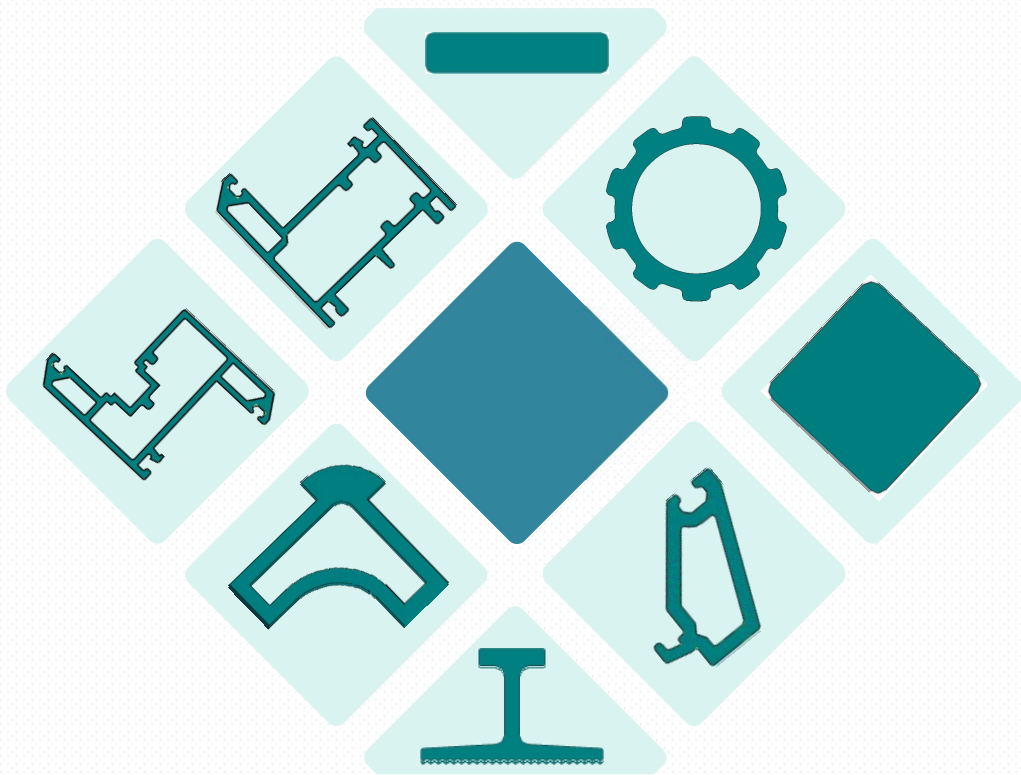


ONE STOP FRP
PULTRUSION
SOLUTION
PROVIDER



AMP | INDUSTRY

FRP PULTRUSION MOLDS

AMP is a pultrusion machinery and molds provider and also pultrusion technology provider.

From the beginning we are committed to research and manufacture of FRP pultrusion mold, SMC mold, and pultrusion profile. The factory covers an area of more than 15000 m², owning 30 machines, including CNC machine, and high precision grinding machines, and complete set of testing devices.

We have cooperated with many composite material factories through more than 10 years of development both in domestic and abroad of China.





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- 40Cr hard Chrome plated pultrusion mold
- 40Cr Nitriding pultrusion mold
- P20 hard Chrome plated pultrusion mold
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- 38CrMoAl Nitriding pultrusion mold
- Polyurethane pultrusion mold
- P20 SMC mold
- 40Cr seamless pultrusion mold
- FRP preformer

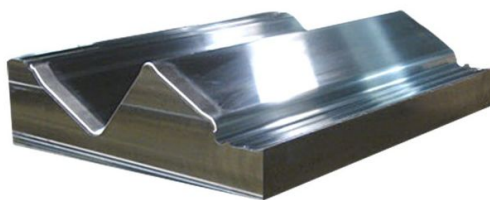


Mold Processing Steps



We rely on technological progress, equipment improvement, improve the level of technology, the implementation of scientific management methods, in order to improve the quality of products to lay a solid foundation.

40Cr hard Chrome plated pultrusion mold



40Cr是我国GB的标准钢号，调质处理后具有良好的综合力学性能，良好的低温冲击韧性和低的缺口敏感性

产品优点>>

光洁度高、挤拉阻力小、适合不饱和树脂的批量生产。

40Cr热处理硬度标准>>

40Cr镀硬铬挤拉模具加工后外部整体洛氏硬度达到HRC-30，型腔镀铬硬度达到HRC-50-55.

40Cr is standard grade of steel (China GB). It has good mechanical properties, impact toughness in low temperature and low notch sensitivity.

Features:

- High smoothness of cavity,
- Low pultrusion resistance,
- Suitable for mass production of unsaturated resins.

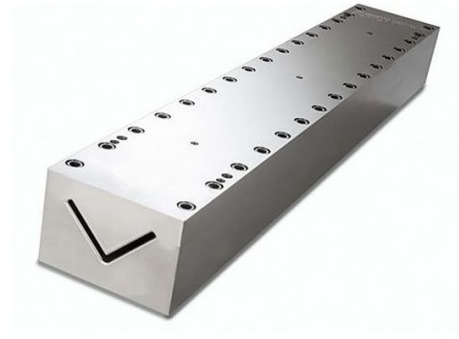
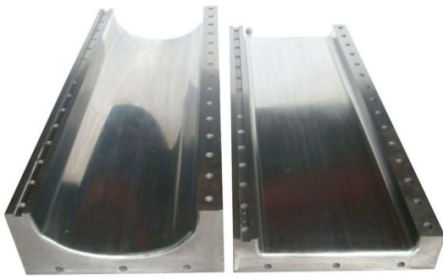
Hardness:

- 40Cr material hardness - HRC 30
- Mold cavity hardness - HRC 50 ~ 55



型 号/Model	型腔硬度/Cavity hardness	适宜树脂/Suitable resin	理论寿命/Theoretical life
40Cr 镀硬铬 40Cr Hard chromium plating	HRC-52	不饱和树脂/乙烯基树脂 Unsaturated resin / vinyl resin	50000m
		酚醛树脂/环氧树脂 Phenolic Resin / Epoxy	20000m

40Cr Nitriding pultrusion mold



40Cr是我国GB的标准钢号，调质处理后具有良好的综合力学性能，良好的低温冲击韧性和低的缺口敏感性

产品优点>>

光洁度高、挤拉阻力小、适合不饱和树脂的批量生产。

40Cr热处理硬度标准>>

40Cr渗氮拉挤模具渗氮层3-5mm,整体洛氏硬度达到HRC-55.

40Cr is standard grade of steel (China GB). It has good mechanical properties, impact toughness in low temperature and low notch sensitivity.

Features:

- High smoothness of cavity,
- Low pultrusion resistance,
- Suitable for mass production of unsaturated resins.
- Nitriding layer thickness: 0.3-0.5mm

Hardness:

- 40Cr material hardness - HRC 30
- Mold cavity hardness - HRC 55

型 号/Model	型腔硬度/Cavity hardness	适宜树脂/Suitable resin	理论寿命/Theoretical life
40Cr 氮化 40Cr nitride	HRC-55	不饱和树脂/乙烯基树脂 Unsaturated resin / vinyl resin	50000m
		酚醛树脂/环氧树脂 Phenolic Resin / Epoxy	20000m

P20 hard Chrome plated pultrusion mold



国标P20模具钢.

产品优点>>

模具整体硬度高、抛光效果明显，适合聚氨酯、乙烯基等摩擦系数较高的树脂，批量生产在五万平米以上。

P20镀硬铬硬度标准>>

P20 Mold steel

Features:

- High smoothness of cavity,
- High hardness
- Suitable for mass production with
- resins of high coefficient of friction.

Hardness:

- Mold cavity hardness - HRC 55



评估表>>

型 号/Model	型腔硬度/Cavity hardness	适宜树脂/Suitable resin	理论寿命/Theoretical life
P20镀硬铬 P20 hard chromium plating	HRC-55	聚氨酯/乙烯基树脂 Unsaturated resin / vinyl resin	50000m

38CrMoAl Nitriding pultrusion mold



模具材料>>

38CrMoAl 钢具有较高的表面硬度、耐磨性及疲劳强度，并具有良好的耐热性及腐蚀性，用于制作高耐磨性、高疲劳强度和相当大的强度，处理后尺寸精度高的氮化模具。

产品优点>>

该型模具是我公司主要针对窗材和异性材为客户推荐的一款高质量模具，模具整体硬度可达HRC-62以上，模具寿命在20万米以上。

38CrMoAl steel has higher hardness, abrasive resistance and fatigue strength.

Features:

- High precision
- Higher hardness
- Suitable for mass production of window/door profiles especially for complicated profile

Hardness:

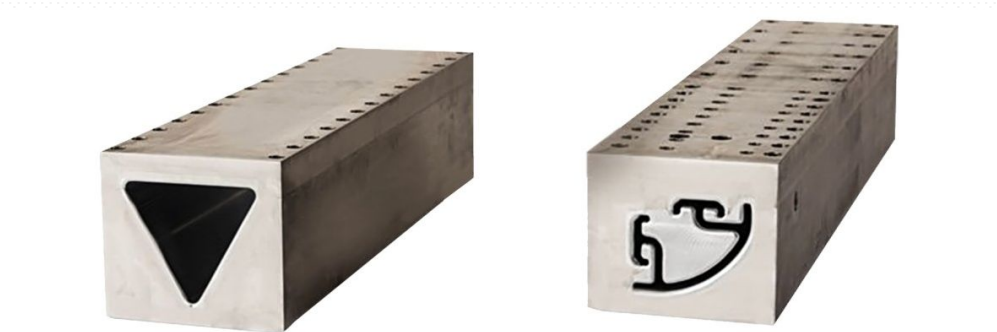
- Mold cavity hardness - no less than HRC 60

Chemical component

碳/C	硅/Si	锰/Mn	硫/S	磷/P	铬/Cr	镍/Ni	铜/Cu	钼/Mo
0.35-0.42	0.20-0.45	0.30-0.60	允许残余含量 ≤ 0.035	允许残余含量 ≤ 0.035	1.35-1.65	允许残余含量 ≤ 0.030	允许残余含量 ≤ 0.030	0.15-0.25

型号 /Model	整体硬度/Total hardness	适宜树脂/Suitable resin	理论寿命/Theoretical life
38CrMoAl 渗氮模 38CrMoAl Nitriding mold	HRC-60	不饱和树脂 Unsaturated resin	200000m

Cr12 Highly polished pultrusion mold



Cr12模具钢是高碳高铬型冷作模具钢是代表钢之一。

具有极高量（质量分数）的C2.00%~2.3%和Cr11.00%~13.00%，是属于莱氏体钢，所以有很高的淬透性、淬硬性和耐磨性，淬火变形小。

产品优点>>

该模具整体硬度高、抛光光洁度高、适合常规型材大量生产。

Cr12 mold steel (ledeburite) has C2.0%-2.3%, Cr 11%-13%, with high hardenability, low deformation and good abrasive resistance.

Features:

- Good polish quality, Higher hardness
- Suitable for mass production of regular profiles

Chemical component

元素/Element	C	Si	Mn	Cr	P	S
含量/Content	2.00~2.30	≤ 0.40	≤ 0.40	11.50~13.00	≤ 0.030	≤ 0.030

Tempering

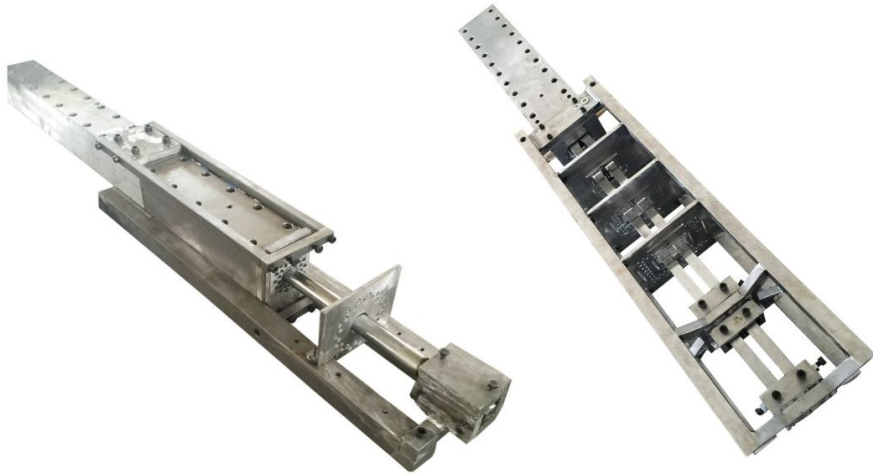
用途 Use	加热温度/°C heating temperature	回火时间/h Tempering time	回火次数 Tempering times	硬度(HRC) Hardness (HRC)
消除应力和稳定组织 Elimination of stress and stability	180~200	2	1	60~62
消除应力和降低硬度 Eliminate stress and Lower hardness	320~350	2	1	57~58

Quenching

淬火温度/°C quenching temperature/°C	冷却介质 Cooling medium	硬度 heating temperature
950~980	Oil	59~63

型号 /Model	整体硬度/Total hardness	适宜树脂/Suitable resin	理论寿命/Theoretical life
Cr12 抛光挤拉模 Cr12 Highly polished pultrusion mold	HRC-60	不饱和树脂/乙烯基树脂	100000m

Polyurethane pultrusion mold



模具材料>>

P20模具钢.

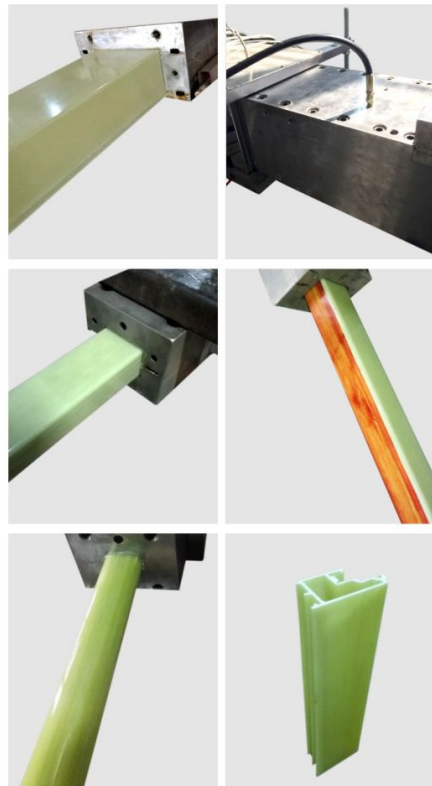
模具加工工艺>>

聚氨酯拉挤模具由模具、注胶盒、恒温设计预成型组成。

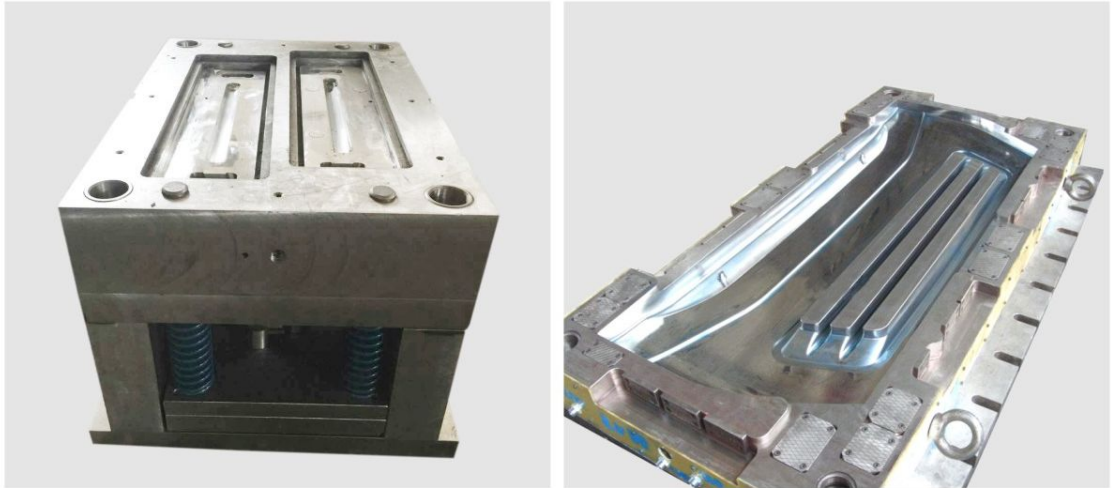
注胶盒依据模具口型设计，分为分体或整体加工。我公司已研发出窗材、桥架、方管、圆管等多种口型产品。

Material - P20 mold steel

Processing course includes mold, injection plastic boxes and preformer.



P20 SMC mold



模具材料>>

P20模具钢硬度均匀，具有良好的抛光性能及光蚀刻花性能，加工性能佳，真空脱气精炼处理，钢质纯净，适合要求抛光或蚀纹加工塑胶模、玻璃钢模压模经锻轧制加工，组织致密。

Mould material:

P20 die steel hardness is uniform, with good polishing optical properties and erosion carved performance, good processing performance, vacuum degassing refining treatment, pure steel, suitable for polishing or etch processing of plastic mold, glass steel molded by forging rolling processing, compact structure.

Chemical component

化学成分>>

元素/Element	碳/C	锰/Mn	铬/Cr	钼/Mo	硫/S
含量/Content	0.38	1.85	1.85	0.40	0.008

40Cr seamless pultrusion mold



Mold material

模具材料>>

40Cr.

模具加工工艺>>

- 1、40Cr热处理后型腔镀硬铬。
- 2、40Cr整体渗氮型腔镜面抛光。

Hard Chrome plated or Nitriding

Processing technology:

1. Hard Chrome plating after heat treatment.
2. Mirror polish with Nitriding

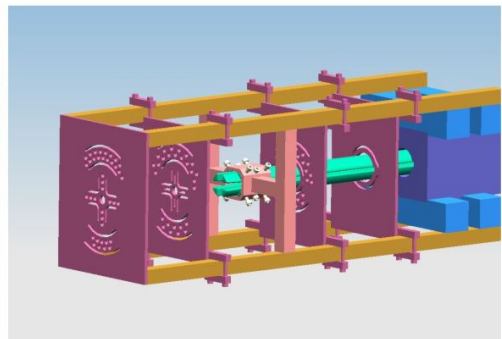
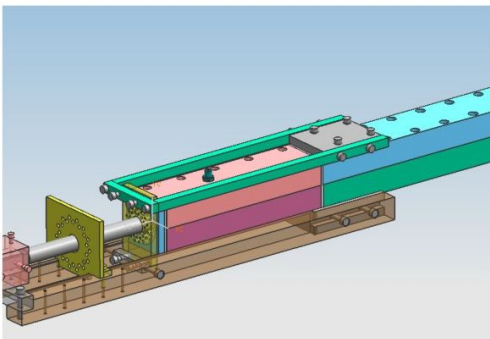
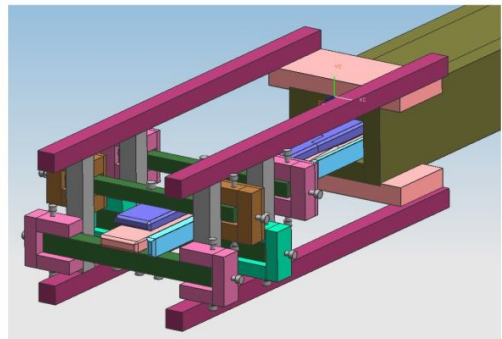
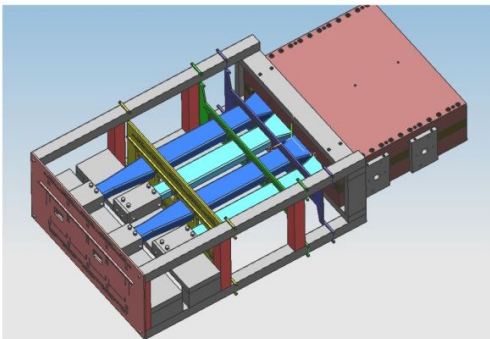
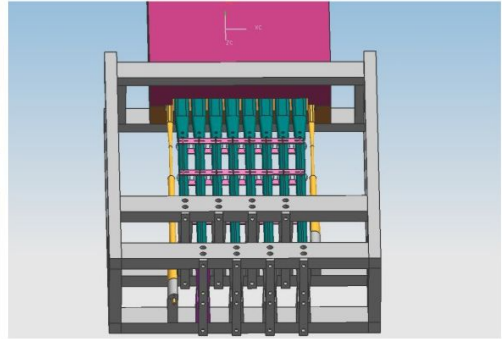
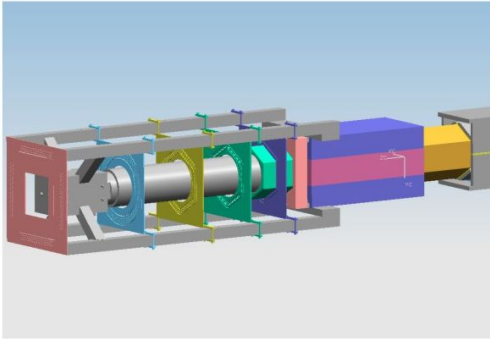


规格 Specifications(mm)

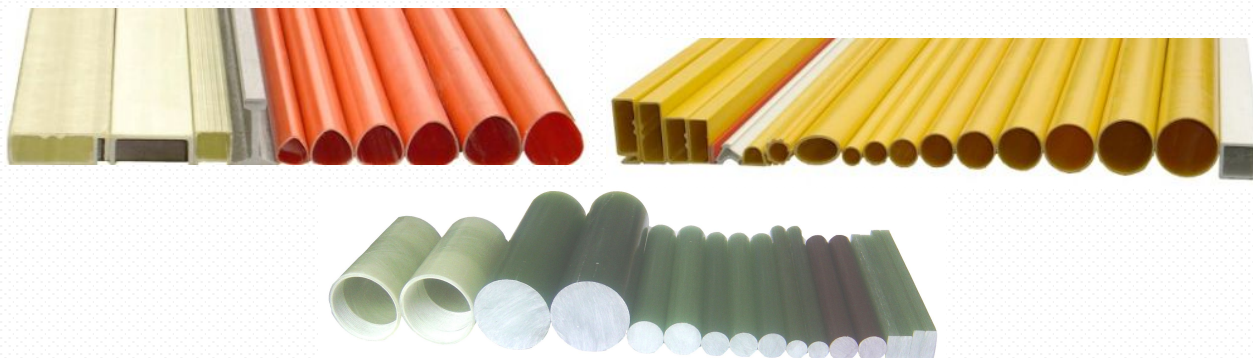
Φ4 , Φ5 , Φ6 , Φ6.3 , Φ7.0 , Φ7.9 , Φ8.0 , Φ8.5 , Φ9.0 , Φ9.5 , Φ9.8 , Φ10.0 , Φ11 ,
Φ11.2 , Φ12 , Φ12.5 , Φ13 , Φ14 , Φ15 , Φ16 , Φ17 , Φ18 , Φ19 , Φ20 , Φ21 , Φ22 ,
Φ23 , Φ24 , Φ25 , Φ28 , Φ30 , Φ32 , Φ40 , Φ50 , Φ80 , Φ100 , Φ120.

*Accept customization of other sizes.





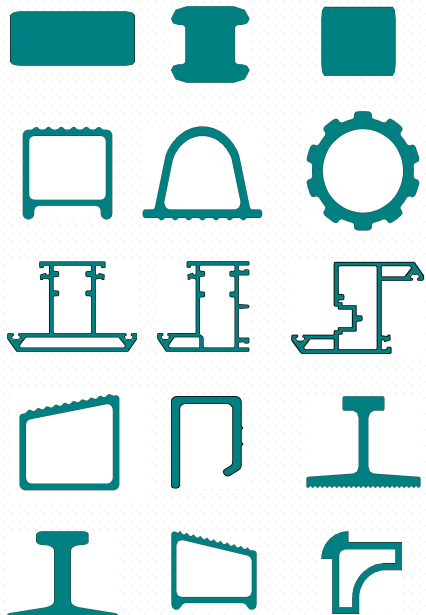
FRP preformer



FRP profiles

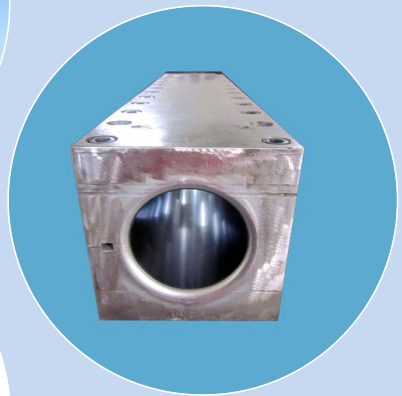


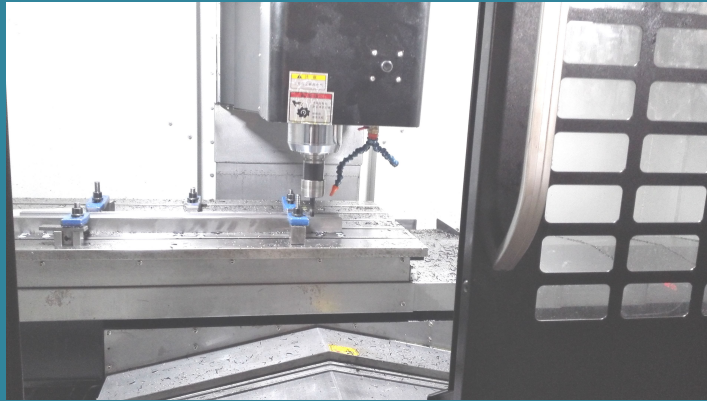
Dimensions of FRP Profiles

				Other shapes of profiles
$\phi 18 \times \phi 14.6$	45×45	28.4	48×30	
$\phi 26 \times \phi 21.2$	50×50	32.8	70×30	
$\phi 30 \times \phi 26$	48×31	37.2	80×30	
$\phi 32 \times \phi 27$	60×30	41.6	200×75	
$\phi 38 \times \phi 33.2$	65×30	46		
$\phi 40 \times \phi 34$	75×40	50.4		
$\phi 44.4 \times \phi 38.8$	50×55	54.8		
$\phi 50.5 \times \phi 45.5$	80×30			
$\phi 56.5 \times \phi 51.7$	58×26			
$\phi 62.5 \times \phi 57.7$	54×22			
$\phi 69.2 \times \phi 63.7$	160×60			
$\phi 75.2 \times \phi 70.4$				
$\phi 90 \times \phi 83$				

Customer list:

- Excel Composites
(www.exelcomposites.cn.com)
- Beijing Composite Materials Co., Ltd
(www.sinoma-composite.cn)
- Beijing DingChang Composite Material Co., Ltd.
(www.dchang.com/en.htm)
- Hebei Acme Zhongyi Composite Material Co. Inc
(www.akzhongyi.cn)
- Jiangsu Jiuding New Material Co,Ltd
(www.cjdg.com/index.php).
- Jingxian Xiangyu Material Technology Co., Ltd





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