

	FRP pultruded profiles	Carbon Steel
Corrosion Resistance	Resistance to water, chemicals. No need painting, etc.	Subject to oxidation and corrosion. Non-resistance to water, chemicals. Requires painting or galvanizing to attain the capacity of anti-corrosion.
Weight	Density is about 2.0g/cm ³ , one quarter that of steel	Density is about 7.8g/cm ³
Conductivity	Does not conduct electricity. Low thermal conductivity. 0.2-0.5 W/(m·K)	Conducts electricity. Thermal conductivity. 46-52 W/(m·K)
Strength	Under the same weight, pultrusions have a high strength, especially in the lengthwise direction. Ultimate flexural strength: LW is about 300 MPa. CW is about 70 MPa	Homogeneous material Flexural strength is about 300-500 MPa
Stiffness	Modulus of elasticity: LW is about CW is about Deformation recovery is possible.	Homogeneous material Flexural modulus is about 210 GPa Can permanently deform under impact.
Impact Resistance	Glass mat in pultruded parts, distributes impact load to prevent surface damage even in sub-zero temperatures. Will not permanently deform under impact.	Can permanently deform under impact.
EMI/RFI Transparency	Transparent to EMI/RFI transmissions. Can be applied to the cover of random and antenna.	Can interfere with EMI/RFI transmissions.
Appearance	The selection of color is achieved by adding different pigments in the matrix of resin. No need the second coating. Maintenance is free. Special surface can be customized.	Must be painted for different colors. To keep color, repainting may be required. Maintenance is not free.
Fabrication	Cutting and drilling and other processing can be done by using simple carpenter tools with carbon or diamond tip. Light weight for easier erection and installation.	Often requires welding and cutting torches. Heavier material requires special handling equipment to erect and install.
Cost	The beginning investment may be high, but because of free maintenance and long lifespan, the total cost is low.	The beginning investment may be low. But because of high maintenance cost afterwards, the total cost is high.