

	FRP pultruded profiles	Structural timber
Corrosion Resistance	Resistance to a broad range of chemicals. Unaffected by moisture or immersion in water if ends are properly sealed.	Can warp, rot and decay from exposure to moisture, water and chemicals. Coating or preservatives required to increase corrosion resistance. But that can create hazardous waste and high maintenance afterwards.
Weight	The specific gravity is about 2.0 g/cm ³	The specific gravity is about 0.6 g/cm ³ (dried wood)
Electrical conductivity	Non-conductive	Can be conductive when it is wet.
Strength	Is much higher than timber. The flexural strength is about 70-300MPa. The compressed strength is about 100-280 MPa.	The flexural strength parallel the grain is about 40-140 MPa The compressed strength parallel to the grain is 50 MPa. The strength across the grain is worse.
Stiffness	Is 1.5 times as rigid as wood. The flexural modulus is : LW is about 20 GPa CW is about 7.8 GPa	The flexural modulus is 5-14 GPa.
Insect resistance	Unaffected by insects.	Susceptible to insect attack.(marine borers, termites. Etc.) Coating to increase resistance to insects can be environmentally hazardous.
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.
Cost	The initial investment may be high, but because of free maintenance and long lifespan, the total cost is low.	The cost of material is low. But the cost of material is rising as the results of decreasing of timber resources and increasingly stringent environmental requirements.