

Relinea's *RE-STRUCT* GRP Profiles vs. Steel



PULTRUSIONS vs. STEEL

Pultruded glass fibre reinforced structural shapes and plates have a number of significant advantages over aluminium extrusions. Pultruded GRP is electrically and thermally non-conductive, impact resistant, highly corrosion resistant and EMI/RFI transparent.

COMPARE!	<i>RE-STRUCT</i> Pultruded Fibreglass Structural Shapes	Steel A36 - Carbon
CORROSION RESISTANCE	Good corrosion resistance to a wide variety of chemicals. Surfacing veil and UV additives improve weather-durability.	Subject to oxidation and corrosion. Will require painting or galvanizing for many applications.
WEIGHT	80% lighter than steel.	Requires heavy lifting gear to move and place.
CONDUCTIVITY	Does not conduct electricity.	Conducts electricity. Earthing required.
STRENGTH	High strength-to-weight ratio. Stronger than steel on a kg-for-kg basis in the lengthwise direction.	Homogeneous material.
STIFFNESS	Have a high strength to stiffness ratio. Will not permanently deform under working load.	Modulus of elasticity 29 x 106 psi
IMPACT RESISTANCE	Glass mat 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 interfere with EMI/RFI transmissions.
VERSATILITY	Pigments added to the resin provide colour throughout the part. Special colours available.	Must be painted for colour. To maintain colour and corrosion resistance, repainting may be required.
EASY FIELD FABRICATION	Can be field fabricated using simple carpenter tools with carbon or diamond tip blades. Lightweight for easier erection and installation.	Often requires welding and cutting torches. Heavier material requires special handling equipment to erect and install.
COST	Lower installation and maintenance costs in industrial applications often equal lower lifecycle costs.	Lower initial material cost.