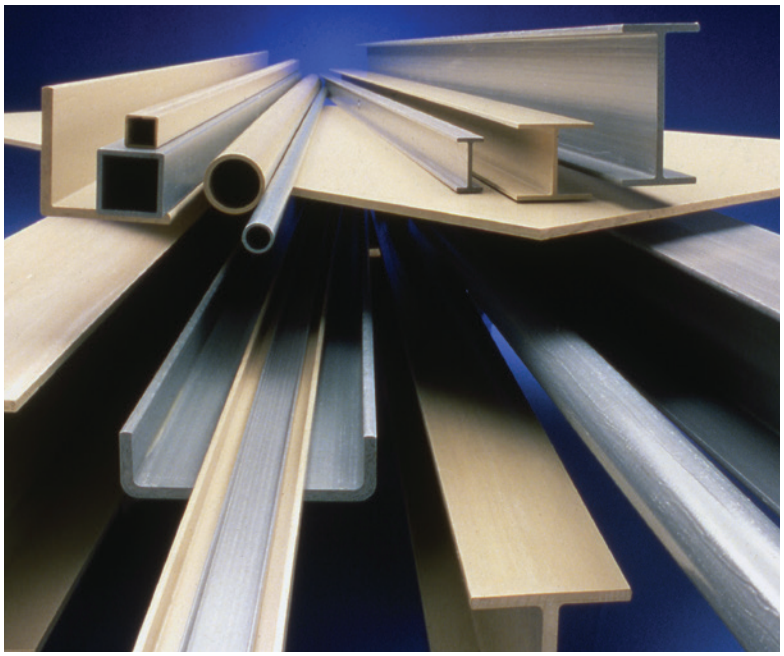
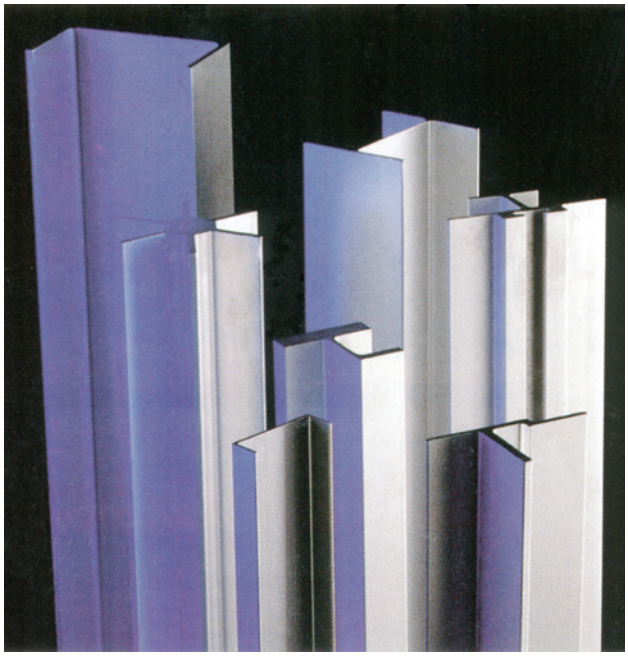
COMPARE
EXTREN® vs. ALUMINUM



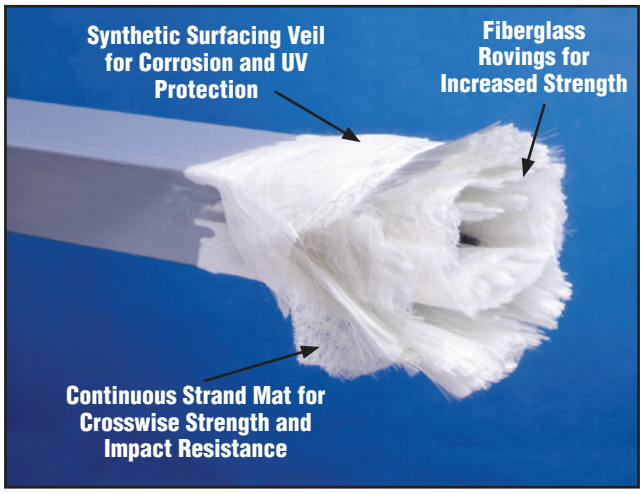
EXTREN® fiberglass structural shapes and plate



Typical aluminum shapes extruded from aluminum billets

EXTREN® fiberglass structural shapes are:

- **Corrosion Resistant**
- **Low Maintenance**
- **EMI/RFI Transparent**
- **Strong**
- **Low in Conductivity**
- **Lightweight**



Aluminum billets

EXTREN® is a proprietary combination of fiberglass reinforcements and thermosetting polyester or vinyl ester resin systems. It is produced in more than 100 standard shapes.

EXTREN® fiberglass structural shapes and plate have a number of significant advantages over aluminum. EXTREN® is electrically and thermally nonconductive (an important safety feature), impact resistant, highly corrosion resistant and EMI/RFI transparent.

Is EXTREN® the best material choice to meet the requirements of your application?

Turn over to compare the features of EXTREN® fiberglass structural shapes and aluminum extruded shapes!

COMPARE!	EXTREN® FIBERGLASS STRUCTURAL SHAPES	VS.	ALUMINUM EXTRUDED SHAPES
CORROSION RESISTANCE	Superior resistance to a broad range of chemicals. Surfacing veil and UV additives improve weatherability.		Can cause galvanic corrosion. Corrosion resistance can be increased through anodizing or other coatings.
WEIGHT	Very lightweight — about 80% the weight of aluminum.		Lightweight - about 1/3 that of copper or steel.
ELECTRICAL CONDUCTIVITY	Low conductivity properties — high dielectric capability.		Conducts electricity — grounding potential.
THERMAL CONDUCTIVITY	Insulates — low thermal conductivity (4 BTU/SF/HR/F°/IN); low thermal coefficient of expansion (7 (IN/IN/F°)10^6).		Heat conductor — high thermal conductivity (150 BTU/SF/HR/F°/IN); thermal coefficient of expansion 11-13 (IN/IN/F°)10^6.
STRENGTH	Ultimate flexural strength (Fu) LW = 30 KSI, CW = 10 KSI. EXTREN® has 86% of the yield strength of aluminum and pound-for-pound, is stronger than aluminum in the length-wise direction.		Flexural strength (Fu) 35 KSI. Homogeneous material.
FINISHING AND COLOR	Pigments added to the resin provide color throughout the part. Special colors available. Composite design can be customized for required finishes.		Silver color. Other colors require pre-finishes, anodic coatings and paints. Mechanical, chemical and electroplated finishes can be applied.
EMI/RFI TRANSPARENCY	Transparent to radio waves, EMI/RFI transmissions; used for radar and antennae enclosures and supports.		Highly reflective.
FABRICATION	Easy field fabrication with simple carpenter tools — utilizes adhesive bonding and/or mechanical joining. No torches or welding.		Good machinability — welding, brazing, soldering or mechanical joining.
COST	Slightly higher tooling costs; price per lineal foot marginally higher.		Extrusion tooling is relatively inexpensive. Part price comparable or slightly lower.
IMPACT RESISTANCE	Glass mat in EXTREN® distributes impact load to prevent surface damage even in sub-zero temperatures. Will not permanently deform under impact.		Easily deforms under impact.

THE CHOICE! EXTREN® Fiberglass Structural Shapes and Plate!

GEF INCORPORATED
6497 Winfield Rd
Winfield, WV 25213
(Office) 304-755-1600
(Toll Free) 800-784-0529
(Fax) 304-755-3150
www.gefinc.com

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