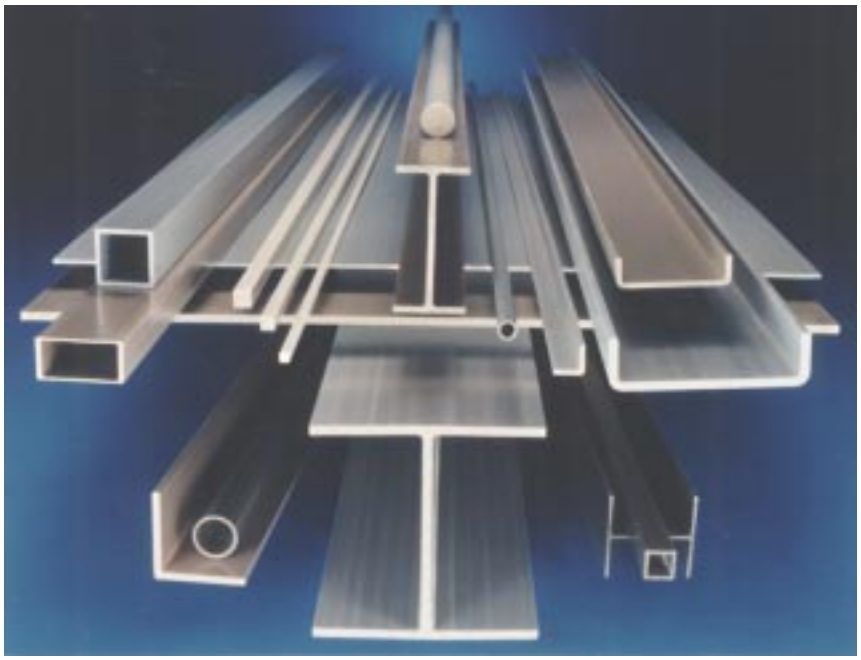
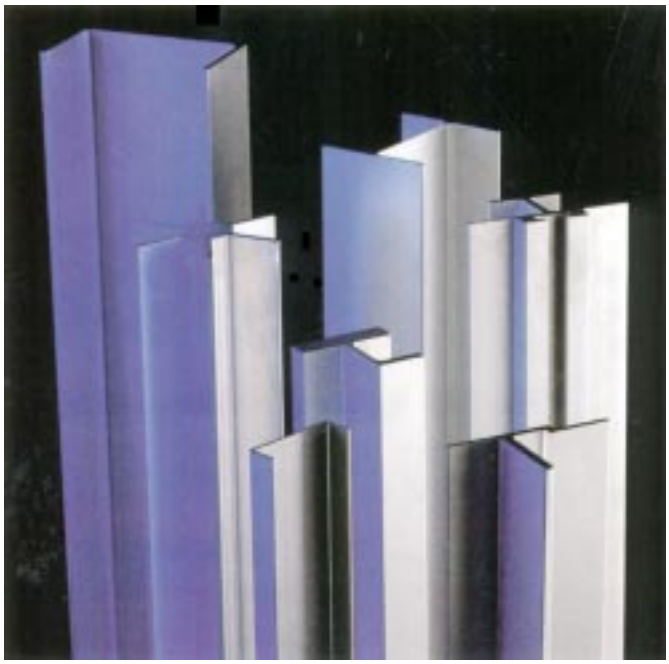
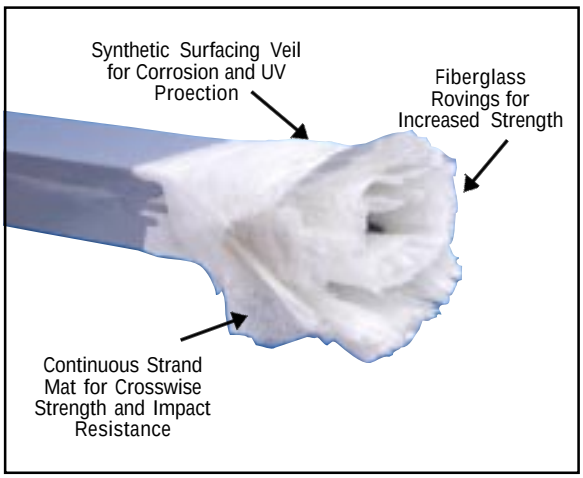
COMPARE

EXTREN® vs. ALUMINUM







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

Typical aluminum shapes extruded from aluminum billets.

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

Is EXTREN® the best material choice to meet the needs or requirements of your application? Features of both EXTREN® fiberglass structural shapes and aluminum extruded shapes are compared on a point-for-point basis on the back of this page.

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 70% the weight of aluminum.		Lightweight - about 1/3 that of copper or steel.
ELECTRICAL CONDUCTIVITY	Non-conductive — high dielectric capability.		Conducts electricity — grounding potential.
THERMAL CONDUCTIVITY	Insulates — low thermal conductivity, 4 BTU/SF/HR/F°/IN; low thermal coefficient of expansion 4.4 (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, 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 prefinishes, 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!

STRONGWELL

ISO-9001 Certified Manufacturing Plants

BRISTOL DIVISION*
400 Commonwealth Ave., P. O. Box 580, Bristol, VA 24203-0580 USA
(540) 645-8000 FAX (540) 645-8132
**EXTREN® manufacturing location*

CHATFIELD DIVISION
1610 Highway 52 South, Chatfield, MN 55923-9799 USA
(507) 867-3479 FAX (507) 867-4031

www.strongwell.com