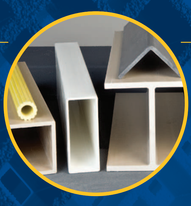
WHY BUILD WITH FRP

- Light weight with high strength
- Corrosion, rot and insect resistant
- Dimensionally stable – won't warp, shrink or swell
- Consistent strength, appearance and quality from piece to piece
- Simple fabrication with standard tools – no welders or cutting torches needed
- Superior resistance to a broad range of chemicals
- Transparent to EMI/RFI (radio/ radar/antenna) transmissions



Fiberglass Reinforced Polymer (FRP)

FRP is a composite material made up of fiberglass reinforcements and polymer resins.
The glass fiber provides the strength and stiffness, and the resin provides shape and protects the fibers.

VS

WOOD

FRP is stronger and more rigid than structural timber. The average wood deck lasts only 15-20 years before needing to be replaced.

STEEL

Pound for pound, FRP structural members are stronger than steel and weigh up to 75% less.

ALUMINUM

Unlike aluminum, FRP won't corrode and it won't deform under impact. FRP also offers low thermal conductivity, so it's a good insulator.

The Pultrusion Process

PROForms® structural shapes and PROGrate® pultruded grating are manufactured with the pultrusion process. In this process, a machine grips the raw materials and "pulls" them through a series of steps until the finished profile reaches the cut-off saw.

1

REINFORCEMENT

The process typically starts by pulling in two forms of fiberglass reinforcement. Fiberglass roving provides unidirectional strength along the length of the profile, and woven fiberglass mat provides multidirectional reinforcement.

2

WET-OUT

Fiberglass reinforcements are pulled through a bath of thermoset resin, typically polyester or vinylester.

3

SURFACE VEIL

Just before all the material is pulled into the heated die, surface veil may be added to enhance the surface appearance of the final product.

4

CURING

Wet-out reinforcements are pulled through the heated die, which causes the resin to "cure" or harden. When the part exits the die, it is a solid, rigid profile in the exact shape of the die cavity with all the reinforcements laminated inside.

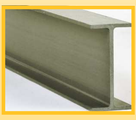
5

CUTTING

The finished product is then pulled to the cut-off saw and cut to the desired length.

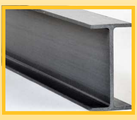
Standard FRP Resin Systems

PROForms® and PROPlate® products are offered in three resin series to meet the requirements of different applications and environments.



STD — STANDARD NON FIRE RETARDANT POLYESTER

A general-purpose isophthalic polyester resin system with a UV inhibitor, offering good corrosion resistance.
Color: Olive Green



FR — FIRE RETARDANT POLYESTER

A general-purpose fire-retardant isophthalic resin system with a UV inhibitor, offering good corrosion resistance.
Colors: Dark Gray and Yellow

VE — VINYLESTER FIRE RETARDANT

A premium vinylester resin system with a UV inhibitor. Offers excellent resistance to water, organic solvents and alkalis. It's fire retardant and highly corrosion resistant.
Colors: Beige and Yellow

Where can you find composite profiles?

AGRICULTURE BUILDINGS
Shed framing, fertilizer storage, grain handling, utility buildings

COOLING TOWERS
Ladders, platforms, stairs, deckboard, grating, structural members

MINING
Catwalks, platforms, ladders, stairs, grating

OIL & GAS
Catwalks, platforms, protective covers for subsea applications

PARKING GARAGES
Architectural screening

PEDESTRIAN BRIDGES
Deck board, railings, support members

PLANT AND CHEMICAL PROCESSING
Ladders, catwalks, stairs

THEME AND WATER PARKS
Structural features, stairs, railings

UTILITIES
Utility markers and poles

WASTEWATER/WATER TREATMENT
Weirs, baffles, grating

Projects That Feature Pultruded FRP Profiles

FOUNTAIN STRUCTURE
BELLAGIO HOTEL & CASINO
LAS VEGAS, NV

U.S. FOREST SERVICE
PEDESTRIAN BRIDGE
TELLURIDE, CO

M-I SWACO FACILITY
PORT FOURCHON, LA

CHILDREN'S MUSEUM
OF HOUSTON, TX

LAKE KOON FISHING PIER
CUMBERLAND VALLEY, PA

WEST STREET PEDESTRIAN
BRIDGE, NEW YORK CITY

DISCOVERY PLACE
AQUARIUM, CHARLOTTE, NC

PEDESTRIAN BRIDGE
ROOKERY BAY NATIONAL
ESTUARINE RESERVE
NAPLES, FL

SOURCES:
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