

FRP SHEET PILES



PULTRUDED SHEET PILES

- **Fiberglass sheet piles (FRP) produced by IRONPLASTICWOOD are mostly used as bulkheads connected to each other to achieve load-bearing structures or hydraulic barriers. In both cases their function is to support and to stem. Their light weight makes them preferable to steel, aluminum and wood. They are also recommended, with respect to the latter, in presence of salt water, corrosive chemical agents or electrochemical thanks to the high resistance at such factors proper of the fiberglass. We are able to provide angular connection elements, plates, bolts and threaded rods all manufactured in composite material in order to maintain intact the characteristics of the entire set. All our products are smooth, clean, they do not leave residues of glass fibers at contact. Are easily installed in any environment thanks to their particular lightness. No maintenance over time is expected. They can be supplied with customizable exterior finishing such as faux wood, faux marble or colors of your choice, thus eliminating the problem of environmental impact.**

Production process



The PULTRUDED are polymer artefacts FIBER-REINFORCED, industrially produced with a fully automated process called pultrusion. The Pultrusion process derives its name from an the English word which comes from the contraction of two words: pull (pull) and EXTRUSION (extruded). The technology used for the production of composite artifacts consists in an extrusion process, similar to that used in the plastics industry, in which continuous fibers are subjected to a tensile stress which has the task of guaranteeing a perfect alignment of the first polymerization of the matrix.

A typical plant for the production of pultruded profiles includes:

- 1) an automatic fiber coils unwinding station**
- 2) a fiber alignment system**
- 3) resin impregnation tank**
- 4) a molding and curing station where the excess resin is removed and is performed an accelerated curing by heating or microwave to enable a rapid polymerization**
- 5) a track system which serves to exercise a traction force to allow the advancement of the products**
- 6) a cutting station to cut the profile in the desired length**

Details

Our FRP sheet piles are made from POLYESTER, VINYL ESTER and POLYURETHANE resins. The choice of the resin is determined according to the structural and chemical characteristics required by the client.



FRP sheet piles are mainly used for:

- . Embankments Stabilization**
- . Erosion control**
- . Piers or harbors**
- . marine hydraulic construction**
- . Bulkheads and dams**
- . Retaining walls**
- . Rivers banks, canals, lakes**
- . Against flooding**
- . Railway ballast**
- . Marinas**
- . Docks**



Light and easy to install with the use of standard tools



Cheap - savings of up to 40% on materials, installation and transport services



Long-term protection without the need for maintenance due to the material being completely resistant to:

- **Bio-corrosion,**
- **Rust,**
- **Cracking,**
- **Abrasion,**
- **Sea water,**
- **Harmful UV Rays,**
- **Low degree of permeability,**
- **Low electrical conductivity.**



Warranty of up to 50 years -extraordinary durability, excellent mechanical and endurance parameters



Ecological solution - the product contains recycling material. **Zero environmental impact.**



Loco connections ensure leakproofness of the wall



Clean, simple and aesthetic appearance is made possible thanks to practically invisible coupling.



Simple installation compared to other sheet piles of this type thanks to the unique flat surface.



Easy to form interior and exterior curves matching the natural shore lines.



Low weight ensures greater safety on construction sites

Installation



FRP sheet piles ensure structural and mechanical seals similar to conventional steel sheet piles but with a lower weight (around 65% less). They are not subject to wear, rust or attacks by chemicals. Do not release toxic or harmful residues in the environment even in contact with salt water.

In order to avoid the effect of rebound due to the percussion and vibrations of the machinery, composite sheet piles are driven into the ground with the aid of a Mandrel.

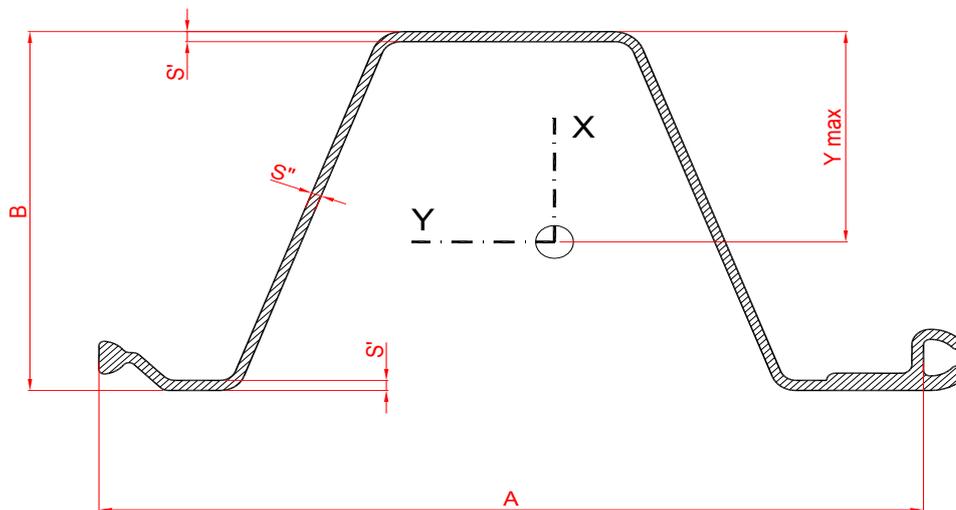
Mandrel is not always necessary especially when the ground is soft.



Models

IRONPLASTICWOOD	SCHEDA TECNICA N°	PL Om-01	DATA EMISSIONE	2/25/17
	PROFILATI PULTRUSI IN COMPOSITO VETRORESINA		REVISIONE	00
			DATA	25/2/17

DESCRIZIONE: PALANCOLA A OMEGA 500X250X6



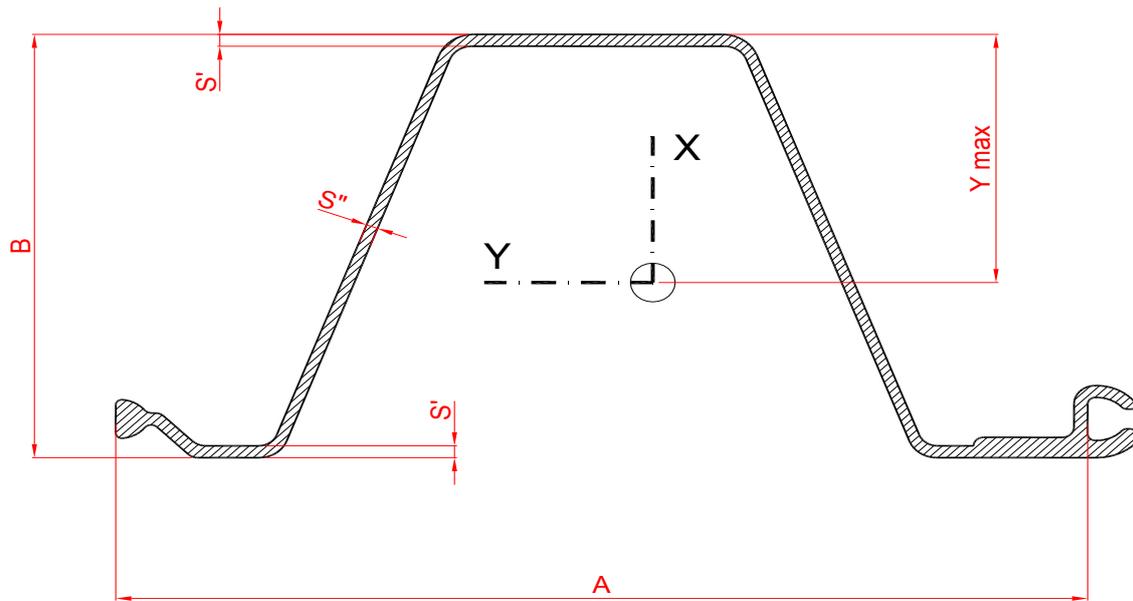
	A	B	S'	S''	Kg/m.
Dimensioni	500	250	7	6	11,93

CARATTERISTICHE MECCANICHE

Momento d'inerzia - asse X		cm.4/m.	11.368
Y max - asse X		cm.	14,65
Modulo elastico a flessione	EN ISO 13706	Gpa	23
σ a rottura a trazione	EN ISO 527-4	Mpa	240

IRONPLASTICWOOD	SCHEDA TECNICA N°	PL Om-02	DATA EMISSIONE	2/25/17
	PROFILATI PULTRUSI		REVISIONE	00
	IN COMPOSITO VETRORESINA		DATA	25/2/17

DESCRIZIONE: PALANCOLA A OMEGA 500X250X8



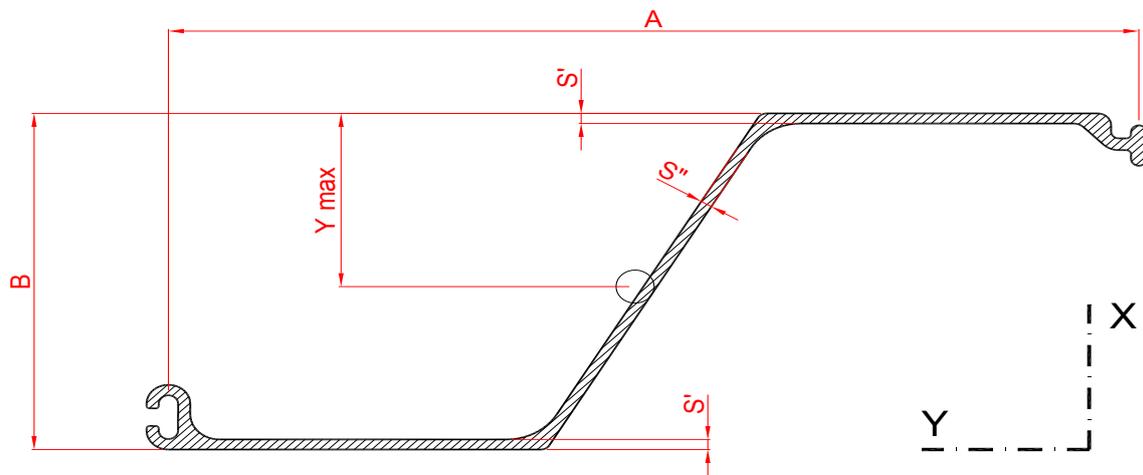
	A	B	S'	S''	Kg/m.
Dimensioni	500	250	10	8	15,56

CARATTERISTICHE MECCANICHE

Momento d'inerzia - asse X		cm.4/m.	14.818
Y max - asse X		cm.	14,27
Modulo elastico a flessione	EN ISO 13706	Gpa	23
σ a rottura a trazione	EN ISO 527-4	Mpa	240

IRONPLASTICWOOD	SCHEDA TECNICA N°	PL Z-01	DATA EMISSIONE	2/25/17
	PROFILATI PULTRUSI IN COMPOSITO VETRORESINA		REVISIONE	00
			DATA	25/2/17

DESCRIZIONE: PALANCOLA A ZETA 500X200



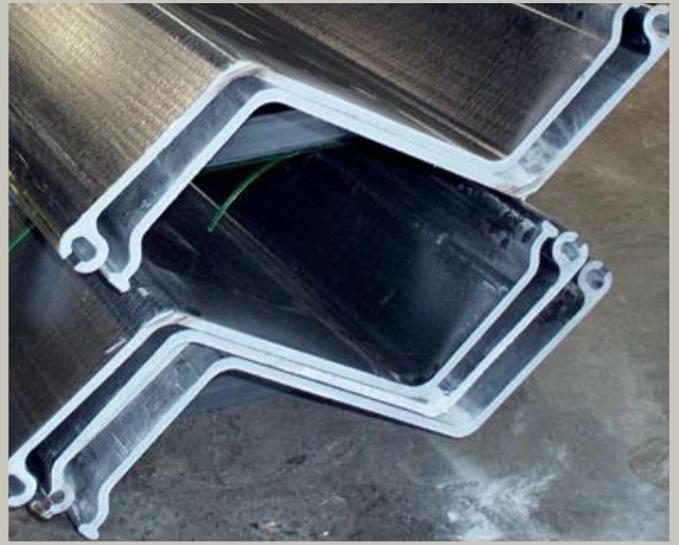
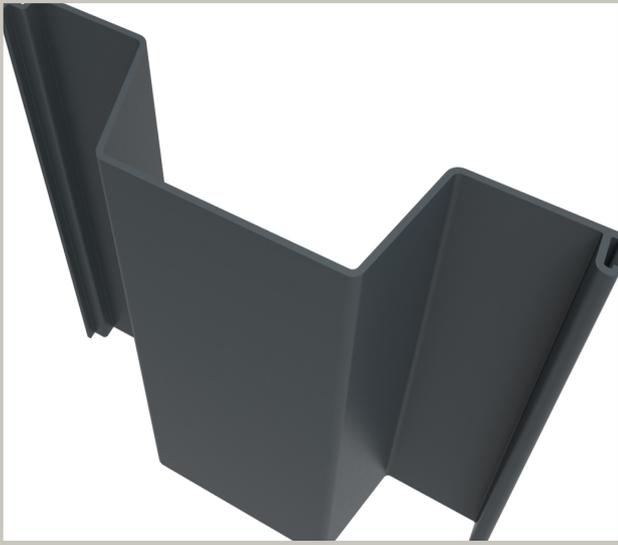
Dimensioni	A	B	S'	S''	Kg/m.
	500	200	6	6	8,34
	500	200	8	8	11,12
	500	200	10	10	13,51

CARATTERISTICHE STATICHE / MECCANICHE

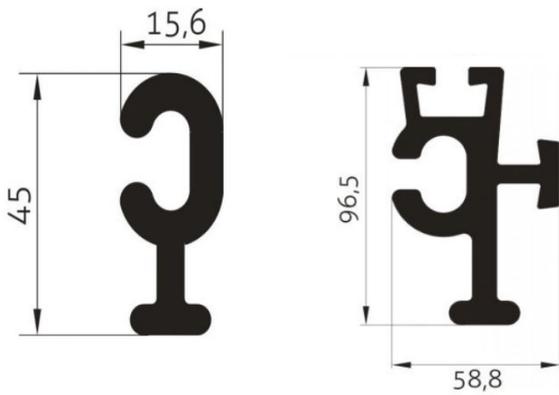
		6	8	10
Momento d'inerzia - asse X	cm.4/m.	6.324	8.150	9.674
Y max - asse X	cm.	10,60	10,40	10,54

Modulo elastico a flessione	EN ISO 13706	Gpa	21
σ a rottura a trazione	EN ISO 527-4	Mpa	240

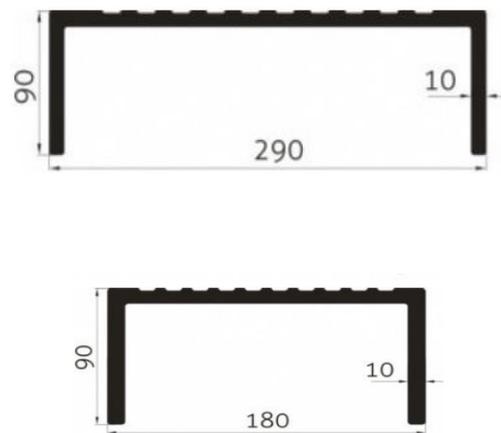
Accessories



CORNER CONNECTORS



CAPS



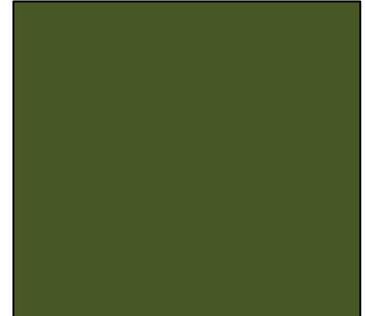
External finishing



GREY



BROWN



GREEN



FAUX WOOD



FAUX MARBLE

**FRP SHEET PILES ARE PRODUCED AND
MARKETED BY:**

IRONPLASTICWOOD