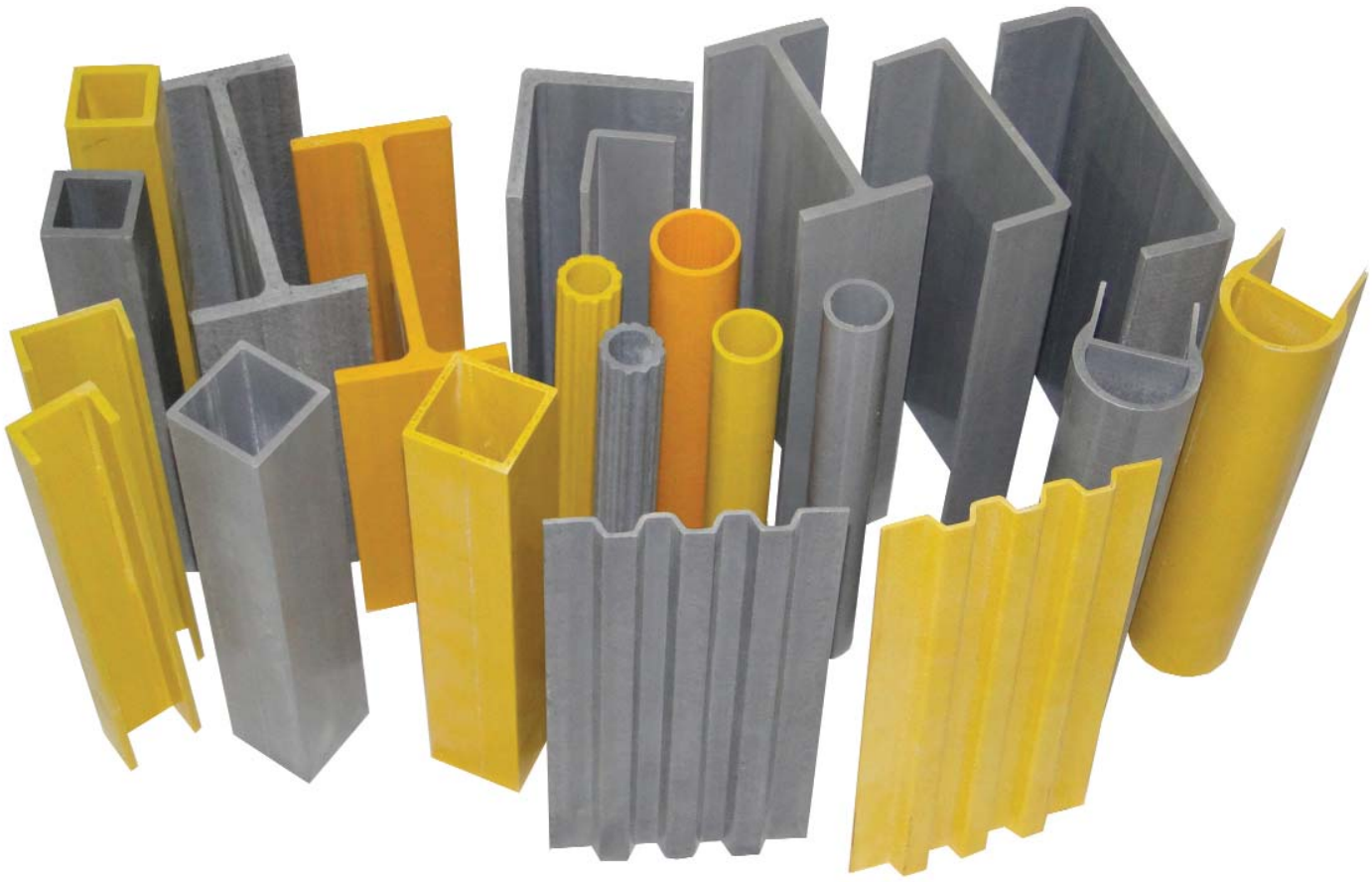
Anglia Composites

Fibreglass Pultruded Structural Profiles



Use fibreglass structural profiles for platforms, ladders, handrails, ramps, stair cases, flooring joists etc. Ideal for use within the chemical industry, offshore / onshore oil and gas installations, sewage treatment works, water works, power stations, marinas etc.

Anglia structural profiles are corrosion resistant, chemical resistant, fire resistant, high impact tolerance, UV resistant, high strength to weight ratio, zero maintenance, anti-static, low thermal conductivity, electromagnetic transparency, anti static.

Dozens of different shapes are available from stock. If you don't see what you are looking for ask about our low cost tooling for special shapes.

MAKING THE WORLD
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High performance, Corrosion Resistant Structural Fibreglass Profiles for Industry

Anglia Structural Profiles

Introduction

Anglia Composites are one of the UK's leading companies associated with composites structures with more than 15 years experience.

We are able to design, build and install a wide variety of access equipment such as ladders, platforms and ramps.

Process

Fibreglass pultruded profiles are manufactured using premium grade resins and glass reinforcement. Raw materials are pulled through a heated die using a continious pulling device. Just about any shape profile can be manufactured giving designers complete freedom.

Benefits

The pultrusion process provides exceptional strength and durability and offer a number of advantages over traditional materials such as steel, or aluminium.

Fire resistant

Corrosion resistant

Non-magnetic

Anti-static

Impact resistant

Lightweight

Thermally stable

High strength to weight ratio

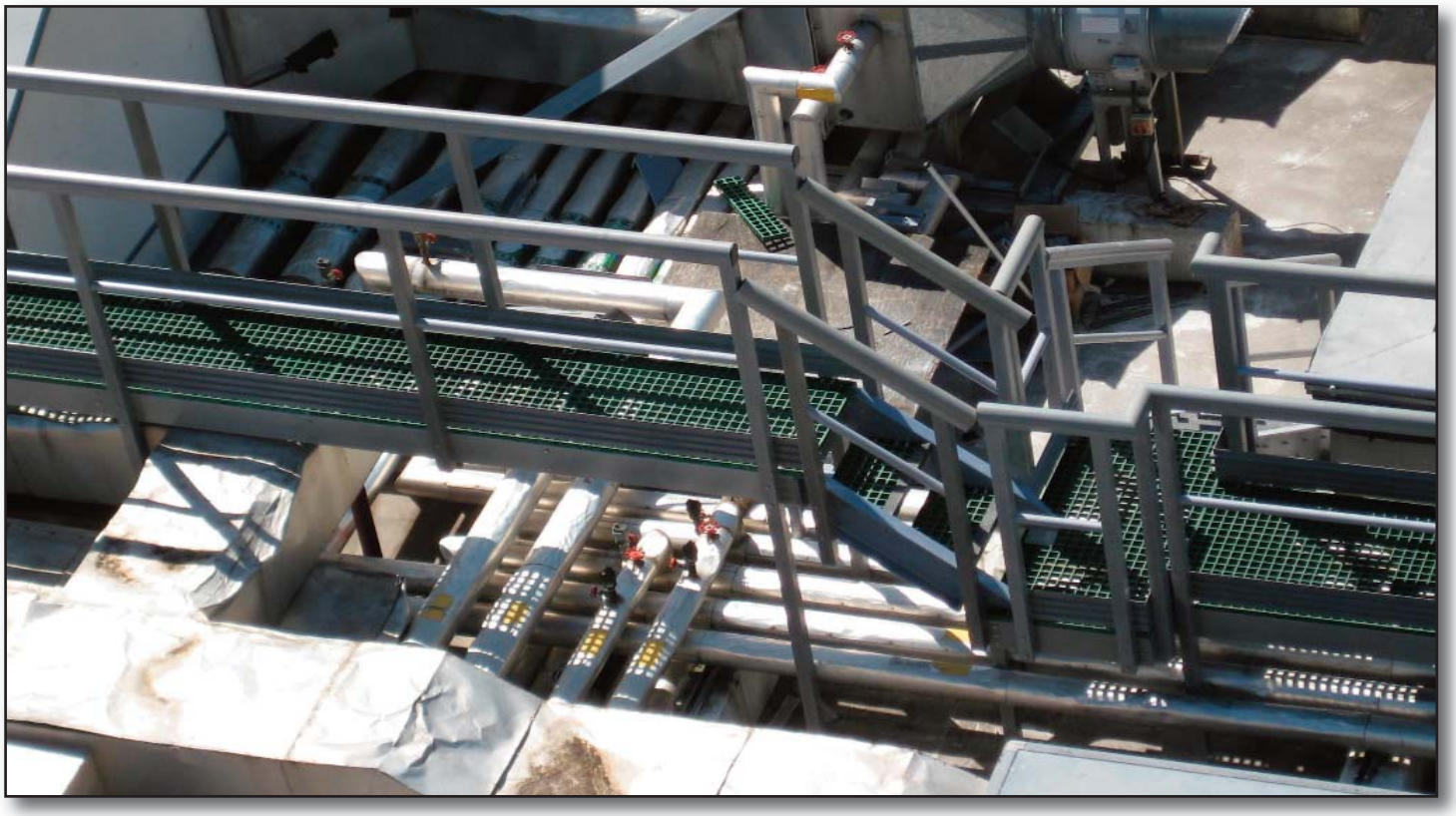
Design freedom

Electromagnetic transparency

Maintenance free

Low installation costs

Installation Examples



Installation Examples

Anglia Profile Range

BOX SECTION

Size	kg/m
25 x 25 x 3	0.53
38 x 38 x 5	1.32
44 x 44 x 6	1.82
51 x 51 x 5	1.8
51 x 51 x 6.5	2.6
60 x 60 x 5	2.2
100 x 100 x 6.5	4.75
125 x 125 x 10	9.2
210 x 110 x 5	6.2

ANGLE

Size	kg/m
38 x 38 x 5	0.68
50 x 50 x 5	0.95
50 x 50 x 6.5	1.20
76 x 76 x 6.5	1.85
76 x 76 x 8	2.31
76 x 76 x 10	2.85
100 x 100 x 10	3.80
150 x 150 x 10	5.80

CHANNEL

Size	kg/m
40 x 20 x 3	0.45
50 x 30 x 5	0.98
70 x 30 x 5	1.20
76 x 25 x 5	1.06
76 x 35 x 5	1.32
100 x 50 x 6	2.26
120 x 40 x 5	1.68
150 x 50 x 6	2.89
200 x 44 x 8	4.40
250 x 68 x 12	9.30

TUBE

Size	kg/m
18 x 11 x 3.5	0.45
29 x 19 x 3	0.40
38 x 32 x 3	0.72
38 x 25 x 6.5	1.52
50 x 43 x 3.5	1.10
50 x 42 x 4	1.31

I BEAM

Size	kg/m
25 x 15 x 6.5	0.40
38 x 15 x 6.5	0.60
100 x 60 x 6.5	2.45
150 x 80 x 8	4.70
250 x 152 x 12	9.60
300 x 150 x 15	16.50

KICK PLATE

Size	kg/m
100 x 12 x 3	0.85
150 x 12 x 3	1.25

A never ending range of customised profiles are available to designers using our low-cost tooling.

Profiles can be manufactured in a variety of colours and resins providing an almost limitless range.

HANDRAIL

Size	kg/m
50 x 68 x 5	1.45
60 x 76 x 5	1.59

LADDER RUNG

Size	kg/m
36 x 27 x 4.5	0.80
42 x 32 x 5	1.10

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Mechanical properties

Designing with pultruded profiles is similar to designing with conventional materials. The designer should however consider the following:

High-Strength – Pultruded profiles are stronger than steel on a weight per weight basis andd can be used to form considerable weight bearing structures.

Modulus Of Elasticity – Pultruded profiles have a lower modulus of elasticity than steel. Deflection can be a limiting design factor.

Shear Modulus – Pultruded profiles have a lower shear modulus than conventional materials. Lightweight – Pultruded profiles weigh approximately 30% less than aluminium and 80% less than steel, resulting in structures which can easily be transported, handled and lifted into place.

Characteristic Material Properties - Pultrusion (1:1 Mat/Roving Construction)

Property	Symbol	Characteristic Value	
Tensile Strength (longitudinal)	sx,t,k	207	N/mm2
Tensile Strength (transverse)	sy,t,k	48	N/mm2
Tensile Modulus (longitudinal)	Ex,t,k	17.2	kN/mm2
Tensile Modulus (transverse)	Ey,t,k	5.5	kN/mm2
Compressive Strength (longitudinal)	sx,c,k	207	N/mm2
Compressive Strength (transverse)	sy,c,k	103	N/mm2
Compressive Modulus (longitudinal)	Ex,c,k	17.2	kN/mm2
Compressive Modulus (transverse)	Ey,c,k	6.9	kN/mm2
Shear Strength (in plane)	txy,k	31	N/mm2
Shear Modulus (in plane)	Gxy,k	2.9	kN/mm2
Flexural Strength (longitudinal)	sx,b,k	207	N/mm2
Flexural Strength (transverse)	sy,b,k	69	N/mm2
Flexural Modulus (longitudinal)	Ex,b,k	13.8	kN/mm2
Flexural Modulus (transverse)	Ey,b,k	5.5	kN/mm2
Poisson's Ratio (longitudinal)	nxy	0.33	
Poisson's Ratio (transverse)	nyx	0.11	

NOMENCLATURE
Iyy - Second moment of area (Y-Y axis)
iyy - Radius Of Gyration (Y-Y axis)
Izz - Second Moment Of Area (Z-Z axis)
izz - Radius Of Gyration (Z-Z axis)
Wyy - Section Modulus (Y-Y axis)
Wzz - Section Modulus (Z-Z axis)
J - Torsional Constant

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