GEI

GRATINGS EUROPE INDUSTRY

FRP PROFILES

FRP PROFILE STRUCTURE: LIGHTWEIGHT, STRENGTH AND DURABILITY

FRP profiles are perfectly suited for the construction of **walkways, technical flooring, access platforms or pathways in corrosive environments.**

Thanks to the **lightweight nature of the material,** it is easy to transport, handle and install, even in locations that are difficult to access.

Glass fiber reinforced polyester also offers excellent **mechanical strength,** as well as **high durability against weather conditions, corrosion, moisture** and **aggressive environments.**

It is an ideal solution for **industrial** or **outdoor applications** requiring a material that is **robust, reliable and maintenance-free.**

Compatible with **wet or chemical environments,** this type of structure is suitable both for installations in **natural environments and in industrial or technical sites.**

Manufacturing Principle

Polyester profiles are manufactured from glass fiber reinforced resin. They are composed of 65% glass fiber, providing very high strength in the load-bearing direction, and 35% resin, ensuring chemical resistance and UV protection.

ADVANTAGES OF POLYESTER

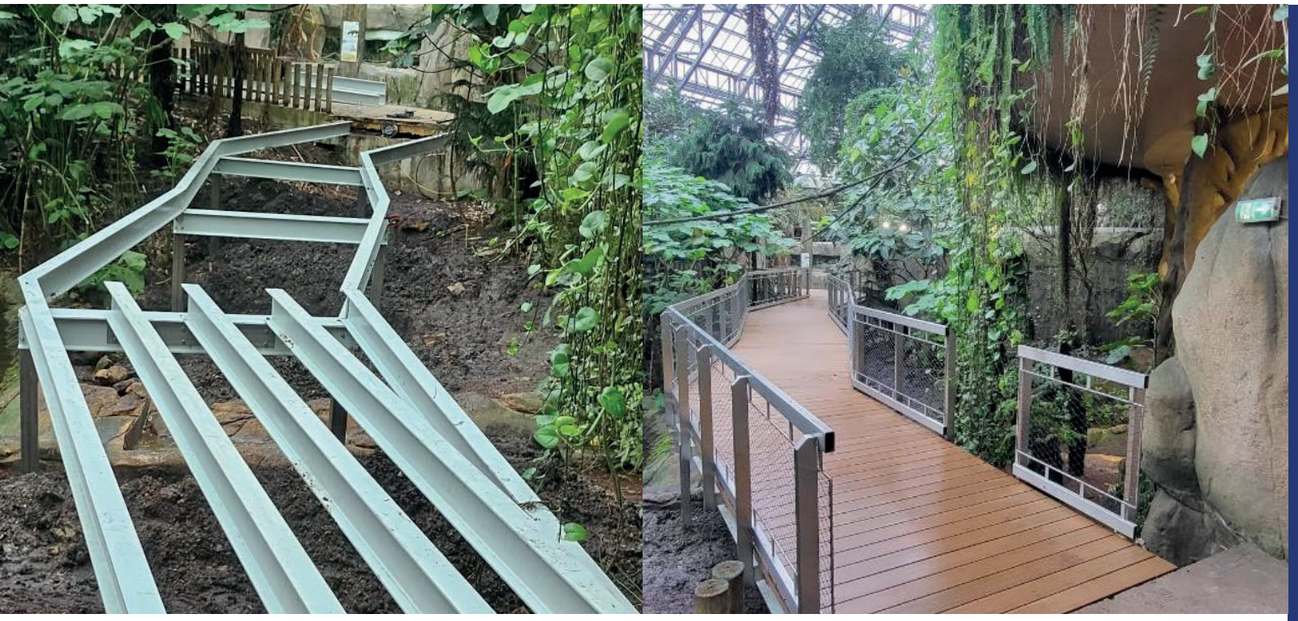
• Lightweight: Significantly lighter than steel, making handling, transport and installation easier without heavy equipment.

• Mechanical strength: Load-bearing capacity suitable for pedestrian loads, with good bending and compression resistance.

• Corrosion resistance: Not affected by rust and resistant to contact with chemicals.

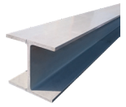
• Electrical and thermal insulation: Non-conductive, ideal for hazardous environments or sensitive areas.

• Low maintenance: No painting or anti-corrosion treatment required. The structure can be completed with an anti-slip polyester grating floor, compliant with safety requirements (R13 – DIN 51130).

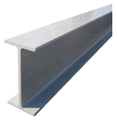


I-profiles used for the structure of a pedestrian footbridge in a greenhouse. Photos taken before and after installation of the flooring.

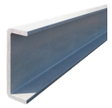
STOCK PROGRAMME



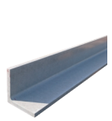
	Dimensions in mm*	Length in mm	Weight per linear meter
H shapes	100 x 100 x 6	6000	4,61 kg
	200 x 200 x 12	6000	14,36 kg



	Dimensions in mm*	Length in mm	Weight per linear meter
I shapes	100 x 50 x 8	6000	2,94 kg
	150 x 75 x 9,5	6000	5,33 kg
	150 x 100 x 8	3000	5,23 kg
	200 x 100 x 9,5	6000	7,39 kg

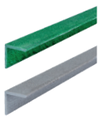


	Dimensions in mm*	Length in mm	Weight per linear meter
U shapes	100 x 50 x 6,5	6000	2,5 kg
	150 x 50 x 6,5	6000	2,92 kg
	200 x 60 x 10	6000	6 kg

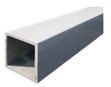


	Dimensions in mm*	Length in mm	Weight per linear meter
Standard angles	30 x 30 x 5	3000	0,41 kg
	50 x 50 x 6	3000	1,08 kg
	75 x 75 x 9	6000	4 kg
	100 x 100 x 9,5	6000	5 kg

	Dimensions in mm*	Length in mm	Weight per linear meter
Bevelled angles	25 x 50 x 5	3000	0,56 kg



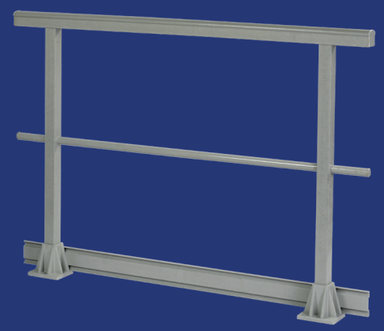
	Dimensions in mm*	Length in mm	Weight per linear meter
Gritted angles	30 x 30 x 3	3000	0,41 kg



	Dimensions in mm*	Length in mm	Weight per linear meter
Square tubes	50 x 50 x 5	6000	1,74 kg
	100 x 100 x 6,5	6000	4,61 kg

Please enquire for exact dimensions.

FRP RAILINGS



GEI offers resin handrails designed to ensure user safety while providing high chemical and thermal resistance.

Our polyester railings comply with building and industrial installation standards.

LOAD TABLES FOR PROFILES

I PROFILES

100 x 50 x 8

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	200	0,62	3,33
1000	400	1,24	3,33
1000	600	1,87	3,33
1000	800	2,49	3,33
1000	1000	3,11	3,33
2000	100	2,49	6,67
2000	200	4,98	6,67
2000	265	6,60	6,67
3000	50	4,20	10,00
3000	100	8,40	10,00
3000	120	10,08	10,00
4000	30	5,97	13,33
4000	60	11,95	13,33
5000	20	7,78	16,67
5000	30	11,67	16,67
5000	40	15,56	16,67
6000	10	6,72	20,00
6000	20	13,44	20,00
6000	29	19,49	20,00

150 x 75 x 9,5

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	1000	0,74	3,33
1000	2000	1,48	3,33
1000	3000	2,21	3,33
1000	4000	2,95	3,33
1000	4500	3,32	3,33
2000	500	2,95	6,67
2000	1000	5,90	6,67
2000	1100	6,49	6,67
3000	200	3,98	10,00
3000	400	7,97	10,00
3000	500	9,96	10,00
4000	100	4,72	13,33
4000	200	9,45	13,33
4000	280	13,22	13,33
5000	100	9,22	16,67
5000	150	13,84	16,67
5000	180	16,60	16,67
6000	50	7,97	20,00
6000	100	15,94	20,00
6000	125	19,92	20,00

150 x 100 x 8

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	1000	0,23	3,33
1000	3000	0,70	3,33
1000	6000	1,40	3,33
1000	8000	1,87	3,33
1000	10000	2,34	3,33
2000	1000	1,87	6,67
2000	2000	3,74	6,67
2000	3500	6,55	6,67
3000	500	3,16	10,00
3000	1000	6,32	10,00
3000	1500	9,48	10,00
4000	250	3,74	13,33
4000	500	7,49	13,33
4000	800	11,98	13,33
5000	200	5,85	16,67
5000	500	14,62	16,67
5000	550	16,09	16,67
6000	100	5,05	20,00
6000	200	10,11	20,00
6000	380	19,21	20,00

200 x 100 x 9,5

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	2000	0,57	3,33
1000	4000	1,14	3,33
1000	6000	1,71	3,33
1000	8000	2,27	3,33
1000	10000	2,84	3,33
1000	11500	3,27	3,33
2000	1000	2,27	6,67
2000	2000	4,55	6,67
2000	2800	6,37	6,67
3000	1000	7,67	10,00
3000	1300	9,97	10,00
4000	250	4,55	13,33
4000	500	9,09	13,33
4000	700	12,73	13,33
5000	250	8,88	16,67
5000	350	12,43	16,67
5000	450	15,99	16,67
6000	100	6,14	20,00
6000	200	12,28	20,00
6000	300	18,42	20,00

U PROFILES

100 x 50 x 6,5

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	200	0,73	3,33
1000	400	1,46	3,33
1000	600	2,20	3,33
1000	800	2,93	3,33
1000	900	3,29	3,33
2000	100	2,93	6,67
2000	200	5,85	6,67
2000	220	6,44	6,67
3000	50	4,94	10,00
3000	80	7,90	10,00
3000	100	9,88	10,00
4000	20	4,68	13,33
4000	40	9,37	13,33
4000	50	11,71	13,33
5000	10	4,57	16,67
5000	20	9,15	16,67
5000	30	13,72	16,67
6000	10	7,90	20,00
6000	20	15,80	20,00
6000	25	19,76	20,00

150 x 50 x 6,5

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	500	0,69	3,33
1000	1000	1,37	3,33
1000	1500	2,06	3,33
1000	2000	2,75	3,33
1000	2400	3,30	3,33
2000	200	2,20	6,67
2000	400	4,39	6,67
2000	600	6,59	6,67
3000	100	3,71	10,00
3000	200	7,41	10,00
3000	270	10,01	10,00
4000	50	4,39	13,33
4000	100	8,79	13,33
4000	150	13,18	13,33
5000	20	3,43	16,67
5000	50	8,58	16,67
5000	90	15,45	16,67
6000	20	5,93	20,00
6000	50	14,83	20,00
6000	60	17,80	20,00

H PROFILES

100 x 100 x 6

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	100	0,22	3,33
1000	500	1,09	3,33
1000	1000	2,17	3,33
1000	1200	2,61	3,33
1000	1500	3,26	3,33
2000	100	1,74	6,67
2000	200	3,48	6,67
2000	380	6,61	6,67
3000	50	2,93	10,00
3000	100	5,87	10,00
3000	150	8,80	10,00
4000	50	6,96	13,33
4000	80	11,13	13,33
4000	95	13,22	13,33
5000	20	5,43	16,67
5000	40	10,87	16,67
5000	60	16,30	16,67
6000	20	9,39	20,00
6000	30	14,09	20,00
6000	40	18,78	20,00

200 x 200 x 12

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	2000	0,27	3,33
1000	6000	0,82	3,33
1000	14000	1,90	3,33
1000	18000	2,45	3,33
1000	24000	3,26	3,33
2000	2000	2,17	6,67
2000	4000	4,35	6,67
2000	6000	6,52	6,67
3000	1000	3,67	10,00
3000	2000	7,34	10,00
3000	2700	9,90	10,00
4000	500	4,35	13,33
4000	1000	8,69	13,33
4000	1500	13,04	13,33
5000	500	8,49	16,67
5000	800	13,59	16,67
5000	980	16,64	16,67
6000	400	11,74	20,00
6000	600	17,61	20,00
6000	680	19,95	20,00

200 x 60 x 10

Span in mm	Loads in kg over the span	Deflection in mm	Maximum deflection in mm at L/300
1000	1000	0,41	3,33
1000	2000	0,83	3,33
1000	4000	1,66	3,33
1000	6000	2,49	3,33
1000	8000	3,32	3,33
2000	500	1,66	6,67
2000	1000	3,32	6,67
2000	2000	6,63	6,67
3000	500	5,60	10,00
3000	700	7,84	10,00
3000	900	10,08	10,00
4000	200	5,31	13,33
4000	400	10,62	13,33
4000	500	13,27	13,33
5000	100	5,18	16,67
5000	200	10,37	16,67
5000	320	16,59	16,67
6000	100	8,96	20,00
6000	200	17,91	20,00
6000	220	19,71	20,00

Tables for information purposes only.

CHEMICAL RESISTANCE GUIDE

Chemical environment	Formula	Concentration (in %)	Temperature (in °C)	Isophthalic resin
Acetic Acid	CH3COOH	50	MAX	●●●
Acetone	CH3COCH3	100	24	●
Alcohols	General	100	49	●
Alum	Al2(SO4)3	-	MAX	●●●
Aluminium Chloride	AlCl3	-	MAX	●●●
Aluminium Fluoride	Al(OH)3	20	24	●
Ammonium Hydroxide	NH4OH	30	24	⚠
Ammonium Saltz Neutral	General	-	49	●●●
Ammonium Saltz Agressive	General	-	24	●
Aromatic Solvents	General	-	24	⚠
Barium Salts	General	-	MAX	●●●
Benzene	C6H6	100	60	●
Black or White Liquor	HCN	-	MAX	●
Green Liquor	NaOCl	-	MAX	⚠
Calcium Hydroxide	Ca(OH)2	25	MAX	●●
Calcium Hypochlorite	Ca(ClO)2	-	MAX	●
Calcium Saltz	General	-	MAX	●●●
Carbon Tetrachloride	CCl4	100	24	●
Chlorinated Hydrocarbons	ClO2	SAT	60	⚠
Chlorine Dioxide	General	100	24	Suggested test
Chlorine Water	Cl2(H2O)(HOCl)	SAT	49	●
Chlorine	Cl2(H2O)	SAT	MAX	⚠
Chlorobenzene	C6H5Cl	-	< 38	⚠
Chlorobenzene	C6H5Cl	100	24	⚠
Chloroform	CHCl3	100	24	⚠
Chromic Acid	CrO3	50	60	●●
Citric Acid	-	-	MAX	●●●
Copper Cyanide Plating	Cu(CN)2	-	52	●●
Copper Saltz	General	-	MAX	●●●
Crude Oil	General	-	MAX	●●●
Dichlorobenzene	C6H4Cl2	100	24	⚠
Ethers	General	-	24	⚠
Ferric Chloride	FeCl3	100	MAX	●●●
Ferric Salts	General	-	MAX	●●●
Fluosilicic Acid	H2SiF6	10	24	●●
Formaldehyde	HCHO	37	65	●
Formic Acid	HCOOH	25	38	●●
Fuel	General	-	38	●●●
Glycerine	(CH2OH)2CHOH	100	MAX	●●●
Hydrobromic Acid	HBr	48	MAX	●●
Hydrochloric Acid	HCl	10	MAX	●●
Hydrochloric Acid	HCl	30	MAX	●●
Hydrochloric Acid (concentrated)	HCl	-	< 82	⚠
Hydrocyanic Acid	HCn	-	MAX	●
Hydrofluoric Acid	HF	20	24	⚠
Hydrogen Peroxide	H2O2	30	24	⚠
Lactic Acid	CH3CHOHCOOH	100	MAX	●●●

⚠ Not recommended
● Punctual exposures by splashing cleaned immediately
●● Frequent exposures by splashing
●●● Continuous exhibition

MAX = Maximum temperature supported by the grating (75 °C for isophthalic)
SAT = Saturated solution

CHEMICAL RESISTANCE GUIDE

Chemical environment	Formula	Concentration (in %)	Temperature (in °C)	Isophthalic resin
Lithium Salts	General	-	MAX	●●●
Magnesium Salts	General	-	MAX	●●●
Maleic Acid	(HC.COOH)2	100	MAX	●●
Mercury Chloride	HgCl2	100	MAX	●●●
Nickel Salts	-	-	MAX	●●●
Nitric Acid	HNO3	20	49	●●
Nitric Acid	HNO3	35	38	⚠
Nitric Acid	HNO3	40	ambient	⚠
Nitrous Acid	-	10	24	●●●
Ozone	-	-	38	●●●
Perchloroethylene	CCl2	100	24	⚠
Phenol	C6H5OH	10	24	⚠
Phenol	C6H5OH	88	ambient	⚠
Phosphoric Acid	H3PO4	85	MAX	●●●
Phosphoric Acid	H3PO4	115	MAX	●
Silver Nitrate	AgNO3	100	MAX	●●●
Sodium Cyanide	NaCN	-	24	●
Sodium Hydroxide	NaOH	10	MAX	⚠
Sodium Hydroxide	NaOH	50	MAX	●
Sodium Hypochlorite (Stable)	NaOCl	10	38	●●
Sodium Salts Neutral	General	-	MAX	●●●
Sodium Salts Agressive	SO2	-	24	●
Sulfur Dioxide	H2SO4	SAT	MAX	●●
Sulfuric Acid	H2SO4	25	MAX	●●
Sulfuric Acid	H2SO4	50	MAX	●●
Sulfuric Acid	H2SO4	75	38	●
Toluene	C6H5CH3	100	49	●
Trichloroethane	ClCH2CHCl2	-	24	●
Triosodium Phosphate	Na3PO4	50	MAX	●
Water (Fresh, Salt)	H2O	100	MAX	●●●
Wet Chloride	-	10 to 20	< 177	⚠
Zinc Chloride Plating	-	-	24	●●
Zinc Salts	-	100	MAX	●●●

⚠ Not recommended
● Punctual exposures by splashing cleaned immediately
●● Frequent exposures by splashing
●●● Continuous exhibition

MAX = Maximum temperature supported by the grating (75 °C for isophthalic)
SAT = Saturated solution

High-performance technical alternative to metal structures, particularly suitable for industrial, chemical or humid environments (wastewater treatment plants, tropical areas, technical buildings, etc.).

PRICE REQUEST

GEI

Send your request:
By fax: 00352 26 29 61 05
By e-mail: gei@geisa.lu

CONTACT INFORMATION

Company name: ..... Contact: .....

Address: ..... Business: .....

Postal code: ..... City: .....

Phone: ..... Fax: ..... E-mail: .....

Be contacted by a sales representative: ☐ YES ☐ NO

FRP PROFILES

Product	Dimensions in mm	Lenght in mm	Quantity RAL 7035 grey	RAL 7012 anthracite	RAL 1001 beige	RAL 1003 yellow	RAL 6010 green
H shapes	100 x 100 x 6	6000					
	200 x 200 x 12	6000					
I shapes	100 x 50 x 8	6000					
	150 x 75 x 9,5	6000					
	150 x 100 x 8	3000					
	200 x 100 x 9,5	6000					
U shapes	100 x 50 x 6,5	6000					
	150 x 50 x 6,5	6000					
	200 x 60 x 10	6000					
Standard angles	30 x 30 x 5	3000					
	50 x 50 x 6	3000					
	75 x 75 x 9	6000					
	100 x 100 x 9,5	6000					
Bevelled angles	25 x 50 x 5	3000					
Gritted angles	30 x 30 x 3	3000					
Square tubes	50 x 50 x 5	6000					
	100 x 100 x 6,5	6000					

ELEMENTS FOR RAILINGS

Product	Lenght in mm	Quantity
Hand rail	6000	
Plug for hand rail		
90° bend fitting for hand rail		
Articulated fitting for hand rail		
Under rail	6000	
Plug for under rail		
90° bend fitting for under rail		

Product	Lenght in mm	Quantity
Square post	6000	
Base panel	6000	
Fitting for base panel		
Floor base		
Wall mount		

☐ FIRM ☐ FOR QUOTATION

GEI

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