

Technical Manual

Dura Profile



Dura Profile is a collection of heavy duty, corrosion resistant fibreglass profiles suitable for a wide range of applications. The ability of Dura Profile to guard against deterioration from industrial chemicals and environmental factors make it a logical and cost-effective alternative to carbon, steel, aluminium, wood or other conventional materials.

We carry a large stock holding of profile, including standard Angle, Channel, Box and Tube sections. Profiles are available in ISO resin as standard, and can be produced in other resin systems as a special order, subject to minimum order quantities.

Dura Profile provides the engineer with a high degree of design freedom and offers exceptional material properties for a wide range of applications. If you require any further information or support, please visit www.duracomposites.com or call us on +44 (0) 1255 423601 where one of our team will be happy to help.

Unlocking the Power of Composites™
» for Heavy Duty Structures

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Product Range



About Dura Profile

Glass-reinforced polymer (GRP) is a composite material made of a thermosetting polymer resin reinforced by fine fibres of glass along with the use of additives and is commonly referred to by the name of fibreglass. Dura Composites Ltd carries one of the largest stock holdings of profile, including standard Angle, Channel, Beam, Box and Tube.

The Standard Profile Range we hold in stock are produced in 6m lengths, ISO Resin and are Dark Grey RAL 7043. (These can be cut to size, please speak to your local representative to discuss your requirements.)

Key Benefits:

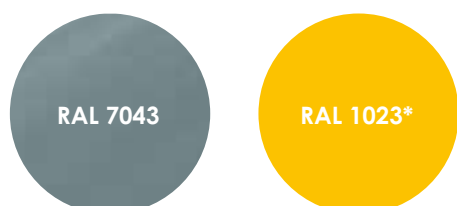
- E23 Grade Performance
- Corrosion Resistant
- Fire Resistance - BS476 Part 7 Class 2, Class 1 available on request
- High Load Bearing
- Non-Conductive
- Maintenance Free

Applications:

- Work / Public Platforms
- Sub Floor Platforms
- Bridge Decking & Structures
- Ladders / Staircases
- Cable Trays
- Protective Screens

Colours:

Dura Profile can be specified grey (RAL 7043) and in some products in high visibility safety yellow (RAL 1023), both colours will not require painting, staining or galvanising. As well as our standard colour (grey), our profile can be produced in other colours and resins. These are subject to minimum order quantities and extended lead times, so please call us to discuss your requirements at your earliest convenience.



*Selected items only

Dura Profile Components

The versatility of Dura Profile makes it a logical and cost-effective alternative to carbon, steel, aluminium, wood or other conventional materials. We carry a large stock holding of profile, including Angle, Channel, Box and Tube sections.

Dura Profile provides the engineer with a high degree of design freedom and offers exceptional material properties for a wide range of applications. Profiles can be cut to specific sizes by our fabrication team, please speak to your Dura Composites sales representative to discuss your requirements.



Angle



Channel



Top Rail



Box Channel



I Beam



Tube



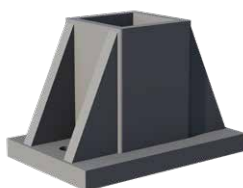
Kick Plate



WFB



Box



Box Base Foot



Web Stiffener



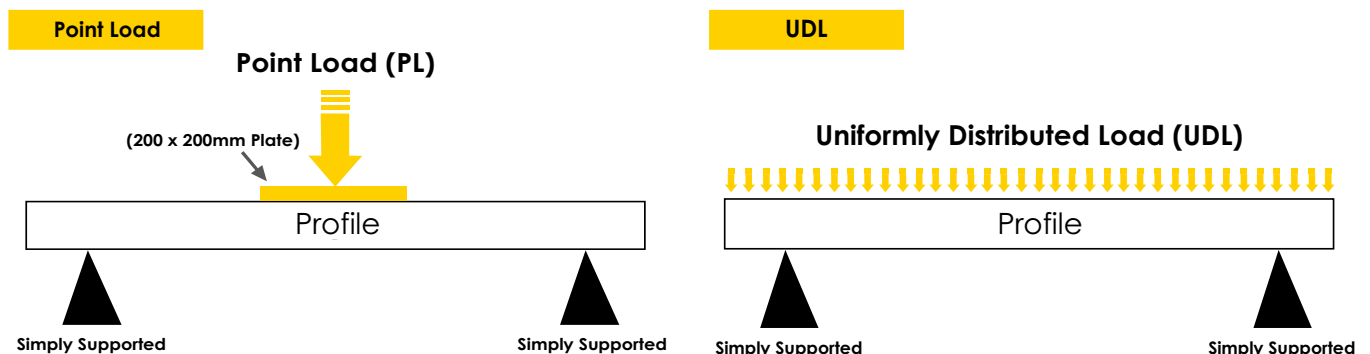
12mm Flat Sheet

Dura Profile Components – Usage Example:



Understanding Dura Profile Load & Deflection Data:

A Point Load is any static load considered to act over a small or concentrated area when compared to the extent of the surface to which the load is applied. A Uniformly Distributed Load or UDL is one where the load is considered evenly distributed across a defined area. Determining the correct load rating for your Dura Profile is dependent on the intended use. For more information please consult your Dura Composites representative.



Technical Specification

Dura Profile Angle 50 x 50 x 6.35mm



Length (mm)	6000
Height (mm)	50
Width (mm)	50
Thickness (mm)	6.35
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Angle	593	2050	1.22	49,900	49,900

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm
0.00 kN	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
0.25 kN	0.20	0.35	0.56	0.84	1.19	1.64	2.18	2.83
0.50 kN	0.41	0.71	1.12	1.67	2.38	3.27	4.35	5.65
0.75 kN	0.61	1.06	1.68	2.51	3.57	4.90	6.52	8.46
1.00 kN	0.82	1.41	2.24	3.34	4.76	6.53	8.69	11.28
1.25 kN	1.02	1.76	2.80	4.18	5.95	8.16	10.86	14.10
1.50 kN	1.22	2.11	3.36	5.01	7.14	9.79	13.03	16.92
L/100 Limit	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
L/200 Limit	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00

Uniformly Distributed Load

UDL	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm
0 N/m	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
250 N/m	0.06	0.13	0.25	0.42	0.67	1.02	1.50	2.12
500 N/m	0.13	0.26	0.49	0.84	1.34	2.04	2.99	4.24
750 N/m	0.19	0.40	0.74	1.25	2.01	3.06	4.48	6.35
1000 N/m	0.26	0.53	0.98	1.67	2.68	4.08	5.98	8.46
1250 N/m	0.32	0.66	1.22	2.09	3.35	5.10	7.47	10.58
1500 N/m	0.38	0.79	1.47	2.51	4.02	6.12	8.96	12.69
L/100 Limit	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
L/200 Limit	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00

Technical Specification

Dura Profile Angle 76 x 76 x 9.5mm



Length (mm)	6000
Height (mm)	76
Width (mm)	76
Thickness (mm)	9.5
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Angle	1353	2050	2.77	258,382	258,382

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm	2100mm	2200mm
0.00 kN	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.05
0.25 kN	1.06	1.28	1.54	1.83	2.15	2.51	2.91	3.35
0.50 kN	2.10	2.55	3.06	3.63	4.28	4.99	5.78	6.64
0.75 kN	3.15	3.82	4.58	5.44	6.40	7.46	8.64	9.94
1.00 kN	4.19	5.09	6.10	7.24	8.52	9.94	11.51	13.24
1.25 kN	5.24	6.35	7.62	9.05	10.65	12.42	14.38	16.53
1.50 kN	6.28	7.62	9.14	10.86	12.77	14.90	17.24	19.83
L/100 Limit	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00
L/200 Limit	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00

Uniformly Distributed Load

UDL	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm	2100mm	2200mm
0 N/m	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.05
250 N/m	0.99	1.28	1.63	2.05	2.55	3.13	3.80	4.58
500 N/m	1.97	2.55	3.25	4.09	5.07	6.23	7.57	9.12
750 N/m	2.95	3.82	4.87	6.12	7.59	9.32	11.33	13.65
1000 N/m	3.93	5.09	6.48	8.15	10.11	12.42	15.09	18.18
1250 N/m	4.91	6.35	8.10	10.18	12.64	15.51	18.86	22.71
1500 N/m	5.89	7.62	9.71	12.21	15.16	18.61	22.62	27.25
L/100 Limit	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00
L/200 Limit	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00

Technical Specification

Dura Profile Angle 102 x 102 x 12.7mm



Length (mm)	6000
Height (mm)	102
Width (mm)	102
Thickness (mm)	12.7
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Angle	2428	2050	4.98	832,120	832,120

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	2300mm	2400mm	2500mm	2600mm	2700mm	2800mm	2900mm	3000mm
0.50 kN	2.36	2.69	3.04	3.42	3.83	4.28	4.75	5.27
0.75 kN	3.53	4.01	4.53	5.10	5.72	6.38	7.09	7.85
1.00 kN	4.69	5.33	6.03	6.79	7.60	8.48	9.42	10.44
1.25 kN	5.86	6.66	7.53	8.47	9.49	10.58	11.76	13.02
1.50 kN	7.02	7.98	9.02	10.15	11.37	12.68	14.09	15.61
1.75 kN	8.19	9.30	10.52	11.83	13.25	14.79	16.43	18.19
2.00 kN	9.35	10.63	12.01	13.52	15.14	16.89	18.76	20.78
L/100 Limit	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00
L/200 Limit	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00

Uniformly Distributed Load

UDL	2000mm	2100mm	2200mm	2300mm	2400mm	2500mm	2600mm	2700mm
500 N/m	1.93	2.35	2.83	3.38	4.01	4.72	5.52	6.42
750 N/m	2.89	3.51	4.23	5.06	6.00	7.06	8.26	9.60
1000 N/m	3.85	4.68	5.63	6.73	7.98	9.40	10.99	12.78
1250 N/m	4.81	5.84	7.04	8.41	9.97	11.73	13.73	15.96
1500 N/m	5.76	7.01	8.44	10.08	11.95	14.07	16.46	19.14
1750 N/m	6.72	8.17	9.84	11.75	13.94	16.41	19.20	22.32
2000 N/m	7.68	9.33	11.24	13.43	15.92	18.75	21.93	25.50
L/100 Limit	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00
L/200 Limit	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50

Technical Specification

Dura Profile Angle 152 x 152 x 12.7mm



Length (mm)	6000
Height (mm)	152
Width (mm)	152
Thickness (mm)	12.7
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Angle	3698	2050	7.58	1,856,039	1,856,039

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	2300mm	2400mm	2500mm	2600mm	2700mm	2800mm	2900mm	3000mm
2.00 kN	2.69	3.05	3.45	3.88	4.35	4.85	5.39	5.97
2.50 kN	3.35	3.81	4.31	4.85	5.43	6.06	6.73	7.45
3.00 kN	4.02	4.57	5.17	5.81	6.51	7.26	8.07	8.93
3.50 kN	4.69	5.33	6.02	6.78	7.59	8.46	9.41	10.41
4.00 kN	5.36	6.09	6.88	7.74	8.67	9.67	10.74	11.90
4.50 kN	6.02	6.85	7.74	8.70	9.75	10.87	12.08	13.38
5.00 kN	6.69	7.60	8.60	9.67	10.83	12.08	13.42	14.86

Uniformly Distributed Load

UDL	2000mm	2100mm	2200mm	2300mm	2400mm	2500mm	2600mm	2700mm
3500 N/m	3.85	4.68	5.64	6.73	7.98	9.40	11.00	12.79
3750 N/m	4.12	5.01	6.04	7.21	8.55	10.07	11.78	13.70
4000 N/m	4.40	5.35	6.44	7.69	9.12	10.74	12.56	14.61
4250 N/m	4.67	5.68	6.84	8.17	9.69	11.41	13.35	15.52
4500 N/m	4.95	6.01	7.24	8.65	10.26	12.08	14.13	16.43
4750 N/m	5.22	6.35	7.65	9.13	10.83	12.75	14.91	17.34
5000 N/m	5.50	6.68	8.05	9.61	11.40	13.42	15.70	18.26
L/100 Limit	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00
L/200 Limit	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50

Technical Specification

Dura Profile Box 50 x 50 x 6.35mm



Length (mm)	6000
Height (mm)	50
Width (mm)	50
Thickness (mm)	6.4
Colour	Dark Grey & Yellow

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Box	1090	2050	2.23	348,404	348,404

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

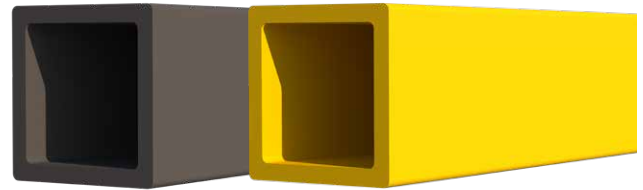
PL	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm
0.00 kN	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.50 kN	0.43	0.65	0.92	1.26	1.68	2.18	2.78	3.47
1.00 kN	0.87	1.29	1.84	2.52	3.36	4.36	5.55	6.93
1.50 kN	1.30	1.94	2.76	3.78	5.04	6.54	8.31	10.38
2.00 kN	1.73	2.58	3.68	5.04	6.71	8.71	11.08	13.84
2.50 kN	2.16	3.23	4.59	6.30	8.39	10.89	13.85	17.30
3.00 kN	2.59	3.87	5.51	7.56	10.07	13.07	16.62	20.75
L/100 Limit	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00
L/200 Limit	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00

Uniformly Distributed Load

UDL	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm	1600mm	1700mm
500 N/m UDL	0.79	1.16	1.64	2.26	3.04	4.00	5.18	6.61
600 N/m UDL	0.95	1.39	1.97	2.71	3.64	4.80	6.22	7.92
700 N/m UDL	1.11	1.62	2.29	3.16	4.25	5.60	7.25	9.24
800 N/m UDL	1.26	1.85	2.62	3.61	4.85	6.40	8.28	10.55
900 N/m UDL	1.42	2.08	2.95	4.06	5.46	7.19	9.31	11.87
1000 N/m UDL	1.58	2.31	3.27	4.51	6.06	7.99	10.34	13.18
1100 N/m UDL	1.74	2.54	3.60	4.96	6.67	8.79	11.37	14.50
L/100 Limit	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00
L/200 Limit	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50

Technical Specification

Dura Profile Box 64 x 64 x 6.4mm



Length (mm)	6000
Height (mm)	64
Width (mm)	64
Thickness (mm)	6.4
Colour	Dark Grey and Yellow

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Box	1456	2050	2.98	807,124	807,124

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
0.50 kN	1.21	1.51	1.86	2.26	2.71	3.22	3.79	4.42
0.75 kN	1.81	2.27	2.79	3.38	4.06	4.82	5.67	6.62
1.00 kN	2.42	3.02	3.71	4.51	5.41	6.42	7.55	8.81
1.25 kN	3.02	3.77	4.64	5.63	6.76	8.02	9.44	11.01
1.50 kN	3.62	4.52	5.57	6.76	8.10	9.62	11.32	13.20
1.75 kN	4.22	5.28	6.49	7.88	9.45	11.22	13.20	15.40
2.00 kN	4.83	6.03	7.42	9.00	10.80	12.82	15.08	17.59
L/100 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
L/200 Limit	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

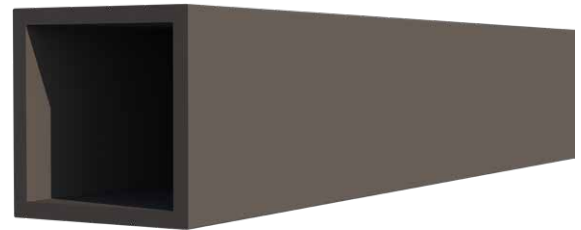
Uniformly Distributed Load

UDL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
900 N/m UDL	1.77	2.38	3.14	4.06	5.17	6.50	8.07	9.91
1000 N/m UDL	1.96	2.64	3.48	4.51	5.75	7.22	8.97	11.01
1100 N/m UDL	2.16	2.91	3.83	4.96	6.32	7.94	9.86	12.10
1200 N/m UDL	2.36	3.17	4.18	5.41	6.89	8.66	10.75	13.20
1300 N/m UDL	2.55	3.43	4.52	5.86	7.46	9.38	11.65	14.30
1400 N/m UDL	2.75	3.70	4.87	6.31	8.04	10.10	12.54	15.40
1500 N/m UDL	2.94	3.96	5.22	6.76	8.61	10.82	13.43	16.49
L/100 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
L/200 Limit	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

Technical Specification

Dura Profile Box 76 x 76 x 6.4mm

Length (mm)	6000
Height (mm)	76
Width (mm)	76
Thickness (mm)	6.4
Colour	Dark Grey



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Box	1751	2050	3.59	1,416,381	1,416,381

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
1.00 kN	1.38	1.73	2.13	2.58	3.10	3.68	4.33	5.05
1.50 kN	2.07	2.59	3.19	3.87	4.64	5.51	6.48	7.56
2.00 kN	2.76	3.45	4.25	5.15	6.18	7.34	8.63	10.07
2.50 kN	3.45	4.31	5.31	6.44	7.73	9.17	10.79	12.58
3.00 kN	4.14	5.18	6.37	7.73	9.27	11.00	12.94	15.10
3.50 kN	4.83	6.04	7.43	9.01	10.81	12.83	15.10	17.61
4.00 kN	5.52	6.90	8.49	10.30	12.35	14.67	17.25	20.12
L/100 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
L/200 Limit	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

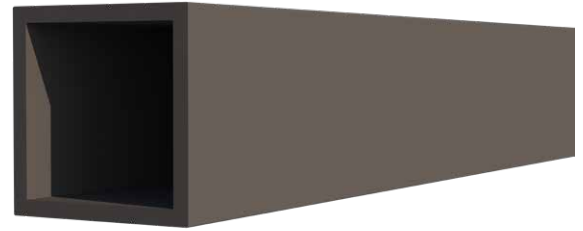
Uniformly Distributed Load

UDL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
1500 N/m UDL	1.69	2.27	2.99	3.87	4.93	6.20	7.69	9.44
1600 N/m UDL	1.80	2.42	3.19	4.13	5.26	6.61	8.20	10.07
1700 N/m UDL	1.91	2.57	3.39	4.38	5.59	7.02	8.71	10.70
1800 N/m UDL	2.02	2.72	3.58	4.64	5.91	7.43	9.23	11.33
1900 N/m UDL	2.13	2.87	3.78	4.90	6.24	7.84	9.74	11.96
2000 N/m UDL	2.25	3.02	3.98	5.15	6.57	8.26	10.25	12.58
2100 N/m UDL	2.36	3.17	4.18	5.41	6.90	8.67	10.76	13.21
L/100 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
L/200 Limit	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

Technical Specification

Dura Profile Box 101 x 101 x 8mm

Length (mm)	6000
Height (mm)	101
Width (mm)	101
Thickness (mm)	8.0
Colour	Dark Grey



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Box	2957	2050	6.06	4,275,367	4,275,367

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1600mm	1800mm	2000mm	2200mm	2400mm	2600mm	2800mm	3000mm
2.00 kN	1.72	2.45	3.37	4.48	5.82	7.40	9.25	11.38
2.50 kN	2.15	3.06	4.20	5.60	7.27	9.25	11.55	14.21
3.00 kN	2.58	3.68	5.04	6.71	8.72	11.09	13.85	17.04
3.50 kN	3.01	4.29	5.88	7.83	10.17	12.93	16.15	19.87
4.00 kN	3.44	4.90	6.72	8.95	11.62	14.77	18.45	22.70
4.50 kN	3.87	5.51	7.56	10.06	13.07	16.61	20.75	25.53
5.00 kN	4.30	6.12	8.40	11.18	14.51	18.46	23.05	28.36
L/100 Limit	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00
L/200 Limit	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00

Uniformly Distributed Load

UDL	1600mm	1800mm	2000mm	2200mm	2400mm	2600mm	2800mm	3000mm
1500 N/m UDL	1.29	2.07	3.16	4.62	6.55	9.02	12.13	15.98
2000 N/m UDL	1.72	2.76	4.20	6.16	8.72	12.01	16.15	21.29
2500 N/m UDL	2.15	3.45	5.25	7.69	10.89	15.00	20.18	26.59
3000 N/m UDL	2.58	4.13	6.30	9.22	13.07	18.00	24.20	31.90
3500 N/m UDL	3.01	4.82	7.35	10.76	15.24	20.99	28.23	37.20
4000 N/m UDL	3.44	5.51	8.40	12.29	17.41	23.98	32.26	42.51
4500 N/m UDL	3.87	6.20	9.44	13.83	19.58	26.97	36.28	47.81
L/100 Limit	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00
L/200 Limit	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00

Technical Specification

Dura Profile Channel 100 x 60 x 5.5mm

Length (mm)	6000
Height (mm)	100
Width (mm)	60
Thickness (mm)	5.5
Colour	Dark Grey



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Channel	1153	2050	2.36	1,803,769	405,194

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
1.00 kN	1.11	1.39	1.70	2.07	2.48	2.95	3.46	4.04
1.50 kN	1.66	2.08	2.55	3.10	3.72	4.41	5.19	6.06
2.00 kN	2.22	2.77	3.40	4.13	4.96	5.88	6.92	8.07
2.50 kN	2.77	3.46	4.25	5.16	6.19	7.35	8.65	10.09
3.00 kN	3.32	4.15	5.10	6.19	7.43	8.82	10.37	12.10
3.50 kN	3.88	4.84	5.95	7.23	8.67	10.29	12.10	14.12
4.00 kN	4.43	5.53	6.80	8.26	9.91	11.76	13.83	16.13
L/100 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
L/200 Limit	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

Uniformly Distributed Load

UDL	1800mm	1900mm	2000mm	2100mm	2200mm	2300mm	2400mm	2500mm
1000 N/m UDL	3.31	4.11	5.05	6.14	7.39	8.83	10.47	12.33
1100 N/m UDL	3.64	4.52	5.55	6.75	8.13	9.71	11.51	13.56
1200 N/m UDL	3.97	4.93	6.06	7.36	8.87	10.59	12.56	14.79
1300 N/m UDL	4.30	5.34	6.56	7.97	9.60	11.47	13.60	16.02
1400 N/m UDL	4.63	5.75	7.06	8.59	10.34	12.35	14.65	17.25
1500 N/m UDL	4.97	6.16	7.57	9.20	11.08	13.24	15.69	18.48
1600 N/m UDL	5.30	6.57	8.07	9.81	11.82	14.12	16.74	19.70
L/100 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00
L/200 Limit	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50

Technical Specification

Dura Profile Channel 203 x 55 x 9.5mm



Length (mm)	6000
Height (mm)	203
Width (mm)	55
Thickness (mm)	9.5
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Channel	2796	2050	5.73	14,746,788	611,595

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	2600mm	2800mm	3000mm	3200mm	3400mm	3600mm	3800mm	4000mm
3.00 kN	3.25	4.07	5.00	6.07	7.28	8.65	10.17	11.87
3.50 kN	3.80	4.74	5.83	7.08	8.49	10.08	11.86	13.84
4.00 kN	4.34	5.42	6.66	8.09	9.70	11.52	13.55	15.81
4.50 kN	4.88	6.09	7.49	9.10	10.91	12.96	15.24	17.78
5.00 kN	5.42	6.77	8.32	10.10	12.12	14.39	16.93	19.75
5.50 kN	5.96	7.44	9.15	11.11	13.33	15.83	18.62	21.71
6.00 kN	6.50	8.12	9.99	12.12	14.54	17.26	20.30	23.68
L/100 Limit	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00
L/200 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00

Uniformly Distributed Load

UDL	2600mm	2800mm	3000mm	3200mm	3400mm	3600mm	3800mm	4000mm
2000 N/m UDL	3.52	4.74	6.25	8.09	10.31	12.96	16.08	19.75
2250 N/m UDL	3.96	5.33	7.03	9.10	11.59	14.57	18.09	22.21
2500 N/m UDL	4.40	5.92	7.81	10.10	12.88	16.18	20.09	24.67
2750 N/m UDL	4.84	6.51	8.58	11.11	14.16	17.80	22.10	27.13
3000 N/m UDL	5.28	7.10	9.36	12.12	15.45	19.41	24.10	29.59
3250 N/m UDL	5.72	7.70	10.14	13.13	16.73	21.03	26.11	32.05
3500 N/m UDL	6.16	8.29	10.92	14.14	18.02	22.64	28.11	34.51
L/100 Limit	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00
L/200 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00

Technical Specification

Dura Profile Channel 254 x 72 x 12.7mm



Length (mm)	6000
Height (mm)	254
Width (mm)	72
Thickness (mm)	12.7
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Channel	4736	2050	9.71	39,327,465	1,809,576

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
4.00 kN	4.33	5.09	5.94	6.88	7.91	9.04	10.27	11.61
5.00 kN	5.40	6.35	7.41	8.58	9.87	11.28	12.82	14.50
6.00 kN	6.48	7.62	8.89	10.29	11.84	13.53	15.37	17.38
7.00 kN	7.55	8.88	10.36	12.00	13.80	15.77	17.92	20.26
8.00 kN	8.63	10.15	11.84	13.71	15.76	18.02	20.47	23.14
9.00 kN	9.70	11.41	13.32	15.42	17.73	20.26	23.02	26.02
10.00 kN	10.78	12.68	14.79	17.12	19.69	22.50	25.57	28.91
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Uniformly Distributed Load

UDL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
2000 N/m UDL	4.86	6.04	7.41	9.01	10.85	12.97	15.37	18.10
2500 N/m UDL	6.07	7.54	9.26	11.25	13.55	16.19	19.20	22.60
3000 N/m UDL	7.28	9.04	11.10	13.49	16.25	19.42	23.02	27.11
3500 N/m UDL	8.49	10.55	12.95	15.74	18.96	22.64	26.85	31.61
4000 N/m UDL	9.70	12.05	14.79	17.98	21.66	25.87	30.67	36.11
4500 N/m UDL	10.91	13.55	16.64	20.22	24.36	29.10	34.50	40.61
5000 N/m UDL	12.12	15.05	18.48	22.46	27.06	32.32	38.32	45.12
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Technical Specification

Dura Profile Box Channel 203 x 55 x 8mm



Length (mm)	6000
Height (mm)	55
Width (mm)	203
Thickness (mm)	8.0
Depth (mm)	60
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Box Channel	3207	2050	6.57	16,701,112	1,442,018

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	4300mm	4400mm	4500mm	4600mm	4700mm	4800mm	4900mm	5000mm
1.00 kN	5.73	6.14	6.57	7.02	7.49	7.98	8.50	9.03
1.50 kN	8.56	9.17	9.82	10.49	11.19	11.92	12.68	13.48
2.00 kN	11.39	12.2	13.06	13.95	14.88	15.85	16.87	17.92
2.50 kN	14.22	15.23	16.30	18.57	18.57	19.79	21.05	22.37
3.00 kN	17.05	19.27	19.54	22.27	22.27	23.72	25.24	26.82
3.50 kN	19.88	18.27	22.78	25.96	25.96	27.66	29.43	31.27
4.00 kN	22.7	21.30	26.03	29.66	29.66	31.59	33.61	35.71

Uniformly Distributed Load

UDL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
500 N/m UDL	3.77	4.68	5.75	6.99	8.42	10.05	11.92	14.03
750 N/m UDL	5.64	7.00	8.59	10.45	12.58	15.03	17.82	20.98
1000 N/m UDL	7.51	9.32	11.44	13.91	16.75	20.01	23.72	27.93
1250 N/m UDL	9.37	11.64	14.29	17.37	20.92	24.99	29.62	34.88
1500 N/m UDL	11.24	13.95	17.13	20.83	25.08	29.97	35.53	41.83
1750 N/m UDL	13.11	16.27	19.98	24.28	29.25	34.94	41.43	48.78
2000 N/m UDL	14.98	18.59	22.83	27.74	33.42	39.92	47.33	55.73

Technical Specification

Dura Profile Tube 38mm

Length (mm)	6000
Diameter (mm)	38
Wall Thickness (mm)	3.0
Colour	Dark Grey & Yellow



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Tube	330	2050	0.68	50,882	50,882

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm
0.00 kN	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02
0.20 kN	0.45	0.77	1.22	1.83	2.60	3.57	4.75	6.17
0.40 kN	0.89	1.54	2.44	3.65	5.20	7.13	9.49	12.32
0.60 kN	1.34	2.31	3.67	5.47	7.79	10.69	14.23	18.47
0.80 kN	1.78	3.08	4.89	7.29	10.39	14.25	18.97	24.62
1.00 kN	2.23	3.85	6.11	9.12	12.98	17.81	23.71	30.78
1.20 kN	2.67	4.62	7.33	10.94	15.58	21.37	28.44	36.93
L/100 Limit	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
L/200 Limit	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00

Uniformly Distributed Load

UDL	500mm	600mm	700mm	800mm	900mm	1000mm	1100mm	1200mm
500 N/m UDL	0.35	0.72	1.34	2.28	3.65	5.57	8.16	11.55
600 N/m UDL	0.42	0.87	1.60	2.74	4.38	6.68	9.78	13.86
700 N/m UDL	0.49	1.01	1.87	3.19	5.11	7.80	11.41	16.17
800 N/m UDL	0.56	1.15	2.14	3.65	5.84	8.91	13.04	18.47
900 N/m UDL	0.63	1.30	2.41	4.10	6.57	10.02	14.67	20.78
1000 N/m UDL	0.70	1.44	2.67	4.56	7.30	11.13	16.30	23.09
1100 N/m UDL	0.77	1.59	2.94	5.02	8.03	12.25	17.93	25.39
L/100 Limit	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
L/200 Limit	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00

Technical Specification

Dura Profile Tube 50mm

Length (mm)	6000
Diameter (mm)	50
Wall Thickness (mm)	6.0
Colour	Dark Grey & Yellow



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Tube	830	2050	1.70	204,442	204,442

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

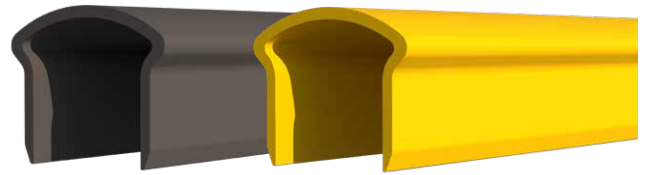
PL	700mm	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm
0.00 kN	0	0	0	0.01	0.01	0.01	0.02	0.02
0.25 kN	0.57	0.81	1.11	1.48	1.92	2.45	3.06	3.76
0.50 kN	1.14	1.62	2.22	2.96	3.84	4.88	6.10	7.50
0.75 kN	1.70	2.43	3.33	4.43	5.75	7.31	9.14	11.24
1.00 kN	2.27	3.23	4.44	5.90	7.67	9.75	12.18	14.98
1.25 kN	2.84	4.04	5.54	7.38	9.58	12.18	15.21	18.72
1.50 kN	3.40	4.85	6.65	8.85	11.49	14.61	18.25	22.45

Uniformly Distributed Load

UDL	800mm	900mm	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm
500 N/m UDL	0.57	0.91	1.39	2.03	2.88	3.97	5.34	7.03
750 N/m UDL	0.85	1.37	2.08	3.05	4.32	5.95	8.00	10.54
1000 N/m UDL	1.14	1.82	2.77	4.06	5.75	7.92	10.66	14.04
1250 N/m UDL	1.42	2.27	3.47	5.07	7.19	9.90	13.32	17.55
1500 N/m UDL	1.7	2.73	4.16	6.09	8.62	11.88	15.97	21.05
1750 N/m UDL	1.99	3.18	4.85	7.10	10.06	13.85	18.63	24.56
2000 N/m UDL	2.27	3.64	5.54	8.12	11.49	15.83	21.29	28.06

Technical Specification

Dura Profile Top Rail 71 x 60 x 4.5mm



Length (mm)	6000
Height (mm)	60
Width (mm)	4.3
Wall Thickness (mm)	4.5
Colour	Dark Grey & Yellow

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Top Rail	2004	2050	1.42	3,448,522	1,679,100

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	1300mm	1400mm	1500mm	1600mm	1700mm	1800mm	1900mm	2000mm
0.00 kN	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.04
0.25 kN	1.14	0.43	1.76	2.14	2.56	3.04	3.58	4.18
0.50 kN	2.28	2.85	3.51	4.26	5.11	6.06	7.13	8.34
0.75 kN	3.42	4.27	5.25	6.38	7.65	9.08	10.68	12.46
1.00 kN	4.56	5.69	7.00	8.50	10.19	12.1	14.23	16.60
1.25 kN	5.69	7.11	8.75	10.62	12.74	15.12	17.79	20.75
1.50 kN	6.83	8.53	10.50	12.74	15.28	18.14	21.34	24.89

Uniformly Distributed Load

UDL	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm	1600mm	1700mm
500 N/m UDL	0.65	0.95	1.35	1.85	2.49	3.29	4.26	5.42
750 N/m UDL	0.97	1.42	2.02	2.78	3.74	4.93	6.38	8.13
1000 N/m UDL	1.30	1.90	2.69	3.70	4.98	6.56	8.50	10.83
1250 N/m UDL	1.62	2.37	3.36	4.63	6.22	8.20	10.62	13.53
1500 N/m UDL	1.94	2.85	4.03	5.55	7.47	9.84	12.74	16.24

Technical Specification

Dura Profile Ladder Rung 34 x 19mm



Length (mm)	6000
Diameter (mm)	34
Wall Thickness (mm)	10 +5
Colour	Yellow

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Ladder Rung	501	2050	1.026	43,760	43,760

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	250mm	300mm	350mm	400mm	450mm	500mm	550mm	600mm
0.50 kN	0.12	0.21	0.33	0.49	0.70	0.96	1.27	1.65
0.75 kN	0.18	0.31	0.49	0.73	1.05	1.44	1.91	2.48
1.00 kN	0.24	0.41	0.66	0.98	1.39	1.91	2.55	3.31
1.25 kN	0.30	0.52	0.85	1.22	1.74	2.39	3.18	4.13
1.50 kN	0.36	0.62	0.98	1.47	2.09	2.87	3.82	4.96
1.75 kN	0.42	0.72	1.15	1.71	2.44	3.35	4.46	5.79
2.00 kN	0.48	0.83	1.31	1.96	2.79	3.83	5.09	6.61

Uniformly Distributed Load

UDL	250mm	300mm	350mm	400mm	450mm	500mm	550mm	600mm
2000 N/m UDL	0.07	0.16	0.29	0.49	0.78	1.20	1.75	2.48
2250 N/m UDL	0.08	0.17	0.32	0.55	0.88	1.35	1.97	2.79
2500 N/m UDL	0.09	0.19	0.36	0.61	0.98	1.49	2.19	3.10
2750 N/m UDL	0.10	0.21	0.39	0.67	1.08	1.64	2.41	3.41
3000 N/m UDL	0.11	0.23	0.43	0.73	1.18	1.79	2.63	3.72
3250 N/m UDL	0.12	0.25	0.47	0.80	1.27	1.94	2.85	4.03
3500 N/m UDL	0.13	0.27	0.50	0.86	1.37	2.09	3.06	4.34

Technical Specification

Dura Profile WFB 152 x 152 x 9.5mm



Length (mm)	6000
Height (mm)	152
Width (mm)	152
Thickness (mm)	9.5
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Wide Flange Beam	4161	2050	8.53	16,584,776	5,548,195

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

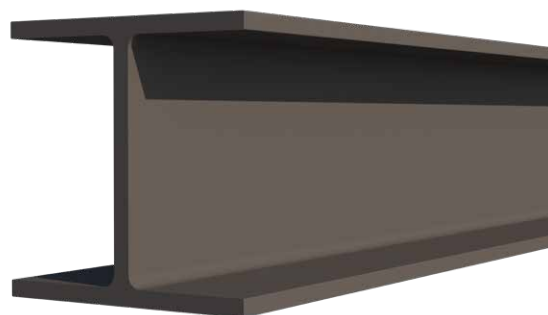
PL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
2.00 kN	5.16	6.07	7.08	8.20	9.44	10.79	12.26	13.87
2.50 kN	6.43	7.57	8.83	10.23	11.77	13.45	15.29	17.29
3.00 kN	7.71	9.07	10.59	12.26	14.10	16.12	18.32	20.71
3.50 kN	8.99	10.57	12.34	14.29	16.43	18.78	21.35	24.13
4.00 kN	10.27	12.08	14.09	16.31	18.76	21.45	24.37	27.56
4.50 kN	11.54	13.58	15.84	18.34	21.09	24.11	27.40	30.98
5.00 kN	12.82	15.08	17.59	20.37	23.43	26.77	30.43	34.40
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Uniformly Distributed Load

UDL	2600mm	2800mm	3000mm	3200mm	3400mm	3600mm	3800mm	4000mm
1500 N/m UDL	2.36	3.17	4.18	5.41	6.90	8.67	10.76	13.21
2000 N/m UDL	3.14	4.22	5.57	7.21	9.18	11.54	14.33	17.59
2500 N/m UDL	3.92	5.28	6.95	9.00	11.47	14.42	17.90	21.97
3000 N/m UDL	4.70	6.33	8.34	10.79	13.76	17.29	21.46	26.35
3500 N/m UDL	5.49	7.38	9.72	12.59	16.04	20.16	25.03	30.73
4000 N/m UDL	6.27	8.43	11.11	14.38	18.33	23.04	28.60	35.11
4500 N/m UDL	7.05	9.48	12.50	16.18	20.62	25.91	32.17	39.49
L/100 Limit	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00
L/200 Limit	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00

Technical Specification

Dura Profile WFB 203 x 203 x 12.7mm



Length (mm)	6000
Height (mm)	203
Width (mm)	203
Thickness (mm)	12.7
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Wide Flange Beam	7421	2050	15.21	52,750,695	17,698,331

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
1.00 kN	0.83	0.98	1.14	1.32	1.53	1.75	1.99	2.25
2.00 kN	1.63	1.92	2.24	2.60	2.99	3.42	3.89	4.40
3.00 kN	2.43	2.86	3.34	3.87	4.46	5.09	5.79	6.55
4.00 kN	3.24	3.81	4.44	5.15	5.92	6.77	7.69	8.70
5.00 kN	4.04	4.75	5.54	6.42	7.38	8.44	9.59	10.85
6.00 kN	4.84	5.70	6.64	7.69	8.85	10.11	11.50	13.00
7.00 kN	5.64	6.64	7.74	8.97	10.31	11.79	13.40	15.15
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Uniformly Distributed Load

UDL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
2000 N/m UDL	3.64	4.52	5.54	6.74	8.12	9.70	11.50	13.54
2500 N/m UDL	4.54	5.64	6.92	8.41	10.13	12.10	14.35	16.89
3000 N/m UDL	5.44	6.76	8.30	10.08	12.14	14.51	17.20	20.25
3500 N/m UDL	6.34	7.88	9.67	11.75	14.16	16.91	20.05	23.61
4000 N/m UDL	7.25	9.00	11.05	13.43	16.17	19.32	22.91	26.97
4500 N/m UDL	8.15	10.12	12.42	15.10	18.19	21.73	25.76	30.33
5000 N/m UDL	9.05	11.24	13.80	16.77	20.20	24.13	28.61	33.68
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Technical Specification

Dura Profile WFB 305 x 305 x 12.7mm



Length (mm)	6000
Height (mm)	305
Width (mm)	305
Thickness (mm)	12.7
Colour	Dark Grey

Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Wide Flange Beam	11308	2050	23.18	188,894,145	60,014,404

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Point Load

PL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
4.00 kN	0.91	1.07	1.25	1.44	1.66	1.90	2.16	2.44
5.00 kN	1.13	1.33	1.55	1.80	2.07	2.37	2.69	3.04
6.00 kN	1.36	1.59	1.86	2.16	2.48	2.83	3.22	3.64
7.00 kN	1.58	1.86	2.17	2.51	2.89	3.30	3.75	4.24
8.00 kN	1.80	2.12	2.48	2.87	3.30	3.77	4.28	4.84
9.00 kN	2.03	2.38	2.78	3.22	3.71	4.24	4.81	5.44
10.00 kN	2.25	2.65	3.09	3.58	4.11	4.70	5.35	6.04
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

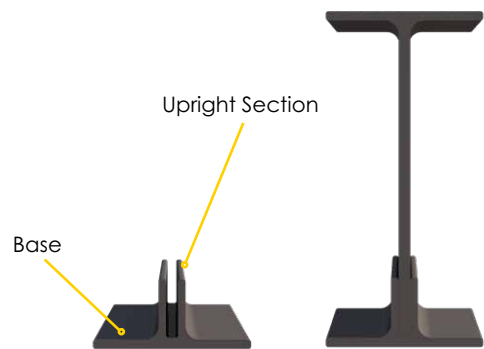
Uniformly Distributed Load

UDL	3600mm	3800mm	4000mm	4200mm	4400mm	4600mm	4800mm	5000mm
7000 N/m UDL	3.54	4.39	5.39	6.56	7.90	9.43	11.18	13.17
7500 N/m UDL	3.79	4.71	5.78	7.02	8.46	10.11	11.98	14.11
8000 N/m UDL	4.04	5.02	6.16	7.49	9.02	10.78	12.78	15.04
8500 N/m UDL	4.29	5.33	6.55	7.96	9.58	11.45	13.57	15.98
9000 N/m UDL	4.55	5.64	6.93	8.42	10.15	12.12	14.37	16.92
9500 N/m UDL	4.80	5.96	7.31	8.89	10.71	12.79	15.17	17.86
10000 N/m UDL	5.05	6.27	7.70	9.36	11.27	13.46	15.96	18.79
L/100 Limit	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00
L/200 Limit	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Technical Specification

Dura Profile Web Stiffener Female Section

Length (mm)	6010
Height (mm)	363
Width (mm)	170
Thickness (mm)	Base: 10, Upright: 8
Colour	Dark Grey



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Web Stiffener	2744	2050	5.63	4,201,957	1,281,906

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

The below data tables are for the combined Male and Female Web Stiffener sections.

Point Load

PL	1500mm	2000mm	2500mm	3000mm	3500mm	4000mm	4500mm	5000mm
24.00 kN	0.37	0.87	1.70	2.94	4.67	6.98	9.94	13.64
25.00 kN	0.38	0.91	1.77	3.06	4.87	7.27	10.35	14.20
26.00 kN	0.40	0.94	1.84	3.19	5.06	7.56	10.77	14.77
27.00 kN	0.41	0.98	1.91	3.31	5.26	7.85	11.18	15.34
28.00 kN	0.43	1.02	1.99	3.43	5.45	8.14	11.59	15.90
29.00 kN	0.44	1.05	2.06	3.55	5.65	8.43	12.00	16.47
30.00 kN	0.46	1.09	2.13	3.68	5.84	8.72	12.42	17.04
L/100 Limit	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
L/200 Limit	7.50	10.00	12.50	15.00	17.50	20.00	22.50	25.00

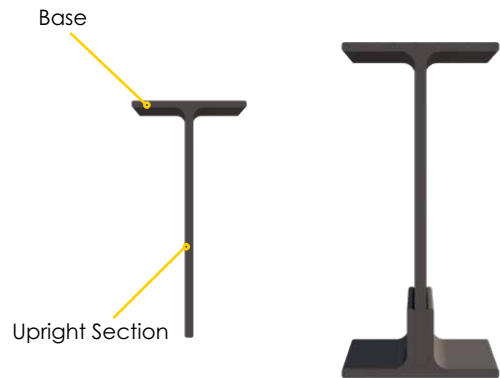
Uniformly Distributed Load

UDL	1500mm	2000mm	2500mm	3000mm	3500mm	4000mm	4500mm	5000mm
14000 N/m UDL	0.20	0.64	1.55	3.22	5.96	10.17	16.29	24.83
15000 N/m UDL	0.22	0.68	1.66	3.45	6.39	10.90	17.45	26.60
16000 N/m UDL	0.23	0.73	1.77	3.68	6.81	11.62	18.61	28.37
17000 N/m UDL	0.24	0.77	1.88	3.91	7.24	12.35	19.78	30.14
18000 N/m UDL	0.26	0.82	1.99	4.14	7.66	13.07	20.94	31.91
19000 N/m UDL	0.27	0.86	2.11	4.37	8.09	13.80	22.10	33.68
20000 N/m UDL	0.29	0.91	2.22	4.59	8.51	14.52	23.26	35.45
L/100 Limit	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
L/200 Limit	7.50	10.00	12.50	15.00	17.50	20.00	22.50	25.00

Technical Specification

Dura Profile Web Stiffener Male Section

Length (mm)	6010
Height (mm)	363
Width (mm)	170
Thickness (mm)	Base: 10, Upright: 8
Colour	Dark Grey



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Web Stiffener	6447	2050	13,216	84,610,615	5,243,653

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

The below data tables are for the combined Male and Female Web Stiffener sections.

Point Load

PL	1500mm	2000mm	2500mm	3000mm	3500mm	4000mm	4500mm	5000mm
24.00 kN	0.37	0.87	1.70	2.94	4.67	6.98	9.94	13.64
25.00 kN	0.38	0.91	1.77	3.06	4.87	7.27	10.35	14.20
26.00 kN	0.40	0.94	1.84	3.19	5.06	7.56	10.77	14.77
27.00 kN	0.41	0.98	1.91	3.31	5.26	7.85	11.18	15.34
28.00 kN	0.43	1.02	1.99	3.43	5.45	8.14	11.59	15.90
29.00 kN	0.44	1.05	2.06	3.55	5.65	8.43	12.00	16.47
30.00 kN	0.46	1.09	2.13	3.68	5.84	8.72	12.42	17.04
L/100 Limit	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
L/200 Limit	7.50	10.00	12.50	15.00	17.50	20.00	22.50	25.00

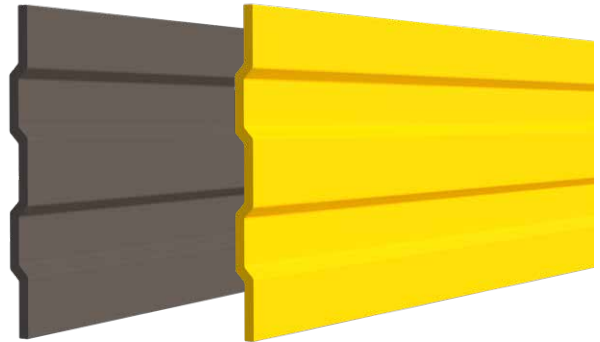
Uniformly Distributed Load

UDL	1500mm	2000mm	2500mm	3000mm	3500mm	4000mm	4500mm	5000mm
14000 N/m UDL	0.20	0.64	1.55	3.22	5.96	10.17	16.29	24.83
15000 N/m UDL	0.22	0.68	1.66	3.45	6.39	10.90	17.45	26.60
16000 N/m UDL	0.23	0.73	1.77	3.68	6.81	11.62	18.61	28.37
17000 N/m UDL	0.24	0.77	1.88	3.91	7.24	12.35	19.78	30.14
18000 N/m UDL	0.26	0.82	1.99	4.14	7.66	13.07	20.94	31.91
19000 N/m UDL	0.27	0.86	2.11	4.37	8.09	13.80	22.10	33.68
20000 N/m UDL	0.29	0.91	2.22	4.59	8.51	14.52	23.26	35.45
L/100 Limit	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
L/200 Limit	7.50	10.00	12.50	15.00	17.50	20.00	22.50	25.00

Technical Specification

Dura Profile Kickplate

Length (mm)	3010
Height (mm)	13
Width (mm)	150
Thickness (mm)	4
Colour	Dark Grey & Yellow



Item	Area mm ²	Density kg/m ³	Mass kg/m	MOI X mm ⁴	MOI Y mm ⁴
Kickplate	794	2050	1.63	1,454,090	5,940

E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
Tension Modulus (Transverse)	GPa	EN ISO 527-4	7
Tension Strength (Axial)	MPa	EN ISO 527-4	240
Tension Strength (Transverse)	MPa	EN ISO 527-4	50
Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
Pin-bearing Strength (Transverse)	MPa	Annex E, EN 13706-2:2002	70
Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Technical Specification

Dura Profile 12mm Flat Sheet

Length (mm)	3000
Width (mm)	1220
Thickness (mm)	12
Colour	Dark Grey

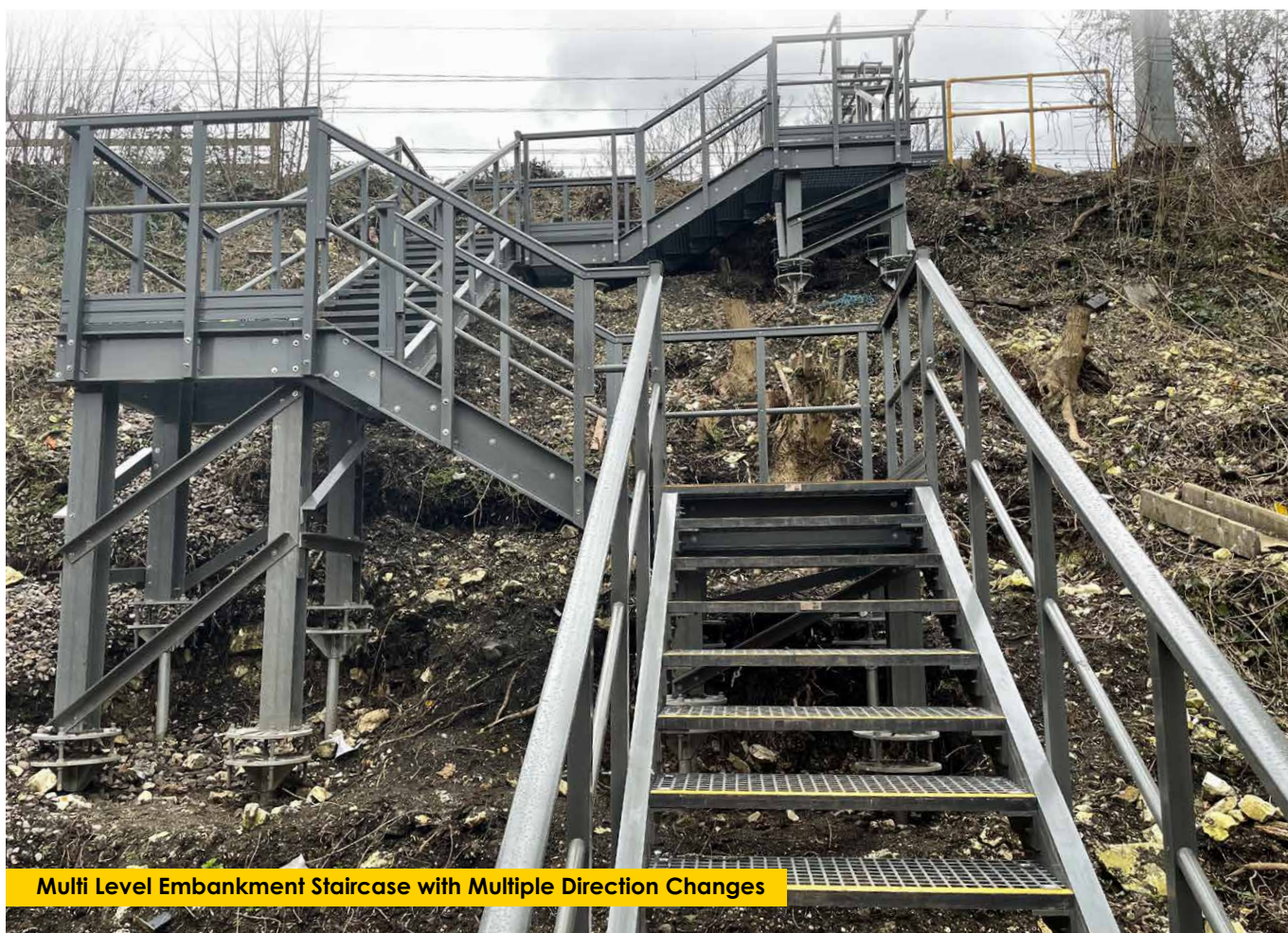


E23 Grade Property	Unit	Test Method	Value
Full Section Test	GPa	Annex D, EN 13706-2:2002	23
Tension Modulus (Axial)	GPa	EN ISO 527-4	23
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Pin-bearing Strength (Axial)	MPa	Annex E, EN 13706-2:2002	150
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Flexural Strength (Axial)	MPa	EN ISO 14125	240
Flexural Strength (Transverse)	MPa	EN ISO 14125	100
Interlaminar Shear Strength (Axial)	MPa	EN ISO 1430	25

Applications

»» 2





Materials & Standards



1. Definition

Glass-reinforced polymer (GRP) is a composite material made of a thermosetting polymer resin reinforced by fine fibres of glass along with the use of additives and is commonly referred to by the name of fibreglass and sometimes by the name FRP or fibre reinforced polymer.

1.1 Applications

GRP is an immensely versatile material which combines lightweight with inherent strength to provide a resilient finished product with a variety of surface textures and a virtually unlimited colour range available. By selecting the appropriate combination of fibreglass reinforcements, resins and processing techniques, the engineer can create a product or component to meet the most demanding of specifications.

1.2 Benefits

High strength, light weight, dimensional stability, corrosion/chemical/electrical resistance, low tooling/installation cost, long life. GRP products compete very favourably on a performance/life cycle cost basis versus traditional materials.

2. Product

Dura Profile is structural fibreglass construction profile designed to replace traditional construction profiles i.e. steel, alloys and timber as they are prone to degradation (corrosion, rotting, etc.). Pultruded through a die, Dura Profile is made to a high tolerance and quality, is easy to handle, erect and cut on site due to its low weight (1/4 of the weight of steel).

2.1 Material Properties

UV Weather (5000 hours)	Fire resistance - BS476 Part 7 & 6
ISO 4892-2 Xenon Arc	Class 2 (standard range) Class 1 (Available on request) See page 35 for fire performance of other Dura Composites product ranges.

3. Testing Standards

British Standard BS EN 13706, the specification for pultruded profiles, defines two performance grades. Our structural Dura Profiles are designed to meet or exceed the higher performance E23 grade. When tested, they achieved an average tensile Modulus of 30 GPa versus the E23 requirement of 23 GPa. For more details please contact your Dura Composites sales representative and to view latest performance data, see www.duracomposites.com/powerofcomposites.

4. Colour and Surface Finish

The Standard Profile Range we hold in stock are produced in 6m lengths, ISO Resin and are Dark Grey RAL7043. (These can be cut to size, please speak to your local representative to discuss your requirements.)

As well as our standard range, Dura Profile is also available in a huge range of other dimensions and resins. These are subject to minimum order quantities and extended lead times. Please call us to discuss your requirements at your earliest convenience.

Available resin types include:

- Polyester - suitable for most industrial applications (Isophthalic and Orthophthalic)
- Vinylester - provides additional corrosion resistance.
- Phenolic - maximum fire performance and low emissions. Limited range only.

5. Chemical Resistance

Dura Profile is resistant against wide a range of chemicals across wide temperature spectrum. The Standard Profile Range we hold in stock are produced in ISO Resin, and the chemical resistance information for our standard range is shown below. Dura Profile can be made of different resin systems to achieve specific chemical resistance. Please contact us for more information on other resin types.

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Acetic Acid	100% or saturated solution	Not Recommended
Acetic Acid (Acetic Acid)	<5	65
Acetic Acid (Acetic Acid)	5	35
Acetic Acid (Acetic Acid)	10	35
Acetic Acid (Acetic Acid)	15	35
Acetic Acid (Acetic Acid)	25	35
Acetic Acid (Acetic Acid)	40	35
Acetic Acid (Acetic Acid)	50	30
Acridine Yellow	2	50
Alum	100% or saturated solution	75
Ammonium	28	40
Ammonium Carbonate	100% or saturated solution	Not Recommended
Ammonium Hydroxide	10	40
Ammonium Salt	100% or saturated solution	70
Amyl Acetate	100% or saturated solution	25
Animal Fat	100% or saturated solution	110
Antimony Compounds	100% or saturated solution	70
Aviation Fuel Avtag	100% or saturated solution	55
Aviation Fuel Avtur	100% or saturated solution	60
Baking Soda	100% or saturated solution	60
Barium Carbonate	100% or saturated solution	60
Barium Hydroxide	≤10	Not Recommended
Barium Hydroxide	100% or saturated solution	Not Recommended
Barium Salt	100% or saturated solution	75
Benzene	100	20
Benzoic Acid	50	Not Recommended
Benzoic Acid	10	100
Benzoic Acid	100% or saturated solution	Not Recommended
Benzyl Ammonium Phosphate	100% or saturated solution	60
Bismuth Salt	100% or saturated solution	70
Bivalent Iron	100% or saturated solution	75

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Borax (Sodium Tetraborate)	100% or saturated solution	70
Boric Acid	100% or saturated solution	70
Bromine Liquid	100% or saturated solution	Not Recommended
Bromine Water	100% or saturated solution	30
Butanol	100% or saturated solution	30
Butyl Acetate	100	25
Calcium Hydroxide	100% or saturated solution	40
Calcium Oxide	100% or saturated solution	35
Calcium Salt	100% or saturated solution	75
Carbon Dioxide	100% or saturated solution	Not Recommended
Carbon Monoxide Gas	100% or saturated solution	120
Carbon Tetrachloride	100	40
Carbonate	100% or saturated solution	60
Castor Oil	100	110
Chloride Ethanol	100% or saturated solution	Not Recommended
Chlorine	50	100
Chlorine Silicate	40	30
Chloroacetic Acid	50	25
Chloroacetic Acid	25	60
Chlorobenzene	100% or saturated solution	25
Chromic Acid	5	45
Chromic Acid	10	40
Chromic Acid	50	Not Recommended
Chromic Acid	80	Not Recommended
Chromium Salt	30	70
Citric Acid	100	70
Co2 Gas	100% or saturated solution	120
Co2 Gas	10	55
Cobalt Salt	100% or saturated solution	75
Cottonseed Oil	100	110
Developer	100% or saturated solution	65
Dibutyl	100% or saturated solution	30
Diesel	100% or saturated solution	120
Diethanolamine	100	50
Dry Chlorine	100	30
Ester Base Oil	100% or saturated solution	110
Ether	100	Not Recommended
Ethyl Oleate	100% or saturated solution	60
Ethylene Glycol	100	100

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Ethylene Glycol	100% or saturated solution	100
Fatty Acid Esters	100	85
Fatty Acid Esters	100% or saturated solution	85
Fluorine	100% or saturated solution	50
Formaldehyde	40	35
Formic Acid	10	30
Formic Acid	100	Not Recommended
Formic Acid	75	25
Formic Acid	10	30
Furfural	≤5	Not Recommended
Furfural	20	Not Recommended
Furfural	100	Not Recommended
Gasoline	100	60
Gelatin	100% or saturated solution	70
Glycerin	100	100
Hexane	100% or saturated solution	60
Hydrobromic Acid	50	45
Hydrochloric Acid	1	70
Hydrochloric Acid	5	70
Hydrochloric Acid	10	70
Hydrochloric Acid	Fuming	45
Hydrofluoric Acid	35	40
Hydrogen Chloride Gas	100% or saturated solution	100
Hydrogen Peroxide	<30	30
Hydrogen Sulfide Gas	100% or saturated solution	60
Hydroquinone	100% or saturated solution	100
Hypochlorous Acid	10	45
Hypochlorous Acid	20	45
Hypochlorous Acid	50	45
Isooctane	100% or saturated solution	60
Isopropyl Alcohol	100	30
Kerosene	100	60
Lactic Acid	10	80
Lactic Acid	80	80
Lanolin	100% or saturated solution	100
Linseed Oil	100% or saturated solution	110
Lubricating Oil	100% or saturated solution	110
Magnesium Salt	100% or saturated solution	75
Maleic Acid	100% or saturated solution	60

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Mercury	100	100
Mercury Salt	100% or saturated solution	75
Methanol	100% or saturated solution	30
Naphthalene	100% or saturated solution	70
N-Butyl Acetate	100	25
Nickel Plating Solution	100% or saturated solution	50
Nickel Salt	100% or saturated solution	75
Nitric Acid	2	40
Nitric Acid	5	40
Nitric Acid	10	35
Nitric Acid	15	Not Recommended
Nitric Acid	20	Not Recommended
Nitric Acid	25	Not Recommended
Nitric Acid	30	Not Recommended
Nitric Acid	35	Not Recommended
Nitric Acid	40	Not Recommended
Nitric Acid	50	Not Recommended
Nitric Acid	60	Not Recommended
Nitric Acid	Fuming	Not Recommended
Oil Solvent	100% or saturated solution	60
Oleic Acid	100	85
Olive Oil	100	110
Potash	100% or saturated solution	75
Oxalic Acid	20	60
Oxalic Acid	100% or saturated solution	60
Paraffin	100	110
Petroleum Ether	100% or saturated solution	50
Phosphate	50	50
Phosphate Dense	100% or saturated solution	45
Phthalate Allyl Acetate	100	110
Phthalate Allyl Acetate	100% or saturated solution	110
Phthalic Acid Dibutyl	100	110
Phthalic Acid Dibutyl	100% or saturated solution	110
Phthalic Anhydride	100% or saturated solution	60
Plating Solution (Copper)	100% or saturated solution	50
Plating Solution (Lead)	100% or saturated solution	30
Plating Solution (White Metal)	100% or saturated solution	30
Potassium Carbonate	10	25
Potassium Carbonate	25	25

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Potassium Hydroxide	10	20
Potassium Hydroxide	25	Not Recommended
Potassium Hydroxide	50	Not Recommended
Potassium Permanganate	100% or saturated solution	25
Propyl Alcohol	100% or saturated solution	30
Propylene Glycol	100	100
Propylene Glycol	100% or saturated solution	100
Salt (Sodium Chloride)	100% or saturated solution	75
Silicone Oil Or Silicone	100	110
Silver Halide	100% or saturated solution	75
Silver Nitrate	100% or saturated solution	40
Soap	100% or saturated solution	75
Sodium Carbonate	25	Not Recommended
Sodium Hydroxide	10	25
Sodium Hydroxide	25	25
Sodium Hydroxide	50	Not Recommended
Sodium Hypochlorite	≤20	60
Sodium Metasilicate	25	45
Sodium Metasilicate	5	60
Sodium Sulfide	100% or saturated solution	70
Sodium Thiosulfate (Sodium Hyposulphite)	100% or saturated solution	65
Starch	50	75
Starch	10	30
Stearic Acid	100	85
Stearic Acid	100% or saturated solution	85
Styrene	100% or saturated solution	30
Sulfonic Acid	100% or saturated solution	60
Sulfuric Acid	1	65
Sulfuric Acid	5	65
Sulfuric Acid	10	45
Sulfuric Acid	25	45
Sulfuric Acid	50	40
Sulfuric Acid	60	40
Sulfuric Acid	70	40
Sulfuric Acid	75	Not Recommended
Sulfuric Acid	80	Not Recommended
Sulfuric Acid	93	Not Recommended
Sulfuric Acid	Fuming	Not Recommended
Surfactant Non-Ionic	100% or saturated solution	70

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Surfactant Cationoid	100% or saturated solution	50
Surfactant Anionic	100% or saturated solution	70
Tin Salt (Stannous Chloride)	100% or saturated solution	75
Toluene	100	40
Transformer Oil	100	110
Trichloroacetic Acid	50	Not Recommended
Trichloroacetic Acid	10	40
Triethanolamine	100	55
Trivalent Iron	100% or saturated solution	75
Turpentine Oil	100% or saturated solution	55
Urine	100% or saturated solution	65
Vinyl Chloride	100	Not Recommended
Seawater	100% or saturated solution	70
Fresh Water	100% or saturated solution	75
Zinc Salt	100% or saturated solution	75

6. Fire Resistance

Dura Composites is committed to ensuring that all users of our products are as informed as possible on the fire standards our products adhere to. Designing out risk will ensure that your building project will comply with current and future building regulations. We offer a range of accredited certificates assessed by a third party organisation (a certification body) confirming that the products have passed the specific assessments.

A summary of the certification achieved for each of our most popular product ranges is shown below:

Dura Composites Product	BS EN 13501	BS 476 Part 7	BC 467 Part 20/21 (Indicative)
Grating d ²	Class B fl s1	Part 7 Class 1	N/A
Slab Type 75	Class B fl s1	Part 7 Class 2	71 mins insulation, 178 mins remains structural
Slab Type 100	Class B fl s1	Part 7 Class 2	Coming Soon
Slab Stair Tread FR (& Type 50 FR)	Class B fl s1	Part 7 Class 2	N/A
Tread	Class B fl s1	Part 7 Class 2	-
Profile	Class B fl s1	Part 7 Class 1 & Class 2	N/A
Platform Type 40	Class B fl s1	Part 7 Class 1	39 mins insulation, 60 mins remains structural
Platform Type 100	Class B fl s1	Part 7 Class 1	58 mins insulation, 60 mins remains structural
Handrail	N/A	Part 7 Class 2	N/A
Deck Aluminium	Class A2 fl s1	N/A	N/A
Cladding Aluminium	Class A2 fl d0	N/A	N/A
Aluminium Pedestal	Class A2 fl s1	N/A	N/A
Deck Flip	Class C fl s1	Class 1	-
Deck Eco	Class C fl s1	Class 1	-
Cladding Flush Resist	Class B s1 d0	Class 0	-
Cladding Weatherboard	Class B s2 d0	Class 0	-
Park Deck	Class B fl s1	Class 0	-
Park Deck Handrail	Class B fl s1	Class 0	-

Working with Composites



Before You Begin

These guidelines are provided to help prevent installation problems caused by common errors when working with GRP Dura Profile components. Dura Composites bears no responsibility for installation actions taken or not taken.

There are many bespoke aspects of installation that are assumed to be general construction knowledge to an experienced installer; and as such are not included in this Technical Manual. The guidance below are strictly recommendations and are not intended to serve as a step-by-step, foolproof installation checklist. Selection of an experienced GRP installer is the sole responsibility of the project owner.

If you have any questions about installation techniques for your particular project, please call your Dura Composites representative on +44 (0)1255 440291.

Safety First

Every Dura Profile installation site is different and is likely to present different hazards and risks. However, a well-designed and maintained site with suitable segregation of vehicles, equipment and people will make workplace accidents less likely. Some important considerations to bear in mind:

- Please ensure that your proposed design or fabrication meets any relevant local building codes and regulations before you begin the installation.
- Keep members of the public and other personnel not involved in the installation of Dura Profile away from the work area until the job has been completed and tools and materials have been stored safely.
- Refer to the operators' manuals for safety guidance on all power tools being used.
- Long sleeved shirts with closed collars, long trousers or protective clothing such as disposable overalls may be worn to prevent dust exposure when cutting or grinding the product.
- When handling Dura Profile, always wear gloves and a suitable barrier cream to prevent cuts, scratches or abrasions.
- Always ensure you have adequate eye and face protection and work in a well-ventilated area. Fusing a respirator, to ensure that it is effective, users should be clean shaven, and the respirator should have a close fit.

Required Tools

Dura Profile can be installed using a number of standard tools. The list of tools and supplies you may need includes the following:



Measuring Tape



Eye Protection



Face Fit FFP3 RPE



Tungsten Carbide Drill Bits



Skill Saw



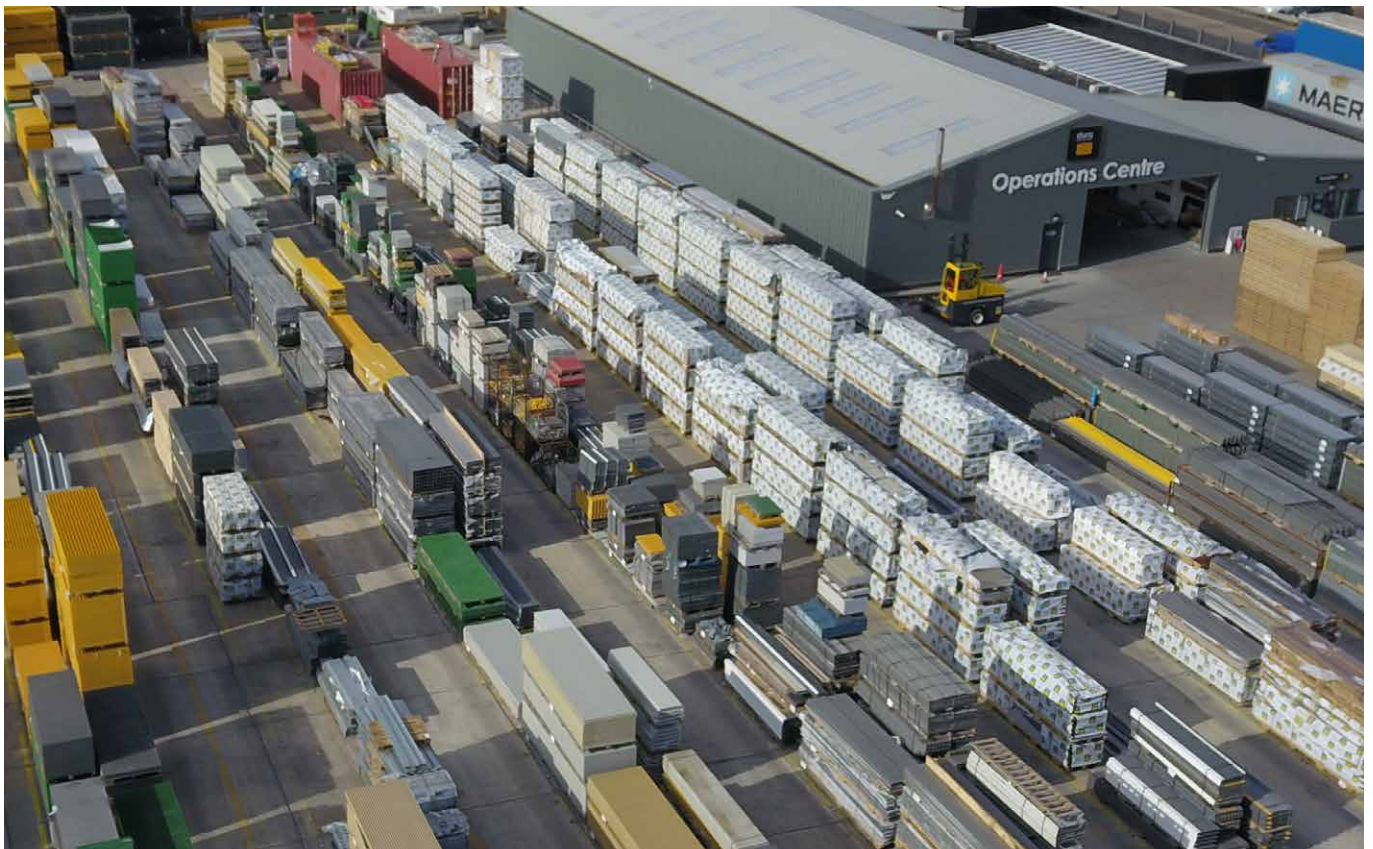
Diamond Tipped Saw Blade

Storage and Handling

To ensure the best performance of our products, it is vital that proper care and attention is given to storage and handling of materials.

Dura Profiles should be stored on a flat and level surface in their original packaging until you are ready to install them. Professional fork lifts should always be used while uploading and discharging pallets.

Dura Profiles are easy to install and can be cut to size and drilled using conventional power tools. The lightweight composition of Dura Profiles means that they are easier to handle than traditional steel components and can be installed more quickly.



Materials Safety Data



Product Composition

CAS No.	Percentage %
Isophthalic Polyester Resin	30%
E-Glass (Rovings/mats)	60%
Additives, pigments, stabilisers and other	10%

Safety Information

This section provides data for protection against substances hazardous to health.

Safety Precautions

- Store in original packing materials in a dry, cool and well-ventilated area. Keep away from heat, sparks and open flame.
- Workers should wear personal protective equipment at all times that is clean and has been properly maintained, including the use of safety gloves. Handle product carefully to avoid damage.
- Avoid eating, drinking and smoking in the workplace.

Exposure Controls and Personal Protection

Eye/Face Protection	Suitable safety goggles should be worn to reduce the potential risk due to dust.
Respiratory Protection	Wear a suitable dust mask if cutting operation creates dust.
Protection of Hands	Work gloves should be worn to reduce the potential risk of small cuts and abrasions which could occur during the installation process.

Physical and Chemical Properties

Appearance	No odour. Non-toxic.
Solubility	Insoluble in water and alcohol, soluble in dichloroethane and methylbenzene.
Usage	Decorative external or internal usage as dagger boards, screening, fencing, valances, wall linings, soffits, canopy roofing, fencing and barriers.

Stability and Reactivity

Stability	Stable.
Incompatibility With Various Substances	No data available.

Ecological Information

Recyclability	Due to the extensive life cycle of the material, off cuts can be used for secondary non structural purposes as required or returned to Dura Composites at end of life for recycling.
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Disposal Considerations

Method	Waste should be disposed of according to local legislation. Can be recycled or incinerated where local policies allow.
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Transport Information

Dangerous Goods No.	N/A
UN No.	N/A

Packing	Palletised. Shrink wrapped and protected from water.
Hazard Identification	
Health Hazards	Non-Hazardous under normal conditions and use. Fine particles released during cutting may cause irritation to the eyes and respiratory tract.
Explosive Danger	Deposited dust has no self-sustained flame. This product is not classified as a dust explosive.
First Aid Measures	
Skin Contact	Not applicable under normal use. Fine particles released during cutting - wash with soap and water.
Eye Contact	Rinse or flush eyes with clean water for up to 10 minutes holding eyelids apart. Seek medical advice.
Inhalation	Not applicable in normal use. If thermal decomposition occurs and vapours have been inhaled, affected person is to be moved to fresh air and seek medical attention.
Ingestion	Not applicable in normal use. If ingestion of dust occurs during cutting, rinse mouth out with water and seek medical advice. Do not induce vomiting.
Firefighting Measures	
Hazardous Characteristics	High thermal decomposition will evolve toxic and irritant vapours.
Extinguishing media	Isolate product and move to an empty area if practical. Extinguish fire using Spray Mist, Foam, CO ² , Sand or Earth.
Accidental Release Measures	
Personal Precautions, Protective Equipment and Emergency Procedures	Personal precautions not applicable under normal conditions. Avoid build of dust during any cutting process. If packaging becomes broken, please re-pack. Environmental precautions not applicable under normal conditions. Material should be collected in clean containers and recycled where practicable.

Material Identification and Use

Chemical Name:	Fibreglass Reinforced Polyester
Common Name:	GRP (Glass Reinforced Polymers, Fibreglass)
Product Identification:	Dura Profile
Uses:	Fabrications, handrailing, structures, staircases, platforms, access platforms, step overs, ladders.

Composition

E Glass fibres (Uni-Directional), Stitched Chop Strand Matt, Woven Roving Comb Matt, thermosetting polymer resin, catalysts, styrene, aluminium oxide, pigments. UV Inhibitor. Components are chemically and thermally cured and bonded together.

Hazard Identification

None by contact. Dust produced by cutting or grinding can penetrate pores and skin causing itching. Avoid breathing dust, skin contact or dust inhalation when cutting. People with a condition that could be aggravated by dust should avoid cutting or grinding.

First Aid procedure

Skin – shower with water and soap. Eyes – flush with sterile eye wash solution.

Product Appearance

Open or closed profiles. Sharp edges. Zero odours. Not soluble in water. Standard colour Grey RAL 7043, others available on request subject to minimum order quantities.

Fire Fighting Measures

Standard extinguishing equipment, water, foam, A, B or C fire extinguishers. Produces black smoke while burning, carbon particles. Use air respirator.

Waste Disposal

Product is not considered a hazardous waste. Abide by local laws and procedures.

Handling/Cutting

Risk assessments for dust, abrasive surfaces, and manual handling should be carried out prior to working with Dura Profile. When cutting, your PPE should include suitable face fit RPE and eye protection to protect from dust. When handling GRP, suitable gloves and coveralls should be worn to prevent abrasion to skin.

Product Warranty

25 Year Warranty and expected 60 year design life, further details available on request.

Maintenance



Cleaning Guide

Our GRP products are extremely hardwearing and virtually maintenance free, however, to maintain maximum performance they will require cleaning periodically. The frequency of this cleaning will depend on local conditions and volume of pedestrian traffic. Generally, a stiff brush and hot soapy water will be sufficient to remove most dirt, or dust from Dura Profile components, however more stubborn grime may have to be removed by using high pressure power washing. It is suggested the integrity of any mechanical fixings and effectiveness of adhesive are checked annually.

Please note that the correct cleaning regime for your product is subject to site conditions. Please refer to the Technical Information below for the approved cleaning and maintenance programme to maintain your product warranty.

Cleaning Guide for Dura Grating Flooring Surfaces when Used in Conjunction with Dura Profile (e.g. in the case of Access Structures)

For general cleaning, any road traffic film cleaner can be used. There are two products we recommend for the general cleaning of our GRP Products. Both are supplied by a company called Shine-On. One of the products is called GP413 and the other is called Mega Shine.

Usage Method:

- Dilute the product with water 10/1
- Scrub chemicals onto affected area with a hard-bristled brush
- Leave for 10 – 15 minutes
- Jet wash the solution off
- If the area is still not clean repeat the process

Pressure Washers or Steam Cleaning Equipment

Care should be taken to select suitable equipment. These pieces of equipment can be extremely powerful, proper training should be given to ensure they are used safely.

General Cleaning Tips and Advice

Do	Do Not
• Conduct an initial clean before use. • Clean regularly. • Consider giving a higher frequency of maintenance to heavily trafficked areas (e.g. entrances) where the levels of grit, dirt and wear are highest. Heavily trafficked areas need more attention. • Clean up spillages immediately. • Remove traces of oil and grease immediately. • Ensure that cleaning and maintenance levels are higher in areas subject to accidental contamination by chemicals or	• Do not use excess concentrations of cleaning agents - exceeding the manufacturers' recommended dosage is at best pointless and expensive and at worst harmful. • Do not mix cleaning chemicals and agents - this can be harmful. • Do not use excessive water. • Do not use solvents. • Do not use synthetic scrubbing pads on textured resin floor finishes. These industrial finishes will cause rapid destruction of the pads.

Do	Do Not
- bacteriological or radioactive materials. - Use brushes (not mops) for best results. - Use the best quality equipment available to you. - Ensure that cleaning equipment is regularly cleaned. - Follow the instructions provided by the manufacturers of chemicals and equipment.	Do not use phenol based cleaning chemicals - they will cause degradation of resin floor surfaces.

Cleaning of General Dirt and Debris on Dura Grating

Using Alkaline Detergent Solution (GP413) apply with brush, Spray with hose to remove surface debris. Use warm soapy water and a hard bristled brush to clear dirt and/or debris from grooves/contours. Pressure wash to remove more stubborn stains.

Cleaning of Mould and Mildew

Mould and mildew can grow on surface residue that has been allowed to remain on the surface. Remove and brush as soon as possible – spray with a hose and use warm soapy water and soft bristle brush. Pressure wash for more stubborn stains.

Cleaning of Oil/Grease/Food/Drink

Remove and brush as soon as possible — spray with a hose and use warm soapy water and a soft bristled brush. Pressure wash for more stubborn stains. Pressure washers up to 1500 psi may be used to maintain cleanliness. In order to prevent any damage, always keep the pressure washer nozzle at least 25cm (10 inches) from the surface, and avoid concentrated spraying on one area for more than 3 seconds. Use of a pressure washer in this manner will not shorten the life of the material.

Cleaning of Ice and Snow

Use a plastic shovel or broom to remove snow.



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