

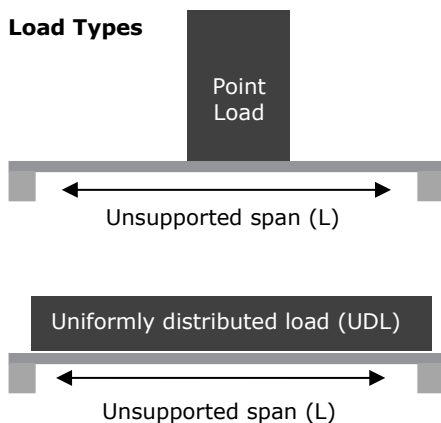
GRP Structural Profiles

Load & Deflection Datasheet



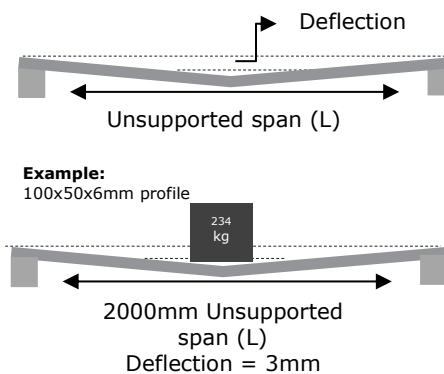
C-SECTION PROFILES ¹			Unsupported Span (L) (mm) (unfixed)										
Profiles	Moment of Inertia	Load Type	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000
76 x 22 x 6.35 mm	525 GPa	Point Load (kg)	295	131	73	47	32	24	18	14	11	9.8	8.2
		UDL (kg/m ²)	472	210	118	75	52	38	29	23	18	15	13
100 x 50 x 6mm	1,670 GPa	Point Load (kg)	939	417	234	150	104	76	58	46	37	31	26
		UDL (kg/m ²)	1503	668	375	240	167	122	94	74	60	49	41
150 x 50 x 6 mm	4,430 GPa	Point Load (kg)	2492	1107	623	398	277	203	155	123	99	82	69
		UDL (kg/m ²)	3988	1772	997	638	443	325	249	199	159	131	110
200 x 60 x 8 mm	13,005 GPa	Point Load (kg)	7317	3252	1829	11708	813	597	457	361	292	241	203
		UDL (kg/m ²)	11708	5203	2927	1873	1300	955	731	578	468	387	325
200 x 60 x 9.5 mm	16,000 GPa	Point Load (kg)	9003	4001	2250	1440	1000	734	562	444	360	297	250
		UDL (kg/m ²)	14405	6402	3601	2304	1600	1175	900	711	576	476	400
280 x 70 x 12 mm	46,963 GPa	Point Load (kg)	26425	11744	6606	4228	2936	2157	1651	1305	1057	873	734
		UDL (kg/m ²)	42281	18791	10570	6765	4697	3451	2088	1691	1397	1174	862

Load Types



Deflection Data

Load information above is for 0.5% deflection (L/200)



Limiting deflection to span (L) 200 = 0.5%. This is the limit for walkway deflection and sufficiently low stress that we can ignore shear equations used are for simply supported beam.

E modulus is taken at:

- 23 GPa
- 17 GPa

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I/H-BEAM PROFILES			Unsupported Span (L) (mm) (unfixed)										
Profiles	Moment of Inertia	Load Type	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000
150 x 80 x 10 mm	10,125 GPa	Point Load (kg)	5697	2532	1424	911	633	465	356	281	227	188	158
		UDL (kg/m ²)	9115	4051	2278	1458	1012	744	569	450	364	301	253
200 x 100 x 9.5 mm	21,946 GPa	Point Load (kg)	12349	5488	3087	1975	1372	1008	771	609	494	408	343
		UDL (kg/m ²)	19758	8781	4939	3161	2195	1612	1234	975	790	653	548
200 x 200 x 10 mm	40,993 GPa	Point Load (kg)	23066	10251	5766	3690	2563	1883	1441	1139	922	762	640
		UDL (kg/m ²)	36906	16402	9226	5905	4100	3012	2306	1822	1476	1220	1025

BOX SECTION PROFILES			Unsupported Span (L) (mm) (unfixed)										
Profiles	Moment of Inertia	Load Type	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000
51 x 51 x 3.2 mm (E mod 17 GPa)	234 GPa	Point Load (kg)	131	58	32	21	14	10	8.2	6.5	5.3	4.4	3.7
		UDL (kg/m ²)	155	69	38	24	17	12	9.7	7.7	6.2	5.1	4.3
51 x 51 x 6.35 mm	384 GPa	Point Load (kg)	216	96	54	34	24	17	13	10	8.6	7.1	6.0
		UDL (kg/m ²)	345	153	86	55	38	28	21	17	13	11	9.6
60 x 60 x 4.5 mm	516 GPa	Point Load (kg)	290	129	72	46	32	23	18	14	11	9.6	8.1
		UDL (kg/m ²)	464	206	116	74	51	37	29	22	18	15	12

ANGLE PROFILES			Unsupported Span (L) (mm) (unfixed)										
Profiles	Moment of Inertia	Span (m)	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000
60 x 60 x 8 mm	297 GPa	Point Load (kg)	167	74	41	26	18	13	10	8.3	6.7	5.5	4.6
		UDL (kg/m ²)	267	118	66	42	29	21	16	13	10	8.8	7.4
75 x 75 x 10 mm	747 GPa	Point Load (kg)	420	187	105	67	46	34	26	20	16	13	11

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		UDL (kg/m²)	673	299	168	107	74	54	42	33	26	22	18
100 x 100 x 8 mm	1,480 GPa	Point Load (kg)	832	370	208	133	92	68	52	41	33	27	23
		UDL (kg/m²)	1332	592	333	213	148	108	83	65	53	44	37

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