

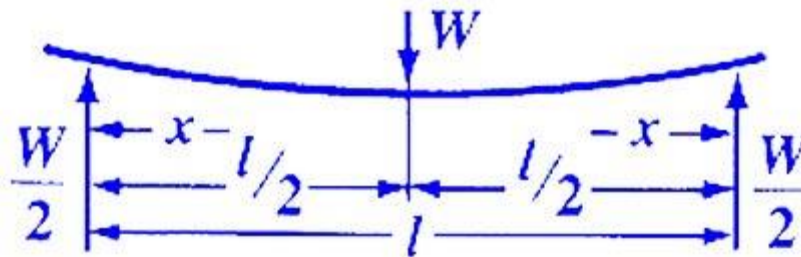
CARBON FIBRE SHEET DATA SHEET

The following contains data on Carbon Fibre Sheets and panels manufactured by Reverie Ltd:

Data is based on idealised data, sheet materials may perform differently as they are hand made products so a level of variation is to be expected.

All sheets with cores feature two 0.25mm 199gsm T300 carbon epoxy 42% resin weight pre-preg 2x2 twill skins making approx 0.50mm skins (unless otherwise stated)

Load Deflection Comparison Table



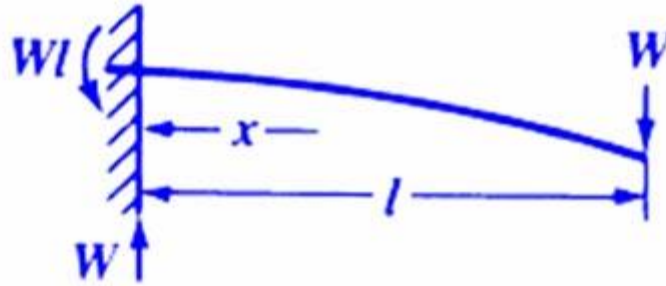
Note: These bend stiffness and deflections calculated are theoretical and using a simply supported beam with central point load distributed evenly across the width of the beam.

Material	Mass load (kg)	Lay up density (g/cm ³)	Bending stiffness, D (N/m ²)	Bending deflection (mm)	Sample weight (kg)
Airex Core 2mm 1m ²	25	0.52	62.5	81.7	1.521
Airex Core 3mm 1m ²	25	0.40	122.5	41.7	1.581
Airex Core 5mm 1m ²	25	0.30	302.5	16.9	1.801
Airex Core 8mm 1m ²	25	0.23	722.5	7.1	2.041
Airex Core 10mm 1m ²	25	0.20	1102.5	4.6	2.201
Airex Core 15mm 1m ²	25	0.16	2402.5	2.1	2.601
Nomex Core 3mm 1m ²	25	0.39	122.5	41.7	1.545
Nomex Core 5mm 1m ²	25	0.28	302.5	16.9	1.641
Nomex Core 9mm 1m ²	25	0.18	902.5	5.7	1.833
Aluminium Core 4mm 1m ²	25	0.41	202.5	25.2	2.194
Aluminium Core 6.35mm 1m ²	25	0.31	469.2	10.9	2.415
Aluminium Core 12mm 1m ²	25	0.22	1532.5	3.3	2.995

Maximum Load Deflection Comparison Table					
Material	Mass load (kg)	Lay up density (g/cm ³)	Bending stiffness, D (N/m ²)	Bending deflection (mm)	Sample weight (kg)
Airex Core 2mm 1m ²	204	0.52	62.5	81.7	1.521
Airex Core 3mm 1m ²	285	0.40	122.5	41.7	1.581
Airex Core 5mm 1m ²	449	0.30	302.5	16.9	1.801
Airex Core 8mm 1m ²	693	0.23	722.5	7.1	2.041
Airex Core 10mm 1m ²	856	0.20	1102.5	4.6	2.201
Airex Core 15mm 1m ²	1264	0.16	2402.5	2.1	2.601
Nomex Core 3mm 1m ²	85	0.39	122.5	41.7	1.545
Nomex Core 5mm 1m ²	449	0.28	302.5	16.9	1.641
Nomex Core 9mm 1m ²	775	0.18	902.5	5.7	1.833
Aluminium Core 4mm 1m ²	367	0.41	202.5	25.2	2.194
Aluminium Core 6.35mm 1m ²	559	0.31	469.2	10.9	2.415
Aluminium Core 12mm 1m ²	1019	0.22	1532.5	3.3	2.995

Maximum Load Deflection Comparison Table						
Material	Skin Ef Modulus (Gpa)	Lay up density (g/cm ³)	Max Bending Moment (N/m ²)	Max Load (N)	Max. Load (kg)	Sample weight (kg)
Airex Core 2mm 1m ²	40	0.52	500	2000	204	1.521
Airex Core 3mm 1m ²	40	0.40	700	2800	285	1.581
Airex Core 5mm 1m ²	40	0.30	1100	4400	449	1.801
Airex Core 8mm 1m ²	40	0.23	1700	6800	693	2.041
Airex Core 10mm 1m ²	40	0.20	2100	8400	856	2.201
Airex Core 15mm 1m ²	40	0.16	3100	12400	1264	2.601
Nomex Core 3mm 1m ²	40	0.39	700	2800	285	1.545
Nomex Core 5mm 1m ²	40	0.28	1100	4400	449	1.641
Nomex Core 9mm 1m ²	40	0.18	1900	7600	775	1.833
Aluminium Core 4mm 1m ²	40	0.41	900	3600	367	2.194
Aluminium Core 6.35mm 1m ²	40	0.31	1370	5480	559	2.415
Aluminium Core 12mm 1m ²	40	0.22	2500	10000	1019	2.995

Carbon Sheet Deflection Comparison Table (Cantilever Beam)



Data below shows idealised data for carbon sandwich sheet when fixed at one end:

Note: These bend stiffness and deflections calculated are theoretical and using a simply supported beam with central point load distributed evenly across the width of the beam.

Material	Material Thickness (mm)	Lay up density (g/cm ³)	Mass Load (kg)	Bending stiffness, D (N/m ²)	Bending deflection (mm)	Sample weight (kg)
Carbon sheet 0.3mm 1m ²	0.30	1.52	0.01	0.090	0.363	0.362
Carbon sheet 0.55mm 1m ²	0.55	1.52	0.05	0.555	0.295	0.724
Carbon sheet 0.80mm 1m ²	0.80	1.52	0.05	1.707	0.096	1.086
Carbon sheet 1.00mm 1m ²	1.00	1.54	0.05	3.333	0.049	1.388
Carbon sheet 1.46mm 1m ²	1.46	1.54	0.05	10.374	0.016	2.252
Carbon sheet 1.80mm 1m ²	1.80	1.54	0.05	19.440	0.008	2.779
Carbon sheet 3.00mm 1m ²	3.00	1.54	0.05	90.000	0.002	4.579

