

RoofDek D100

0.7mm S220 Colorcoat steel^o

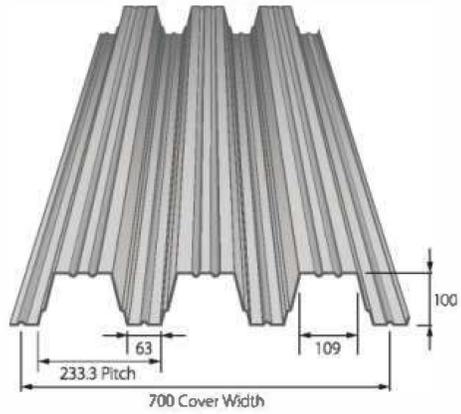
0.7mm S280 Interior liner or galvanised steel¹

0.9mm S280 Interior liner or galvanised steel¹

1.2mm S280 Interior liner or galvanised steel¹

0.9mm R_{p0.2} 165 Stucco or coated aluminium²

1.2mm R_{p0.2} 165 Mill finish aluminium³



Ultimate Section Properties to Eurocode

Material specification	Design t mm	Weight kg/m ²	Broad flange in compression		Narrow flange in compression		100 mm bearing on steel beam		Shear Capacity kN/m
			Moment Capacity kNm/m	Moment of inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of inertia cm ⁴ /m	Transverse Resistance Internal Rw kN/m	End Rw kN/m	
0.7mm Steel S220 ^o	0.64	9.30	6.70	163.08	6.34	163.08	21.10	4.92	41.37
0.7mm Steel S280 ¹	0.66	9.64	8.08	169.49	8.16	169.49	25.77	6.04	50.19
0.9mm Steel S280 ¹	0.86	12.41	11.93	220.74	11.01	220.74	43.75	10.61	82.37
1.2mm Steel S280 ¹	1.16	16.57	16.98	297.51	14.94	297.51	77.76	19.63	144.85
0.9mm Alu 0.2% 165 ²	0.90	4.30	5.65	205.80	5.30	210.83	19.26	4.70	35.94
1.2mm Alu 0.2% 165 ³	1.20	5.74	8.42	279.58	7.76	288.99	33.40	8.47	62.77

Safe loads (kN/m²)

	Span Condition	Imposed load - deflection limit span / 200										Wind suction load - deflection limit span / 150						
		3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00	
0.7mm Steel S220 ^o	Imposed	Single	2.13	1.99	1.87	1.76	1.67	1.58	1.50	1.43	1.26	1.10	0.96	-	-	-	-	-
		Double	2.70	2.46	2.25	2.07	1.90	1.76	1.63	1.52	1.42	1.32	1.24	1.16	1.09	1.03	0.97	0.92
		Multi	2.67	2.50	2.35	2.22	2.10	1.99	1.89	1.80	1.70	1.59	1.49	1.40	1.32	1.25	1.18	1.06
	Suction	Single	3.82	3.36	2.99	2.67	2.40	2.18	1.98	1.81	1.66	1.53	1.41	-	-	-	-	-
		Double	4.03	3.55	3.15	2.82	2.53	2.29	2.09	1.91	1.75	1.61	1.49	1.38	1.29	1.20	1.12	1.05
		Multi	5.02	4.42	3.92	3.51	3.15	2.85	2.59	2.37	2.17	2.00	1.85	1.71	1.59	1.48	1.39	1.30
0.7mm Steel S280 ¹	Imposed	Single	2.62	2.45	2.31	2.17	2.06	1.95	1.75	1.51	1.31	1.14	1.00	-	-	-	-	-
		Double	3.38	3.08	2.82	2.59	2.39	2.22	2.06	1.92	1.79	1.67	1.57	1.47	1.39	1.31	1.23	1.17
		Multi	3.29	3.08	2.90	2.73	2.59	2.45	2.33	2.23	2.13	2.01	1.88	1.74	1.54	1.37	1.23	1.10
	Suction	Single	4.90	4.31	3.83	3.42	3.08	2.78	2.53	2.23	1.97	1.74	1.55	-	-	-	-	-
		Double	4.85	4.27	3.79	3.39	3.05	2.76	2.50	2.29	2.10	1.93	1.79	1.66	1.54	1.44	1.34	1.26
		Multi	6.05	5.32	4.72	4.22	3.79	3.43	3.12	2.84	2.61	2.40	2.22	2.05	1.91	1.78	1.66	1.56
0.9mm Steel S280 ¹	Imposed	Single	4.64	4.34	4.08	3.69	3.12	2.66	2.28	1.97	1.71	1.49	1.30	1.14	1.01	-	-	-
		Double	5.22	4.74	4.33	3.97	3.65	3.37	3.12	2.90	2.70	2.52	2.36	2.21	2.08	1.95	1.84	1.74
		Multi	5.81	5.45	5.12	4.74	4.37	4.04	3.75	3.48	3.25	2.92	2.57	2.27	2.01	1.79	1.60	1.43
	Suction	Single	6.60	5.81	5.16	4.61	4.15	3.75	3.33	2.91	2.56	2.27	2.02	1.81	1.63	-	-	-
		Double	7.15	6.29	5.58	4.99	4.49	4.06	3.69	3.37	3.09	2.84	2.63	2.43	2.26	2.11	1.97	1.85
		Multi	8.92	7.85	6.96	6.22	5.59	5.05	4.59	4.19	3.84	3.53	3.26	3.02	2.81	2.62	2.42	2.20
1.2mm Steel S280 ¹	Imposed	Single	8.61	7.16	5.94	4.98	4.21	3.59	3.08	2.65	2.30	2.01	1.76	1.54	1.36	1.20	1.07	0.95
		Double	8.15	7.37	6.70	6.12	5.61	5.17	4.77	4.42	4.10	3.82	3.57	3.34	3.13	2.94	2.76	2.52
		Multi	9.74	8.83	8.04	7.36	6.75	6.23	5.76	5.15	4.49	3.93	3.46	3.06	2.71	2.42	2.16	1.93
	Suction	Single	8.96	7.89	7.00	6.26	5.63	5.09	4.48	3.92	3.45	3.06	2.72	2.44	2.19	1.98	1.80	1.64
		Double	10.17	8.95	7.94	7.10	6.38	5.77	5.24	4.79	4.39	4.04	3.73	3.46	3.21	3.00	2.80	2.62
		Multi	12.69	11.17	9.90	8.84	7.95	7.19	6.53	5.96	5.46	5.02	4.64	4.30	3.99	3.60	3.26	2.96
0.9mm Alu 0.2% 165 ²	Imposed	Single	2.01	1.65	1.37	1.14	0.97	-	-	-	-	-	-	-	-	-	-	-
		Double	2.40	2.18	2.00	1.83	1.69	1.56	1.45	1.35	1.26	1.16	1.02	0.91	-	-	-	-
		Multi	2.58	2.42	2.28	2.15	1.86	1.59	1.37	1.18	1.03	0.90	-	-	-	-	-	-
	Suction	Single	2.84	2.35	1.96	1.66	1.42	-	-	-	-	-	-	-	-	-	-	-
		Double	3.37	2.97	2.63	2.35	2.11	1.91	1.74	1.58	1.45	1.34	1.23	1.14	-	-	-	-
		Multi	4.21	3.70	3.28	2.93	2.63	2.27	1.97	1.72	1.51	1.33	-	-	-	-	-	-
1.2mm Alu 0.2% 165 ³	Imposed	Single	2.73	2.24	1.86	1.55	1.31	1.12	0.96	-	-	-	-	-	-	-	-	-
		Double	3.86	3.50	3.20	2.93	2.69	2.49	2.30	2.07	1.81	1.58	1.39	1.23	1.09	0.98	-	-
		Multi	4.59	4.18	3.55	2.98	2.53	2.16	1.86	1.61	1.40	1.23	1.08	0.95	-	-	-	-
	Suction	Single	3.89	3.22	2.69	2.28	1.94	1.67	1.45	-	-	-	-	-	-	-	-	-
		Double	5.03	4.42	3.92	3.50	3.15	2.84	2.58	2.36	2.16	1.99	1.83	1.70	1.58	1.47	-	-
		Multi	6.27	5.52	4.89	4.25	3.62	3.11	2.69	2.35	2.06	1.82	1.62	1.45	-	-	-	-

Notes Black figures are stress limited, the load shown is the ultimate load divided by 1.5.

Blue figures are deflection limited.

Red figures show deck length exceeds 12m, these spans need extended end laps.

Calculations are to Eurocode, however additional checks such as fixings are required

A construction line load 1.5 kN/m has been allowed for.

Deck self weight has been allowed for, so does not have to be included in applied loads