

RoofDek D32s

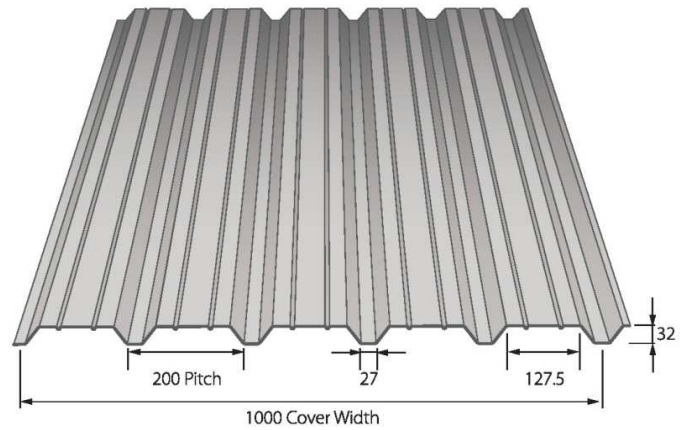
0.7mm S280 ¹Interior liner or galvanised steel

0.9mm S280 ¹Interior liner or galvanised steel

1.2mm S280 ¹Interior liner or galvanised steel

0.9mm R_{p0,2} 165 ²Stucco or coated aluminium

1.2mm R_{p0,2} 165 ³Mill finish aluminium



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 purlin		
			Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Transverse Resistance		Shear Capacity kN/m
							Internal R _w kN/m	End R _w kN/m	
0.7mm Steel S280 ¹	0.66	6.82	1.59	11.12	1.24	10.08	10.98	5.49	42.08
0.9mm Steel S280 ¹	0.86	8.77	2.32	14.38	1.78	13.14	18.14	9.07	54.84
1.2mm Steel S280 ¹	1.16	11.71	3.89	18.66	2.40	17.71	31.93	15.96	73.96
0.9mm Alu 0.2% 165 ²	0.90	3.04	1.01	14.23	0.92	13.37	7.97	3.98	30.74
1.2mm Alu 0.2% 165 ³	1.20	4.06	1.38	19.25	1.38	19.06	13.71	6.86	40.99

Safe Loads (kN/m²)

		Imposed load - deflection limit span / 200										Wind suction load - deflection limit span / 150						
		SPAN (metres)																
		Span Condition	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40
0.7mm Steel S280 ¹	Imposed	Single	8.09	7.28	6.61	5.12	4.01	3.20	2.59	2.12	1.76	1.47	1.24					
		Double	5.17	4.47	3.91	3.45	3.07	2.75	2.48	2.25	2.05	1.87	1.72	1.59	1.47	1.36	1.26	1.18
		Multi	6.08	5.27	4.62	4.08	3.64	3.27	2.96	2.68	2.45	2.25	2.07	1.91	1.76	1.52	1.32	1.16
	Suction	Single	8.18	6.63	5.49	4.62	3.94	3.41	2.97	2.62	2.27	1.93	1.65					
		Double	10.51	8.52	7.05	5.93	5.06	4.37	3.81	3.35	2.98	2.66	2.39	2.16	1.97	1.80	1.65	1.52
		Multi	12.75	10.34	8.55	7.19	6.13	5.30	4.62	4.06	3.61	3.22	2.90	2.62	2.28	1.99	1.75	1.55
0.9mm Steel S280 ¹	Imposed	Single	13.38	11.51	8.63	6.63	5.19	4.14	3.35	2.75	2.27	1.90	1.60	1.36	1.17			
		Double	8.13	7.00	6.11	5.38	4.77	4.27	3.84	3.47	3.16	2.89	2.65	2.44	2.25	2.08	1.94	1.80
		Multi	9.59	8.28	7.24	6.39	5.68	5.09	4.59	4.16	3.79	3.47	3.10	2.65	2.28	1.97	1.71	1.50
	Suction	Single	11.79	9.56	7.91	6.66	5.68	4.91	4.27	3.53	2.96	2.51	2.15	1.85	1.61			
		Double	15.31	12.41	10.27	8.64	7.37	6.36	5.55	4.88	4.33	3.87	3.48	3.15	2.86	2.61	2.39	2.20
		Multi	18.39	14.91	12.33	10.37	8.84	7.63	6.66	5.86	5.20	4.64	3.97	3.42	2.96	2.59	2.28	2.01
1.2mm Steel S280 ¹	Imposed	Single	20.53	14.94	11.19	8.60	6.74	5.37	4.34	3.56	2.95	2.47	2.08	1.77	1.51	1.30	1.12	0.97
		Double	12.79	10.95	9.49	8.30	7.33	6.53	5.85	5.27	4.77	4.34	3.97	3.64	3.35	3.10	2.87	2.51
		Multi	15.18	13.03	11.31	9.93	8.78	7.83	7.03	6.35	5.67	4.75	4.03	3.44	2.95	2.55	2.22	1.94
	Suction	Single	15.89	12.89	10.66	8.97	7.66	6.61	5.76	4.76	3.99	3.38	2.89	2.50	2.17	1.90	1.68	1.49
		Double	25.71	20.84	17.24	14.50	12.36	10.67	9.30	8.19	7.26	6.48	5.83	5.27	4.78	4.37	3.89	3.44
		Multi	24.79	20.09	16.62	13.98	11.92	10.29	8.97	7.90	7.00	6.25	5.35	4.61	4.00	3.49	3.07	2.71
0.9mm Alu 0.2% 165 ²	Imposed	Single	5.22	3.79	2.84	2.18												
		Double	3.80	3.29	2.88	2.54	2.26	2.03	1.83	1.67	1.52	1.39						
		Multi	4.46	3.87	3.40	3.01	2.68	2.41	2.11	1.73	1.44	1.21						
	Suction	Single	6.08	4.82	3.63	2.80												
		Double	6.64	5.38	4.45	3.74	3.19	2.75	2.40	2.11	1.87	1.67						
		Multi	8.29	6.72	5.56	4.67	3.98	3.32	2.71	2.24	1.87	1.58						
1.2mm Alu 0.2% 165 ³	Imposed	Single	7.06	5.13	3.85	2.95	2.32	1.85										
		Double	6.21	5.36	4.67	4.12	3.66	3.28	2.95	2.67	2.43	2.10	1.78	1.52	1.31			
		Multi	7.32	6.33	5.54	4.89	4.35	3.52	2.85	2.34	1.95	1.63	1.38	1.18	1.01			
	Suction	Single	9.08	6.87	5.17	3.99	3.15	2.53										
		Double	9.08	7.36	6.09	5.12	4.37	3.77	3.29	2.89	2.56	2.29	2.06	1.86	1.69			
		Multi	11.34	9.19	7.60	6.39	5.45	4.70	3.86	3.19	2.66	2.25	1.92	1.65	1.43			

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