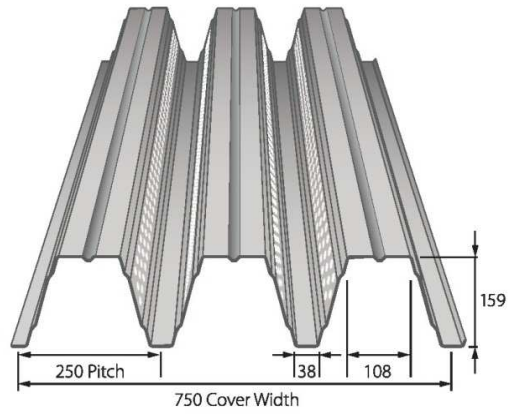
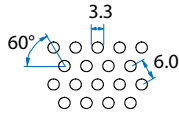


RoofDek D159 web perforated

Perforating pattern 3327 (27%), 3.3mm ϕ holes
at 6.0mm triangular centres.

Open area is 7.6% of exposed soffit (14.2% of cover area)



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		
			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 Rw kN/m	End Rw kN/m	
1.25 mm Steel S320 ¹	1.21	17.80	29.34	738.35	20.53	738.35	57.59	14.25	110.94
1.5mm Alu 0.2% 165 ³	1.50	7.40	15.18	832.88	12.84	837.75	32.63	8.31	62.86

Safe Loads (kN/m²)

		Imposed load - deflection limit span / 200										Wind suction load - deflection limit span / 150						
		SPAN (metres)																
		Span Condition	5.00	5.20	5.40	5.60	5.80	6.00	6.20	6.40	6.60	6.80	7.00	7.20	7.40	7.60	7.80	8.00
1.25 mm Steel S320 ¹	Imposed	Single	3.68	3.54	3.40	3.22	2.88	2.58	2.32	2.10	1.90	1.72	1.56	1.42	1.29	1.18	1.08	0.99
		Double	3.76	3.54	3.33	3.15	2.98	2.82	2.68	2.54	2.42	2.30	2.19	2.09	2.00	1.91	1.83	1.75
		Multi	4.49	4.23	4.00	3.78	3.58	3.39	3.22	3.07	2.92	2.78	2.65	2.53	2.42	2.32	2.19	2.02
	Suction	Single	4.50	4.17	3.87	3.61	3.37	3.16	2.96	2.79	2.63	2.48	2.35	2.23	2.12	1.98	1.85	1.73
		Double	6.38	5.90	5.48	5.11	4.77	4.46	4.19	3.94	3.71	3.50	3.31	3.14	2.97	2.83	2.69	2.56
		Multi	6.96	6.44	5.98	5.57	5.20	4.87	4.57	4.29	4.04	3.82	3.61	3.42	3.24	3.08	2.93	2.79
1.5mm Alu 0.2% 165 ³	Imposed	Single	1.72	1.52	1.35	1.20	1.07	0.96	-	-	-	-	-	-	-	-	-	-
		Double	2.25	2.12	2.01	1.90	1.80	1.71	1.62	1.54	1.47	1.40	1.34	1.28	1.22	1.16	1.06	0.98
		Multi	2.69	2.53	2.40	2.27	2.09	1.88	1.70	1.54	1.40	1.27	1.16	1.06	0.97	-	-	-
	Suction	Single	2.47	2.21	1.98	1.78	1.61	1.46	-	-	-	-	-	-	-	-	-	-
		Double	3.29	3.04	2.82	2.63	2.46	2.30	2.15	2.02	1.91	1.80	1.70	1.61	1.53	1.45	1.38	1.31
		Multi	4.10	3.79	3.52	3.28	2.98	2.70	2.45	2.23	2.04	1.87	1.72	1.59	1.47	-	-	-

¹. Interior Liner finish

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

Mar-16

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