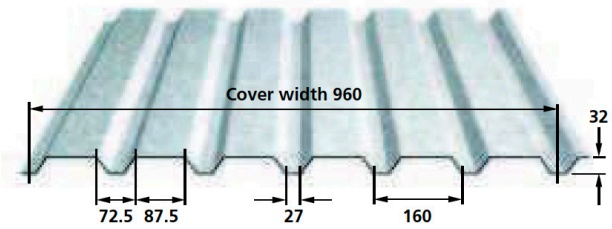
Viriform D32 RoofDek

Galvanised Steel 280 N/mm² and white lining enamel coated Galvanised steel.



Ultimate Section Properties

			Broad Flang in compression		Narrow flange in compression		Bearing 50mm minimum	
Nominal Thickness mm	Design Thickness mm	Weight kg/m²	Moment Capacity kNm/m	Moment of Inertia cm⁴/m	Moment Capacity kNm/m	Moment of Inertia cm⁴/m	Web Crushing kNm/m	Shear Capacity kNm/m
0.70	0.66	7.03	2.21	9.65	1.58	12.54	22.35	43.44
0.90	0.86	9.04	2.92	12.44	2.13	16.30	36.00	56.24
1.20	1.16	12.06	3.95	16.50	2.85	21.89	61.54	75.13

Imposed load - deflection limit span / 200

Broad flange in compression, single span

Wind suction load - deflection limit span / 150

Narrow flange in compression, single span

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0.7mm Steel 280N/mm² interior liner or galvanised steel
0.9mm Steel 280N/mm² interior liner or galvanised steel
1.2mm Steel 280N/mm² interior liner or galvanised steel

Safe Loads (kN/m²)

			Span (metres)														
		Span condition	1.4m	1.5m	1.6m	1.7m	1.8m	1.9m	2.0m	2.1m	2.2m	2.3m	2.4m	2.5m	2.6m	2.7m	2.8m
S280N/mm²	Imposed	Single	2.6	1.98	1.51	1.15	0.87										
		Double	3.17	2.82	2.51	2.25	2.02	1.82	1.64	1.4	1.14	0.93	0.75				
		Multi	3.86	3.44	2.92	2.34	1.88	1.51	1.22	0.97	0.77						
	Suction	Single	4.44	3.88	3.42	2.92	2.49										
		Double	4.1	3.58	3.16	2.81	2.52	2.27	2.06	1.88	1.72	1.59	1.47				
		Multi	5.09	4.45	3.93	3.49	3.12	2.81	2.55	2.32	2.13						
S280N/mm²	Imposed	Single	3.99	3.1	2.43	1.91	1.5	1.18	0.92	0.7							
		Double	4.99	4.44	3.97	3.56	3.21	2.91	2.64	2.25	1.88	1.57	1.31	1.09	0.91	0.75	
		Multi	6.05	5.4	4.46	3.62	2.96	2.43	1.99	1.64	1.35	1.11	0.9	0.73			
	Suction	Single	6.01	5.25	4.49	3.78	3.21	2.76	2.39	2.09							
		Double	6.35	5.55	4.89	4.34	3.89	3.5	3.17	2.89	2.64	2.43	2.24	2.07	1.93	1.8	
		Multi	7.91	6.9	6.08	5.4	4.83	4.35	3.94	3.58	3.27	2.92	2.59	2.32			
S280N/mm2	Imposed	Single	6.26	4.92	3.91	3.13	2.52	2.03	1.64	1.32	1.06	0.85					
		Double	7.82	6.96	6.22	5.58	5.04	4.56	4.15	3.65	3.09	2.63	2.24	1.91	1.63	1.39	1.18
		Multi	9.5	8.47	6.96	5.7	4.7	3.91	3.26	2.73	2.29	1.93	1.62	1.37	1.14	0.96	0.79
	Suction	Single	8.12	7.09	6.02	5.06	4.29	3.68	3.19	2.78	2.45	2.17					
		Double	9.86	8.61	7.58	6.73	6.02	5.42	4.9	4.46	4.08	3.74	3.45	3.19	2.96	2.75	2.57
		Multi	12.29	10.72	9.44	8.38	7.49	6.74	5.82	5.06	4.43	3.9	3.46	3.09	2.77	2.49	2.26

Notes:
Orange figures are stress limited.
Blue figures are deflection limited.
Calculations are to Eurocode (Irish standard), however additional checks such as fixings are required.
A construction line load of 1.5kN/m² has been allowed for.
Deck self weight has been allowed for, so does not have to be included in applied loads.
Transient Dead load 0.40 kN/m² has been considered.
Roof selfweight (not deck) 0.10 kN/ m² has been considered.
Wind Pressure 0.20 kN/ m² has been considered.
Snow load 0.60 kN/ m² has been considered.
Imposed load deflection limit = Span/200.
Wind suction load deflection limit = Span/150.
Single layer deck has been considered.
Deck support on minimum 1.5mm thick purlin has been considered.
Deck support width 100mm and support depth 200mm has been considered.
Deck end joint overlap has been considered.
Lateral restraint load 2kN/m has been taken into account.
No checks for walkability and openings have been performed.