QUEDRON

ROOFING & CLADDING PRODUCTS

QUEDRON

CLADDING SYSTEMS

April 2005

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INTRODUCTION

Specifying Quedron cladding profiles has several advantages. The shadow effect of the wide crest and narrow trough typical of these profiles is more pleasing to the eye. The fixings are more readily hidden and the side lap detail is less intrusive. Thus enhancing the aesthetics of the elevation.

The profiles may be fixed, horizontally, vertically or even diagonally. Each method has its own particular problems and pitfalls. Some suggestions to assist the cladding contractor are listed in the section on 'Manufacturer's Recommendations'.

Laying the cladding profile horizontally also allows the opportunity of including horizontally mitred corners or curved profile corners. Both of these features are covered in their relevant sections.

All profiles in this section may be curved. Often the feature of a hidden gutter contained above the eaves will allow a transfer from roof to cladding profile incorporating a curved eave. The wider crest of the cladding profile certainly enhances the curved eaves feature. In this, or in parapet wall situations the curved effect can be continued on the corners of the structure by the inclusion of curved mitred corners. These mitred corners may be manufactured at any angle to suit the structure.

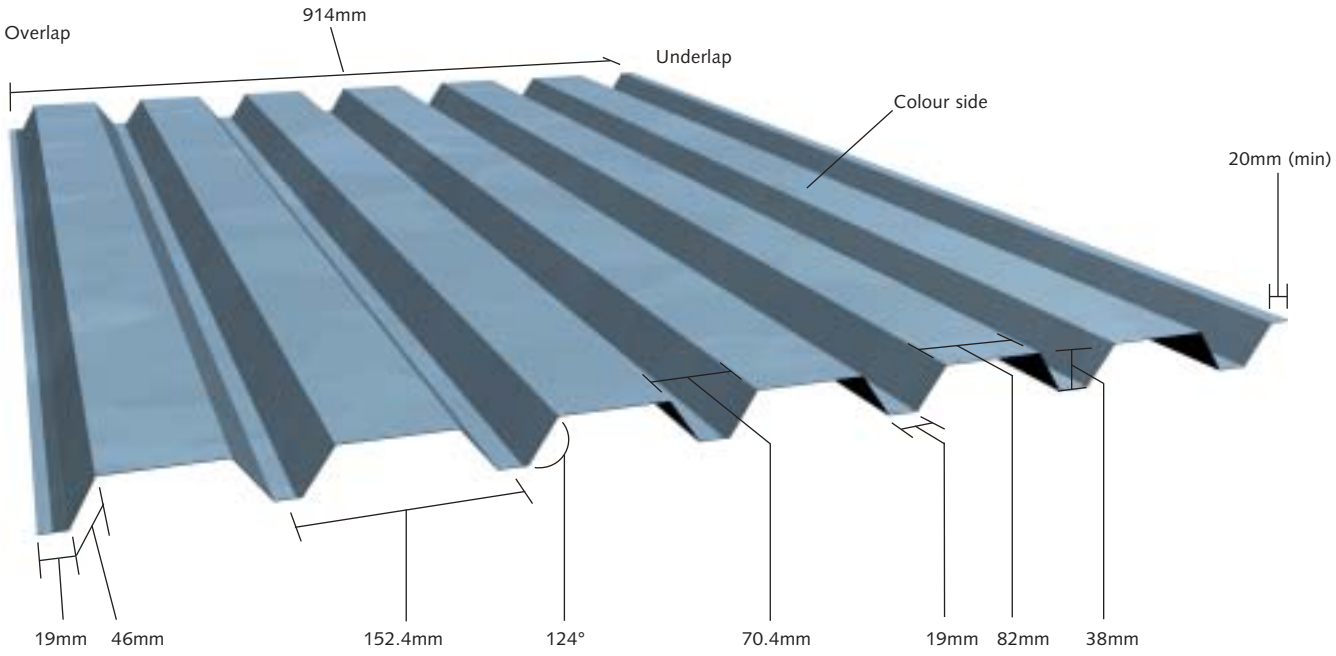
All of the profiles listed are available in all of the standard PVDF, Dobel 200XT, HPS 200, Polyester and Nova finishes, as well as mill finish and coated aluminium.

The information necessary for specifying and fixing cladding sheets is detailed in the section on 'specification and installation'.

The profiles identified in this section may only be used in the vertical plane since their configuration and side lap detail preclude them from installation on a roof.

CONTENTS

WA6M - STEEL



Dimension details	
Cover width	914mm
Profile pitch	152.4mm
Profile depth	38mm
Crown width	19mm
Valley width	82mm
Rib width	70.4mm
Web	46mm
Underlap (right as shown above)	20mm (minimum)
Overlap (left as shown above)	19mm

Weight per linear metre	
0.5 mm	4.823 kgs
0.7 mm	6.753 kgs
0.9 mm	8.682 kgs

Deflection < L/150

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	2.69	2.06	19.284	42.86
0.7	1.83	1.61	13.934	27.55
0.5	1.11	1.13	9.018	15.19

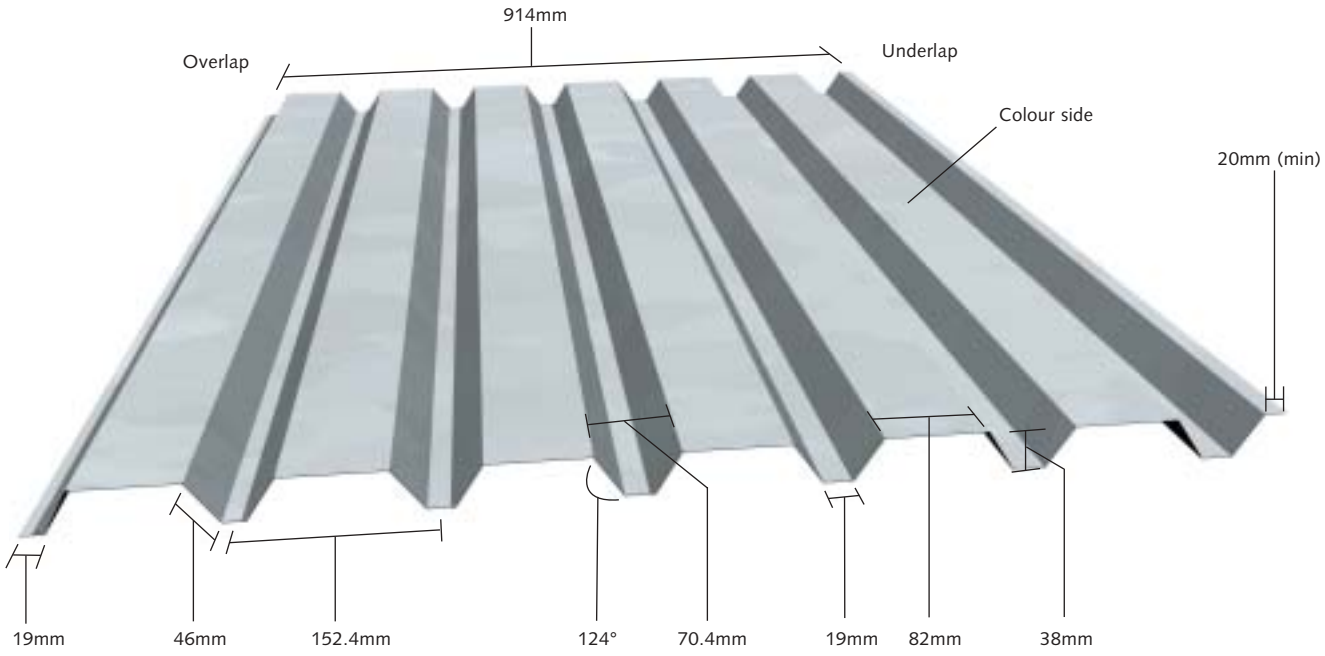
Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	5.92	4.89	4.11	3.50	3.02	2.63	2.31	2.05	1.83	1.64	1.48	1.34	1.22	1.12	1.03	0.95	0.88
	Inertia	9.47	7.11	5.48	4.31	3.45	2.80	2.31	1.93	1.62	1.38	1.18	1.02	0.89	0.78	0.68	0.61	0.54
	Reaction	20.25	18.41	16.88	15.58	14.47	13.50	12.66	11.91	11.25	10.66	10.13	9.64	9.21	8.81	8.44	8.10	7.79
	Limiting	5.92	4.89	4.11	3.50	3.02	2.63	2.31	1.93	1.62	1.38	1.18	1.02	0.89	0.78	0.68	0.61	0.54
0.7mm	Moment	9.76	8.07	6.78	5.78	4.98	4.34	3.81	3.38	3.01	2.70	2.44	2.21	2.02	1.84	1.69	1.56	1.44
	Inertia	14.63	10.99	8.46	6.66	5.33	4.33	3.57	2.98	2.51	2.13	1.83	1.58	1.37	1.20	1.06	0.94	0.83
	Reaction	36.73	33.39	30.61	28.26	26.24	24.49	22.96	21.61	20.41	19.33	18.37	17.49	16.70	15.97	15.31	14.69	14.13
	Limiting	9.76	8.07	6.78	5.78	4.98	4.33	3.57	2.98	2.51	2.13	1.83	1.58	1.37	1.20	1.06	0.94	0.83
0.9mm	Moment	14.35	11.86	9.96	8.49	7.32	6.38	5.60	4.96	4.43	3.97	3.59	3.25	2.96	2.71	2.49	2.30	2.12
	Inertia	20.24	15.21	11.71	9.21	7.38	6.00	4.94	4.12	3.47	2.95	2.53	2.19	1.90	1.66	1.46	1.30	1.15
	Reaction	57.15	51.95	47.62	43.96	40.82	38.10	35.72	33.62	31.75	30.08	28.57	27.21	25.98	24.85	23.81	22.86	21.98
	Limiting	14.35	11.86	9.96	8.49	7.32	6.00	4.94	4.12	3.47	2.95	2.53	2.19	1.90	1.66	1.46	1.30	1.15

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.mm	Moment	6.03	4.98	4.19	3.57	3.07	2.68	2.35	2.09	1.86	1.67	1.51	1.37	1.25	1.14	1.05	0.96	0.89
	Inertia	22.80	17.13	13.19	10.38	8.31	6.76	5.57	4.64	3.91	3.32	2.85	2.46	2.14	1.87	1.65	1.46	1.30
	Reaction	12.66	11.51	10.55	9.74	9.04	8.44	7.91	7.45	7.03	6.66	6.33	6.03	5.75	5.50	5.27	5.06	4.87
	Interaction	4.75	4.09	3.55	3.12	2.76	2.46	2.21	1.99	1.81	1.65	1.51	1.38	1.28	1.18	1.09	1.02	0.95
	Limiting	4.75	4.09	3.55	3.12	2.76	2.46	2.21	1.99	1.81	1.65	1.51	1.37	1.25	1.14	1.05	0.96	0.89
0.7mm	Moment	8.59	7.10	5.96	5.08	4.38	3.82	3.35	2.97	2.65	2.38	2.15	1.95	1.77	1.62	1.49	1.37	1.27
	Inertia	35.23	26.47	20.39	16.04	12.84	10.44	8.60	7.17	6.04	5.14	4.40	3.80	3.31	2.90	2.55	2.25	2.00
	Reaction	22.96	20.87	19.13	17.66	16.40	15.31	14.35	13.50	12.75	12.08	11.48	10.93	10.44	9.98	9.57	9.18	8.83
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	8.47	7.10	5.96	5.08	4.38	3.82	3.35	2.97	2.65	2.38	2.15	1.95	1.77	1.62	1.49	1.37	1.27
0.9mm	Moment	10.99	9.08	7.63	6.50	5.61	4.88	4.29	3.80	3.39	3.04	2.75	2.49	2.27	2.08	1.91	1.76	1.63
	Inertia	48.76	36.63	28.22	22.19	17.77	14.45	11.90	9.92	8.36	7.11	6.09	5.26	4.58	4.01	3.53	3.12	2.77
	Reaction	35.72	32.47	29.76	27.47	25.51	23.81	22.32	21.01	19.84	18.80	17.86	17.01	16.23	15.53	14.88	14.29	13.74
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	10.99	9.08	7.63	6.50	5.61	4.88	4.29	3.80	3.39	3.04	2.75	2.49	2.27	2.08	1.91	1.76	1.63

WA6M - ALUMINIUM



Dimension details	
Cover width	914mm
Profile pitch	152.4mm
Profile depth	38mm
Crown width	19mm
Valley width	82mm
Rib width	70.4mm
Web	46mm
Underlap (right as shown above)	20mm (minimum)
Overlap (left as shown above)	19mm

Weight per linear metre	
0.7 mm mill finish	2.338 kgs
0.9 mm mill finish	3.006 kgs
0.7 mm one side coated	2.368 kgs
0.9 mm one side coated	3.039 kgs

Deflection < L/200

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.95	1.97	16.491	24.01
0.7	1.36	1.35	11.943	15.43

Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	7.25	5.99	5.04	4.29	3.70	3.22	2.83	2.51	2.24	2.01	1.81	1.64	1.50	1.37	1.26	1.16	1.07
	Inertia	3.16	2.38	1.83	1.44	1.15	0.94	0.77	0.64	0.54	0.46	0.40	0.34	0.30	0.26	0.23	0.20	0.18
	Reaction	20.57	18.70	17.14	15.83	14.70	13.72	12.86	12.10	11.43	10.83	10.29	9.80	9.35	8.94	8.57	8.23	7.91
	Limiting	3.16	2.38	1.83	1.44	1.15	0.94	0.77	0.64	0.54	0.46	0.40	0.34	0.30	0.26	0.23	0.20	0.18
0.9mm	Moment	10.40	8.60	7.22	6.15	5.31	4.62	4.06	3.60	3.21	2.88	2.60	2.36	2.15	1.97	1.81	1.66	1.54
	Inertia	4.37	3.28	2.53	1.99	1.59	1.29	1.07	0.89	0.75	0.64	0.55	0.47	0.41	0.36	0.32	0.28	0.25
	Reaction	32.01	29.10	26.68	24.63	22.87	21.34	20.01	18.83	17.79	16.85	16.01	15.24	14.55	13.92	13.34	12.81	12.31
	Limiting	4.37	3.28	2.53	1.99	1.59	1.29	1.07	0.89	0.75	0.64	0.55	0.47	0.41	0.36	0.32	0.28	0.25

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	7.20	5.95	5.00	4.26	3.67	3.20	2.81	2.49	2.22	1.99	1.80	1.63	1.49	1.36	1.25	1.15	1.07
	Inertia	7.62	5.73	4.41	3.47	2.78	2.26	1.86	1.55	1.31	1.11	0.95	0.82	0.72	0.63	0.55	0.49	0.43
	Reaction	12.86	11.69	10.72	9.89	9.18	8.57	8.04	7.56	7.14	6.77	6.43	6.12	5.84	5.59	5.36	5.14	4.95
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	7.20	5.73	4.41	3.47	2.78	2.26	1.86	1.55	1.31	1.11	0.95	0.82	0.72	0.63	0.55	0.49	0.43
0.9mm	Moment	10.51	8.68	7.30	6.22	5.36	4.67	4.10	3.64	3.24	2.91	2.63	2.38	2.17	1.99	1.82	1.68	1.55
	Inertia	10.53	7.91	6.09	4.79	3.84	3.12	2.57	2.14	1.80	1.53	1.32	1.14	0.99	0.87	0.76	0.67	0.60
	Reaction	20.01	18.19	16.67	15.39	14.29	13.34	12.51	11.77	11.12	10.53	10.00	9.53	9.09	8.70	8.34	8.00	7.70
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	10.51	7.91	6.09	4.79	3.84	3.12	2.57	2.14	1.80	1.53	1.32	1.14	0.99	0.87	0.76	0.67	0.60

Deflection < L/100

t (mm)	Mcap +ve (kNm/m)	Mcap - ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.95	1.97	16.491	24.01
0.7	1.36	1.35	11.943	15.43

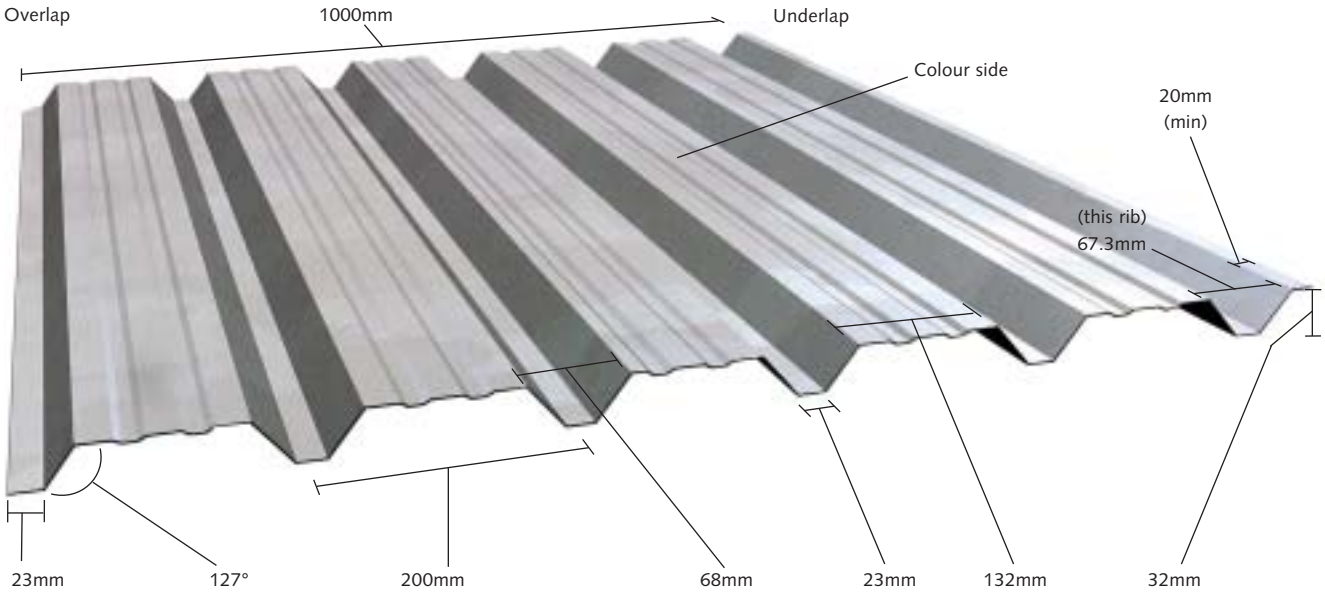
Single span case – permissible working +ve Loads

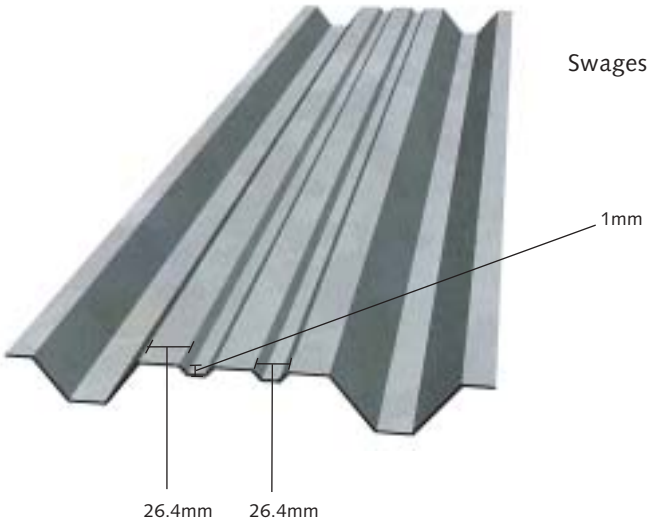
Thickness	Design case	Spans in metres 1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
0.7mm	Moment	7.25	5.99	5.04	4.29	3.70	3.22	2.83	2.51	2.24	2.01	1.81	1.64	1.50	1.37	1.26	1.16	1.07
	Inertia	6.33	4.75	3.66	2.88	2.31	1.88	1.55	1.29	1.09	0.92	0.79	0.68	0.59	0.52	0.46	0.41	0.36
	Reaction	20.57	18.70	17.14	15.83	14.70	13.72	12.86	12.10	11.43	10.83	10.29	9.80	9.35	8.94	8.57	8.23	7.91
	Limiting	6.33	4.75	3.66	2.88	2.31	1.88	1.55	1.29	1.09	0.92	0.79	0.68	0.59	0.52	0.46	0.41	0.36
0.9mm	Moment	10.40	8.60	7.22	6.15	5.31	4.62	4.06	3.60	3.21	2.88	2.60	2.36	2.15	1.97	1.81	1.66	1.54
	Inertia	8.74	6.57	5.06	3.98	3.18	2.59	2.13	1.78	1.50	1.27	1.09	0.94	0.82	0.72	0.63	0.56	0.50
	Reaction	32.01	29.10	26.68	24.63	22.87	21.34	20.01	18.83	17.79	16.85	16.01	15.24	14.55	13.92	13.34	12.81	12.31
	Limiting	8.74	6.57	5.06	3.98	3.18	2.59	2.13	1.78	1.50	1.27	1.09	0.94	0.82	0.72	0.63	0.56	0.50

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	7.20	5.95	5.00	4.26	3.67	3.20	2.81	2.49	2.22	1.99	1.80	1.63	1.49	1.36	1.25	1.15	1.07
	Inertia	15.25	11.45	8.82	6.94	5.56	4.52	3.72	3.10	2.61	2.22	1.91	1.65	1.43	1.25	1.10	0.98	0.87
	Reaction	12.86	11.69	10.72	9.89	9.18	8.57	8.04	7.56	7.14	6.77	6.43	6.12	5.84	5.59	5.36	5.14	4.95
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	7.20	5.95	5.00	4.26	3.67	3.20	2.81	2.49	2.22	1.99	1.80	1.63	1.43	1.25	1.10	0.98	0.87
0.9mm	Moment	10.51	8.68	7.30	6.22	5.36	4.67	4.10	3.64	3.24	2.91	2.63	2.38	2.17	1.99	1.82	1.68	1.55
	Inertia	21.05	15.82	12.18	9.58	7.67	6.24	5.14	4.28	3.61	3.07	2.63	2.27	1.98	1.73	1.52	1.35	1.20
	Reaction	20.01	18.19	16.67	15.39	14.29	13.34	12.51	11.77	11.12	10.53	10.00	9.53	9.09	8.70	8.34	8.00	7.70
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	10.51	8.68	7.30	6.22	5.36	4.67	4.10	3.64	3.24	2.91	2.63	2.27	1.98	1.73	1.52	1.35	1.20

MW5CS - STEEL





Dimension details	
Cover width	1000mm
Profile pitch	200mm
Profile depth	32mm
Crown width	23mm
Valley width	132mm
Rib width	68mm
Web	39mm
Overlap (left as shown above)	23mm
Underlap (right as shown above)	20mm (minimum)

Weight per linear metre	
0.5mm	4.823 kgs
0.7mm	6,753 kgs
0.9mm	8.682 kgs

Deflection < L/150

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.77	1.40	10.7136	30.72
0.7	1.19	1.09	7.6763	19.71
0.5	0.70	0.75	4.9152	10.84

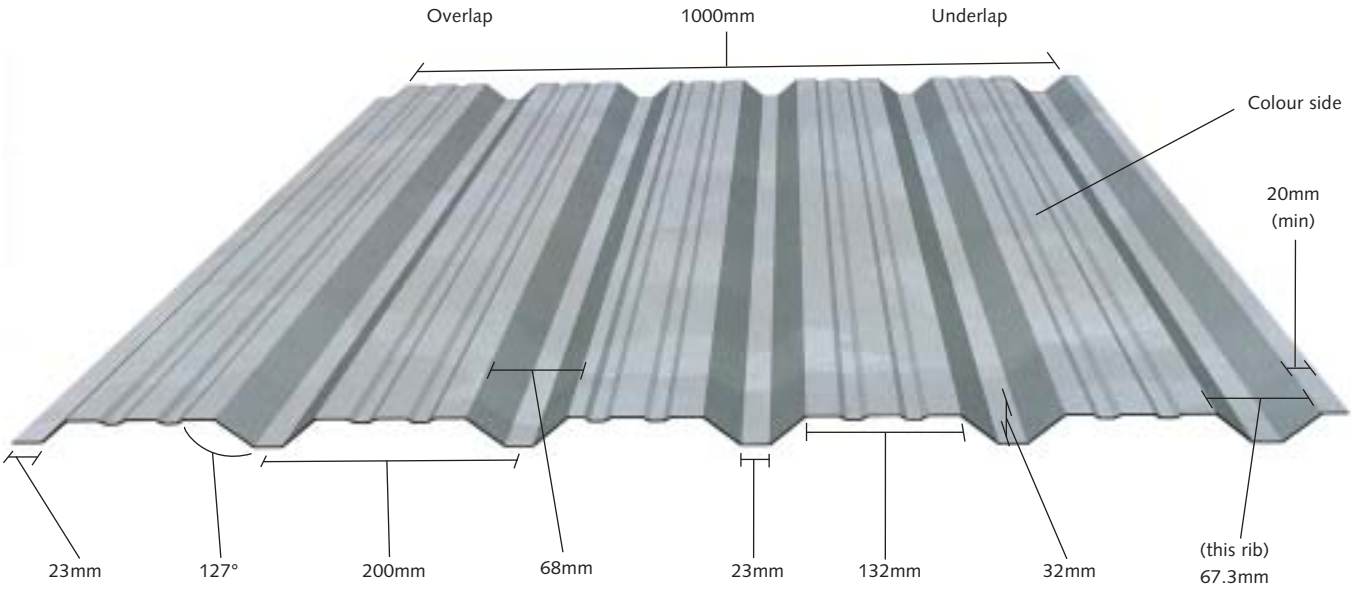
Single span case – permissible working +ve loads

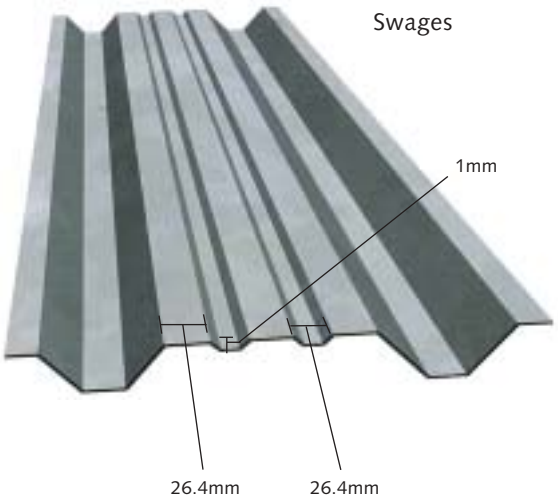
Thickness	Design case	Spans in metres 1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
0.5mm	Moment	3.73	3.09	2.59	2.21	1.90	1.66	1.46	1.29	1.15	1.03	0.93	0.85	0.77	0.71	0.65	0.60	0.55
	Inertia	5.16	3.88	2.99	2.35	1.88	1.53	1.26	1.05	0.88	0.75	0.64	0.56	0.48	0.42	0.37	0.33	0.29
	Reaction	14.45	13.14	12.04	11.12	10.32	9.64	9.03	8.50	8.03	7.61	7.23	6.88	6.57	6.28	6.02	5.78	5.56
	Limiting	3.73	3.09	2.59	2.21	1.88	1.53	1.26	1.05	0.88	0.75	0.64	0.56	0.48	0.42	0.37	0.33	0.29
0.7mm	Moment	6.35	5.25	4.41	3.76	3.24	2.82	2.48	2.20	1.96	1.76	1.59	1.44	1.31	1.20	1.10	1.02	0.94
	Inertia	8.06	6.05	4.66	3.67	2.94	2.39	1.97	1.64	1.38	1.17	1.01	0.87	0.76	0.66	0.58	0.52	0.46
	Reaction	26.28	23.89	21.90	20.22	18.77	17.52	16.43	15.46	14.60	13.83	13.14	12.51	11.95	11.43	10.95	10.51	10.11
	Limiting	6.35	5.25	4.41	3.67	2.94	2.39	1.97	1.64	1.38	1.17	1.01	0.87	0.76	0.66	0.58	0.52	0.46
0.9mm	Moment	9.44	7.80	6.56	5.59	4.82	4.20	3.69	3.27	2.91	2.61	2.36	2.14	1.95	1.78	1.64	1.51	1.40
	Inertia	11.24	8.45	6.51	5.12	4.10	3.33	2.75	2.29	1.93	1.64	1.41	1.21	1.06	0.92	0.81	0.72	0.64
	Reaction	40.96	37.24	34.13	31.51	29.26	27.31	25.60	24.09	22.76	21.56	20.48	19.50	18.62	17.81	17.07	16.38	15.75
	Limiting	9.44	7.80	6.51	5.12	4.10	3.33	2.75	2.29	1.93	1.64	1.41	1.21	1.06	0.92	0.81	0.72	0.64

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	4.00	3.31	2.78	2.37	2.04	1.78	1.56	1.38	1.23	1.11	1.00	0.91	0.83	0.76	0.69	0.64	0.59
	Inertia	12.43	9.34	7.19	5.66	4.53	3.68	3.03	2.53	2.13	1.81	1.55	1.34	1.17	1.02	0.90	0.80	0.71
	Reaction	9.03	8.21	7.53	6.95	6.45	6.02	5.65	5.31	5.02	4.75	4.52	4.30	4.11	3.93	3.76	3.61	3.47
	Interaction	4.75	4.09	3.55	3.12	2.76	2.46	2.21	1.99	1.81	1.65	1.51	1.38	1.28	1.18	1.09	1.02	0.95
	Limiting	4.00	3.31	2.78	2.37	2.04	1.78	1.56	1.38	1.23	1.11	1.00	0.91	0.83	0.76	0.69	0.64	0.59
0.7mm	Moment	5.81	4.80	4.04	3.44	2.97	2.58	2.27	2.01	1.79	1.61	1.45	1.32	1.20	1.10	1.01	0.93	0.86
	Inertia	19.41	14.58	11.23	8.83	7.07	5.75	4.74	3.95	3.33	2.83	2.43	2.10	1.82	1.60	1.40	1.24	1.10
	Reaction	16.43	14.93	13.69	12.63	11.73	10.95	10.27	9.66	9.13	8.64	8.21	7.82	7.47	7.14	6.84	6.57	6.32
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	5.81	4.80	4.04	3.44	2.97	2.58	2.27	2.01	1.79	1.61	1.45	1.32	1,20	1.10	1.01	0.93	0.86
0.9mm	Moment	7.47	6.17	5.19	4.42	3.81	3.32	2.92	2.58	2.30	2.07	1.87	1.69	1.54	1.41	1.30	1.19	1.10
	Inertia	27.09	20.35	15.68	12.33	9.87	8.03	6.61	5.51	4.64	3.95	3.39	2.92	2.54	2.23	1.96	1.73	1.54
	Reaction	25.60	23.27	21.33	19.69	18.29	17.07	16.00	15.06	14.22	13.47	12.80	12.19	11.64	11.13	10.67	10.24	9.85
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	7.47	6.17	5.19	4.42	3.81	3.32	2.92	2.58	2.30	2.07	1.87	1.69	1.54	1.41	1.30	1.19	1.10

MW5CS - ALUMINIUM





Dimension details	
Cover width	1000mm
Profile pitch	200mm
Profile depth	32mm
Crown width	23mm
Valley width	132mm
Rib width	68mm
Web	39mm
Overlap (left as shown above)	23mm
Underlap (right as shown above)	20mm (minimum)

Weight per linear metre	
0.7 mm mill finish	2.338 kgs
0.9 mm mill finish	3.006 kgs
0.7 mm one side coated	2.363 kgs
0.9 mm one side coated	3.039 kgs

Deflection < L/200

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.29	1.32	8.9364	17.61
0.7	0.88	0.91	6.4246	11.3

Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	4.69	3.38	3.26	2.78	2.39	2.09	1.83	1.62	1.45	1.30	1.17	1.06	0.97	0.89	0.81	0.75	0.69
	Inertia	5.06	3.80	2.93	2.30	1.84	1.50	1.23	1.03	0.87	0.74	0.63	0.55	0.47	0.42	0.37	0.32	0.29
	Reaction	15.07	13.70	12.56	11.59	10.76	10.04	9.42	8.86	8.37	7.93	7.53	7.17	6.85	6.55	6.28	6.03	5.79
	Limiting	4.69	3.80	2.93	2.30	1.84	1.50	1.23	1.03	0.87	0.74	0.63	0.55	0.47	0.42	0.37	0.32	0.29
0.7mm	Moment	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	1.02
	Inertia	7.03	5.29	4.07	3.20	2.56	2.08	1.72	1.43	1.21	1.03	0.88	0.76	0.66	0.58	0.51	0.45	0.40
	Reaction	23.48	21.35	19.57	18.06	16.77	15.65	14.68	13.81	13.04	12.36	11.74	11.18	10.67	10.21	9.78	9.39	9.03
	Limiting	6.88	5.29	4.07	3.20	2.56	2.08	1.72	1.43	1.21	1.03	0.88	0.76	0.66	0.58	0.51	0.45	0.40

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	4.85	4.01	3.37	2.87	2.48	2.16	1.90	1.68	1.50	1.34	1.21	1.10	1.00	0.92	0.84	0.78	0.72
	Inertia	12.18	9.15	7.05	5.55	4.44	3.61	2.97	2.48	2.09	1.78	1.52	1.32	1.14	1.00	0.88	0.78	0.69
	Reaction	9.42	8.56	7.85	7.24	6.73	6.28	5.89	5.54	5.23	4.96	4.71	4.48	4.28	4.09	3.92	3.77	3.62
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	4.85	4.01	3.37	2.87	2.48	2.16	1.90	1.68	1.50	1.34	1.21	1.10	1.00	0.92	0.84	0.78	0.69
0.7mm	Moment	7.04	5.82	4.89	4.17	3.59	3.13	2.75	2.44	2.17	1.95	1.76	1.60	1.45	1.33	1.22	1.13	1.04
	Inertia	16.95	12.73	9.81	7.71	6.18	5.02	4.14	3.45	2.91	2.47	2.12	1.83	1.59	1.39	1.23	1.08	0.96
	Reaction	14.68	13.34	12.23	11.29	10.48	9.78	9.17	8.63	8.15	7.72	7.34	6.99	6.67	6.38	6.11	5.87	5.64
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4,76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	7.04	5.82	4.89	4.17	3.59	3.13	2.75	2.44	2.17	1.95	1.76	1.60	1.45	1.33	1.22	1,08	0.96

Deflection < L/100

t (mm)	Mcap +ve (kNm/m)	Mcap - ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.29	1.32	8.9364	17.61
0.7	0.88	0.91	6.4246	11.3

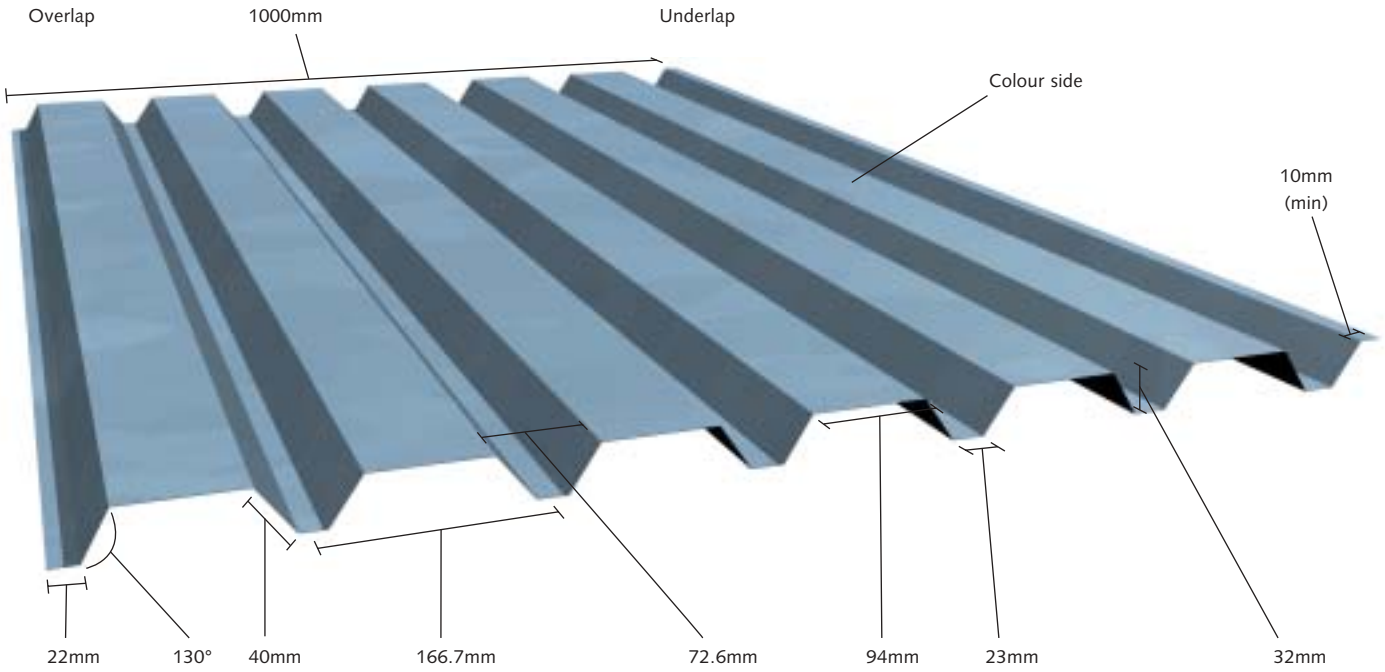
Single span case – permissible working +ve Loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	4.69	3.88	3.26	2.78	2.39	2.09	1.83	1.62	1.45	1.30	1.17	1.06	0.97	0.89	0.81	0.75	0.69
	Inertia	10.11	7.60	5.85	4.60	3.69	3.00	2.47	2.06	1.73	1.47	1.26	1.09	0.95	0.83	0.73	0.65	0.58
	Reaction	15.07	13.70	12.56	11.59	10.76	10.04	9.42	8.86	8.37	7.93	7.53	7.17	6.85	6.55	6.28	6.03	5.79
	Limiting	4.69	3.88	3.26	2.78	2.39	2.09	1.83	1.62	1.45	1.30	1.17	1.06	0.95	0.83	0.73	0.65	0.58
0.9mm	Moment	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	1.02
	Inertia	14.07	10.57	8.14	6.40	5.13	4.17	3.43	2.86	2.41	2.05	1.76	1.52	1.32	1.16	1.02	0.90	0.80
	Reaction	23.48	21.35	19.57	18.06	16.77	15,65	14.68	13.81	13.04	12.36	11.74	11.18	10.67	10.21	9.78	9.39	9.03
	Limiting	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.52	1.32	1.16	1.02	0.90	0.80

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	4.85	4.01	3.37	2.87	2.48	2.16	1.90	1.68	1.50	1.34	1.21	1.10	1.00	0.92	0.84	0.78	0.72
	Inertia	24.37	18.31	14.10	11.09	8.88	7.22	5.95	4.96	4.18	3.55	3.05	2.63	2.29	2.00	1.76	1.56	1.39
	Reaction	9.42	8.56	7.85	7.24	6.73	6.28	5.89	5.54	5.23	4.96	4.71	4.48	4.28	4.09	3.92	3.77	3.62
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	4.85	4.01	3.37	2.87	2.48	2.16	1.90	1.68	1.50	1.34	1.21	1,10	1.00	0.92	0.84	0.78	0.72
0.9mm	Moment	7.04	5.82	4.89	4.17	3.59	3.13	2.75	2.44	2.17	1.95	1.76	1.60	1.45	1.33	1.22	1.13	1.04
	Inertia	33.89	25.46	19.61	15.43	12.35	10.04	8.27	6.90	5.81	4.94	4.24	3.66	3.18	2.79	2.45	2.17	1.93
	Reaction	14.68	13.34	12.23	11.29	10.48	9.78	9.17	8.63	8.15	7.72	7.34	6.99	6.67	6.38	6.11	5.87	5.64
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	7.04	5.82	4.89	4.17	3.59	3.13	2.75	2.44	2.17	1.95	1.76	1.60	1.45	1.33	1.22	1.13	1.04

1000/32C - STEEL



Dimension details	
Cover width	1000mm
Profile pitch	166.7mm
Profile depth	32mm
Crown width	23mm
Valley width	94mm
Rib width	72.6mm
Web	40mm
Underlap (right as shown above)	10mm (Minimum)
Overlap (left as shown above)	22mm

Weight per linear metre	
0.5mm	4.823 kgs
0.7mm	6.753 kgs
0.9mm	8.682 kgs

Deflection < L/150

t(mm)	Mcap + ve (kNm/m)	Mcap - ve (kN/m)	Ieff (mm4/m)	Rcap (kNm/m)
0.9	2.08	1.66	12.81	36.85
0.7	1.41	1.29	9.22	23.65
0.5	0.84	0.88	5.93	13.02

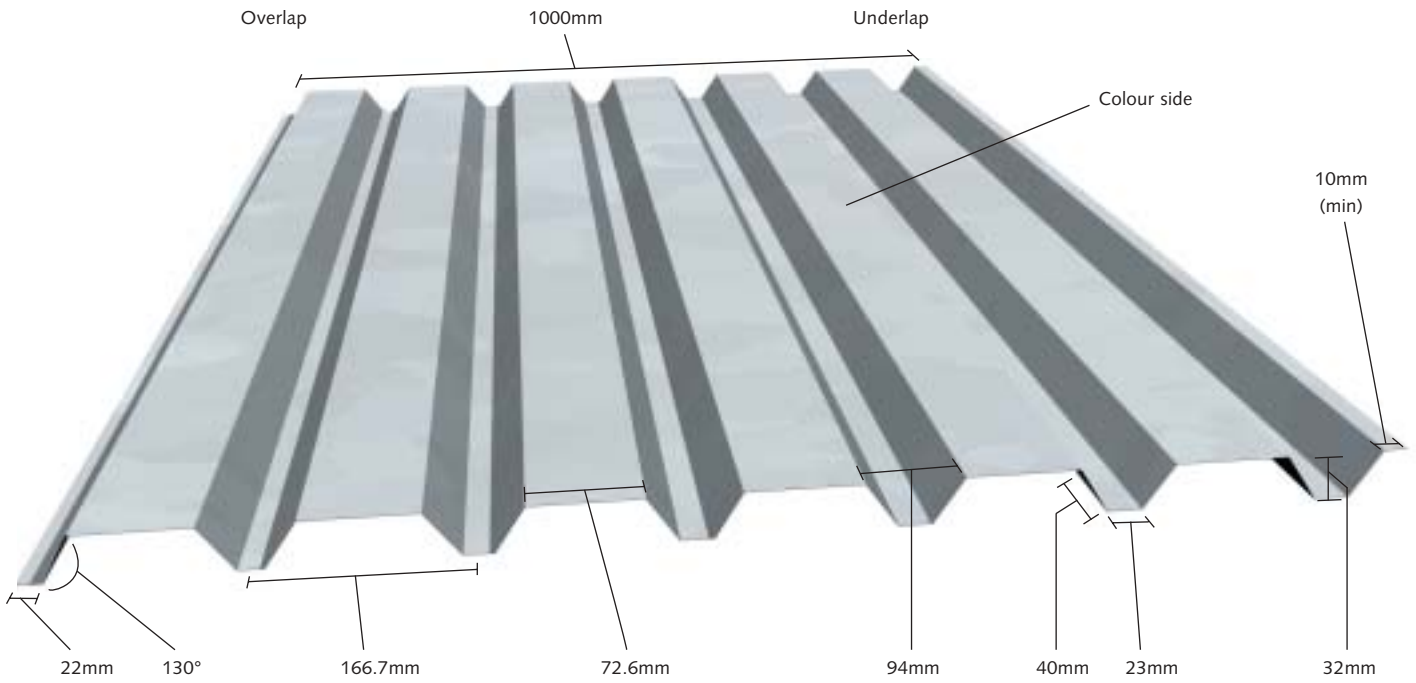
Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	4.48	3.70	3.11	2.65	2.29	1.99	1.75	1.55	1.38	1.24	1.12	1.02	0.93	0.85	0.78	0.72	0.66
	Inertia	6.22	4.68	3.60	2.83	2.27	1.84	1.52	1.27	1.07	0.91	0.78	0.67	0.58	0.51	0.45	0.40	0.35
	Reaction	17.35	15.78	14.46	13.35	12.40	11.57	10.85	10.21	9.64	9.13	8.68	8.26	7.89	7.55	7.23	6.94	6.67
	Limiting	4.48	3.70	3.11	2.65	2.27	1.84	1.52	1.27	1.07	0.91	0.78	0.67	0.58	0.51	0.45	0.40	0.35
0.7mm	Moment	7.52	6.21	5.22	4.45	3.84	3.34	2.94	2.60	2.32	2.08	1.88	1.71	1.55	1.42	1.31	1.20	1.11
	Inertia	9.68	7.27	5.60	4.40	3.53	2.87	2.36	1.97	1.66	1.41	1.21	1.04	0.91	0.80	0.70	0.62	0.55
	Reaction	31.54	28.67	26.28	24.26	22.53	21.02	19.71	18.55	17.52	16.60	15.77	15.02	14.33	13.71	13.14	12.61	12.13
	Limiting	7.52	6.21	5.22	4.40	3.53	2.87	2.36	1.97	1.66	1.41	1.21	1.04	0.91	0.80	0.70	0.62	0.55
0.9mm	Moment	11.09	9.17	7.70	6.56	5.66	4.93	4.33	3.84	3.42	3.07	2.77	2.52	2.29	2.10	1.93	1.77	1.64
	Inertia	13.45	10.10	7.78	6.12	4.90	3.98	3.28	2.74	2.31	1.96	1.68	1.45	1.26	1.11	0.97	0.86	0.77
	Reaction	49.14	44.67	40.95	37.80	35.10	32.76	30.71	28.90	27.30	25.86	24.57	23.40	22.34	21.36	20.47	19.66	18.90
	Limiting	11.09	9.17	7.70	6.12	4.90	3.98	3.28	2.74	2.31	1.96	1.68	1.45	1.26	1.11	0.97	0.86	0.77

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	4.69	3.88	3.26	2.78	2.39	2.09	1.83	1.62	1.45	1.30	1.17	1.06	0.97	0.89	0.81	0.75	0.69
	Inertia	14.99	11.26	8.68	6.82	5.46	4.44	3.66	3.05	2.57	2.19	1.87	1.62	1.41	1.23	1.08	0.96	0.85
	Reaction	10.85	9.86	9.04	8.34	7.75	7.23	6.78	6.38	6.03	5.71	5.42	5.17	4.93	4.72	4.52	4.34	4.17
	Interaction	4.75	4.09	3.55	3.12	2.76	2.46	2.21	1.99	1.81	1.65	1.51	1.38	1.28	1.18	1.09	1.02	0.95
	Limiting	4.69	3.88	3.26	2.78	2.39	2.09	1.83	1.62	1.45	1.30	1.17	1.06	0.97	0.89	0.81	0.75	0.69
0.7mm	Moment	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	1.02
	Inertia	23.31	17.51	13.49	10.61	8.49	6.91	5.69	4.74	4.00	3.40	2.91	2.52	2.19	1.92	1.69	1.49	1.33
	Reaction	19.71	17.92	16.42	15.16	14.08	13.14	12.32	11.59	10.95	10.37	9.85	9.39	8.96	8.57	8.21	7.88	7.58
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2,08	1.93	1.79	1.67
	Limiting	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	1.02
0.9mm	Moment	8.85	7.32	6.15	5.24	4.52	3.93	3.46	3.06	2.73	2.45	2.21	2.01	1.83	1.67	1.54	1.42	1.31
	Inertia	32.40	24.34	18.75	14.75	11.81	9.60	7.91	6.59	5.56	4.72	4.05	3.50	3.04	2.66	2.34	2.07	1.84
	Reaction	30.71	27.92	25.59	23.62	21.94	20.47	19.19	18.07	17.06	16.16	15.36	14.62	13.96	13.35	12.80	12.28	11.81
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	8.85	7.32	6.15	5.24	4.52	3.93	3.46	3.06	2.73	2.45	2.21	2.01	1.83	1.67	1.54	1.42	1.31

1000/32C - ALUMINIUM



Dimension details	
Cover width	1000mm
Profile pitch	166.7mm
Profile depth	32mm
Crown width	23mm
Valley width	94mm
Rib width	72.6mm
Web	40mm
Underlap (right as shown above)	10mm (minimum)
Overlap (left as shown above)	22mm

Weight per linear metre	
0.7mm mill finish	2.338 kgs
0.9mm mill finish	3.006 kgs
0.7mm one side coated	2.368 kgs
0.9mm one side coated	3.039 kgs

Deflection < L/200

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	2.08	1.66	12.81	36.85
0.7	1.41	1.29	9.22	23.65

Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	7.52	6.21	5.22	4.45	3.84	3.34	2.94	2.60	2.32	2.08	1.88	1.71	1.55	1.42	1.31	1.20	1.11
	Inertia	7.26	5.45	4.20	3.30	2.64	2.15	1.77	1.48	1.24	1.06	0.91	0.78	0.68	0.60	0.52	0.46	0.41
	Reaction	31.54	28.67	26.28	24.26	22.53	21.02	19.71	18.55	17.52	16.60	15.77	15.02	14.33	13.71	13.14	12.61	12.13
	Limiting	7.26	5.45	4.20	3.30	2.64	2.15	1.77	1.48	1.24	1.06	0.91	0.78	0.68	0.60	0.52	0.46	0.41
0.7mm	Moment	11.09	9.17	7.70	6.56	5.66	4.93	4.33	3.84	3.42	3.07	2.77	2.52	2.29	2.10	1.93	1.77	1.64
	Inertia	10.09	7.58	5.84	4.59	3.68	2.99	2.46	2.05	1.73	1.47	1.26	1.09	0.95	0.83	0.73	0.65	0.57
	Reaction	49.14	44.67	40.95	37.80	35.10	32.76	30.71	28.90	27.30	25.86	24.57	23.40	22.34	21.36	20.47	19.66	18.90
	Limiting	10.09	7.58	5.84	4.59	3.68	2.99	2.46	2.05	1.73	1.47	1.26	1.09	0.95	0.83	0.73	0.65	0.57

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	1.02
	Inertia	17.48	13.13	10.12	7.96	6.37	5.18	4.27	3.56	3.00	2.55	2.18	1.89	1.64	1.44	1.26	1.12	0.99
	Reaction	19.71	17.92	16.42	15.16	14.08	13.14	12.32	11.59	10.95	10.37	9.85	9.39	8.96	8.57	8.21	7.88	7.58
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	6.88	5.69	4.78	4.07	3.51	3.06	2.69	2.38	2.12	1.91	1.72	1.56	1.42	1.30	1.19	1.10	0.99
0.7mm	Moment	8.85	7.32	6.15	5.25	4.52	3.93	3.46	3.06	2.73	2.45	2.21	2.01	1.83	1.67	1.54	1.42	1.31
	Inertia	24.30	18.26	14.06	11.06	8.85	7.20	5.93	4.95	4.17	3.54	3.04	2.62	2.28	2.00	1.76	1.56	1.38
	Reaction	30.71	27.92	25.59	23.62	21.94	20.47	19.19	18.07	17.06	16.16	15.36	14.62	13.96	13.35	12.80	12.28	11.81
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	8.85	7.32	6.15	5.24	4.52	3.93	3.46	3.06	2.73	2.45	2.21	2.01	1.83	1.67	1.54	1.42	1.31

Deflection < L/100

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	1.61	1.54	16.00	21.12
0.7	1.09	1.06	11.78	13.56

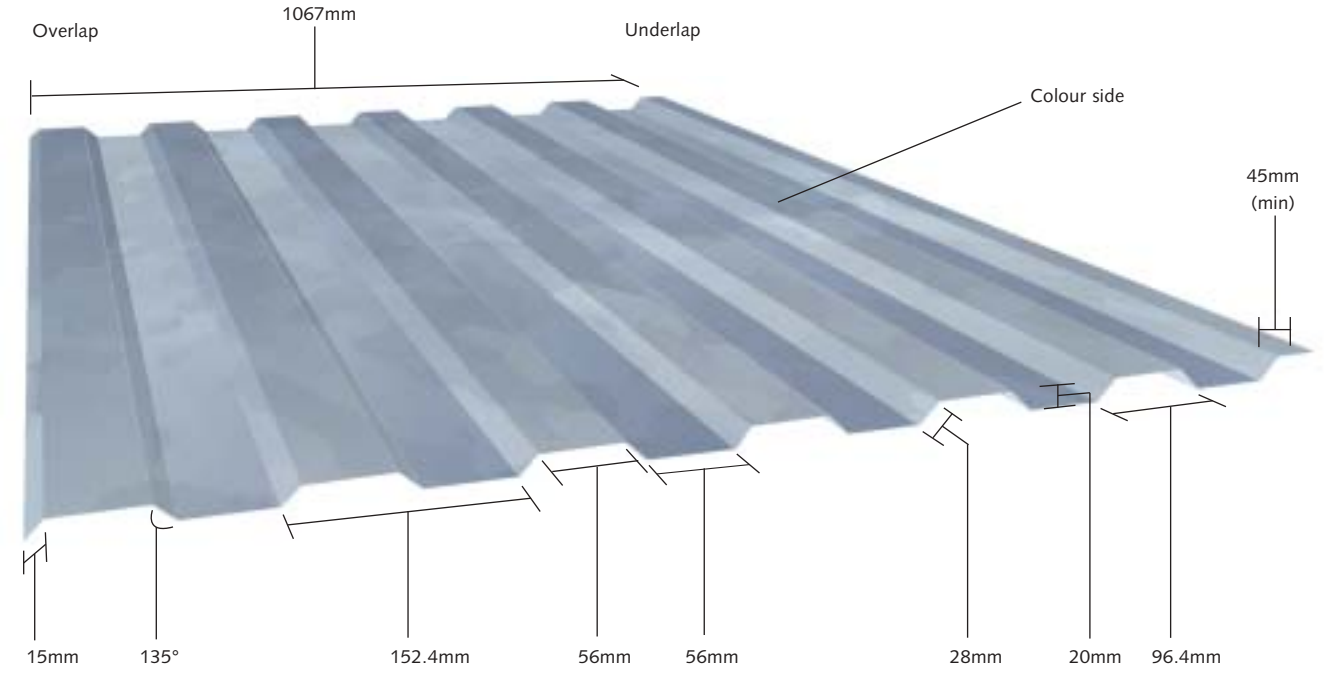
Single span case – permissible working +ve Loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	5.81	4.80	4.04	3.44	2.97	2.58	2.27	2.01	1.79	1.61	1.45	1.32	1.20	1.10	1.01	0.93	0.86
	Inertia	18.54	13.93	10.73	8.44	6.76	5.49	4.53	3.77	3.18	2.70	2.32	2.00	1.74	1.52	1.34	1.19	1.05
	Reaction	18.08	16.44	15.07	13.91	12.91	12.05	11.30	10.64	10.04	9.52	9.04	8.61	8.22	7.86	7.53	7.23	6.95
	Limiting	5.81	4.80	4.04	3.44	2.97	2.58	2.27	2.01	1.79	1.61	1.45	1.32	1.20	1.10	1.01	0.93	0.86
0.9mm	Moment	8.59	7.10	5.96	5.08	4.38	3.82	3.35	2.97	2.65	2.38	2.15	1.95	1.77	1.62	1.49	1.37	1.27
	Inertia	25.19	18.92	14,58	11.46	9.18	7.46	6.15	5.13	4.32	3.67	3.15	2.72	2.37	2.07	1.82	1.61	1.43
	Reaction	28.16	25.60	23.47	21.66	20.11	18.77	17.60	16.56	15.64	14.82	14.08	13.41	12.80	12.24	11.73	11.26	10.83
	Limiting	8.59	7.10	5.96	5.08	4.38	3.82	3.35	2.97	2.65	2.38	2.15	1.95	1.77	1.62	1.49	1.37	1.27

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	5.65	4.67	3.93	3.35	2.88	2.51	2.21	1.96	1.74	1.57	1.41	1.28	1.17	1.07	0.98	0.90	0.84
	Inertia	44.66	33.58	25.85	20.33	16.28	13.23	10.90	9.09	7.66	6.51	5.58	4.82	4.19	3.67	3.23	2.86	2.54
	Reaction	11.30	10.27	9.42	8.69	8.07	7.53	7.06	6.65	6.28	5.95	5.65	5.38	5.14	4.91	4.71	4.52	4.35
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	5.65	4.67	3.93	3.35	2.88	2.51	2.21	1.96	1.74	1.57	1.41	1.28	1.17	1.07	0.98	0.90	0.84
0.9mm	Moment	8.21	6.79	5.70	4.86	4.19	3.65	3.21	2.84	2.53	2.28	2.05	1.86	1.70	1.55	1.43	1.31	1.21
	Inertia	60.67	45.58	35.11	27.62	22.11	17.98	14.81	12.35	10.40	8.85	7.58	6.65	5.70	4.99	4.39	3.88	3.45
	Reaction	17.60	16.00	14.67	13.54	12.57	11.73	11.00	10.35	9.78	9.26	8.80	8.38	8.00	7.65	7.33	7.04	6.77
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	8.21	6.79	5.70	4.86	4.19	3.65	3.21	2.84	2.53	2.28	2.05	1.86	1.70	1.55	1.43	1.31	1.21

1067/20C - STEEL



Dimension details	
Cover width	1067mm
Profile pitch	152.4mm
Profile depth	20mm
Crown width	56mm
Valley width	56mm
Rib width	96.4mm
Web	28mm
Underlap (right as shown above)	45mm (minimum)
Overlap (left as shown above)	15mm

Weight per linear metre	
0.5mm	4.823 kgs
0.7mm	6.753 kgs
0.9mm	8.682 kgs

Deflection < L/150

t(mm)	Mcap +ve (kNm/m)	Mcap -ve (kN/m)	Ieff (mm4/m)	Rcap (kNm/m)
0.9	1.37	1.37	6.819	36.37
0.7	0.94	0.94	4.879	23.23
0.5	0.56	0.56	3.097	12.71

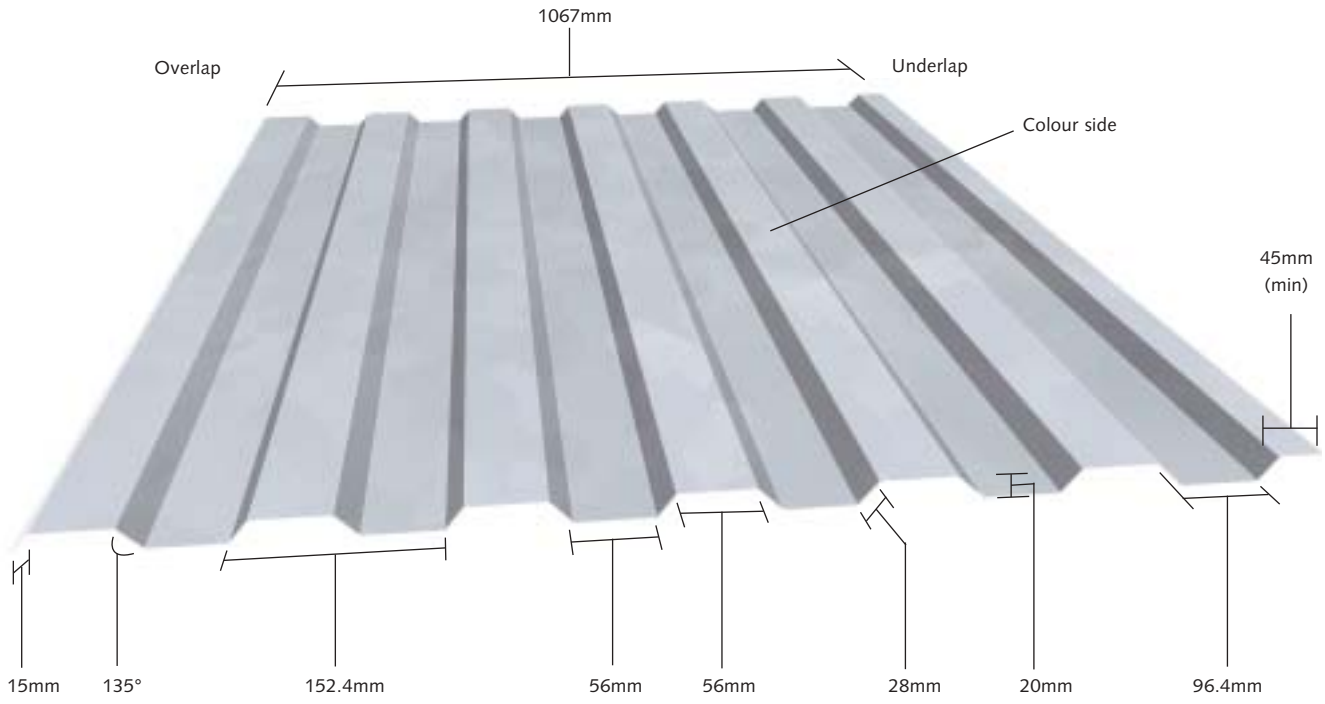
Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	2.99	2.47	2.07	1.77	1.52	1.33	1.17	1.03	0.92	0.83	0.75	0.68	0.62	0.56	0.52	0.48	0.44
	Inertia	3.25	2.44	1.88	1.48	1.18	0.96	0.79	0.66	0.56	0.47	0.41	0.35	0.31	0.27	0.24	0.21	0.18
	Reaction	16.95	15.41	14.12	13.04	12.10	11.30	10.59	9.97	9.41	8.92	8.47	8.07	7.70	7.37	7.06	6.78	6.52
	Limiting	2.99	2.44	1.88	1.48	1.18	0.96	0.79	0.66	0.56	0.47	0.41	0.35	0.31	0.27	0.24	0.21	0.18
0.7mm	Moment	5.01	4.14	3.48	2.97	2.56	2.23	1.96	1.73	1.55	1.39	1.25	1.14	1.04	0.95	0.87	0.80	0.74
	Inertia	5.12	3.85	2.96	2.33	1.87	1.52	1.25	1.04	0.88	0.75	0.64	0.55	0.48	0.42	0.37	0.33	0.29
	Reaction	30.97	28.16	25.81	23.83	22.12	20.65	19.36	18.22	17.21	16.30	15.49	14.75	14.08	13.47	12.91	12.39	11.91
	Limiting	5.01	3.85	2.96	2.33	1.87	1.52	1.25	1.04	0.88	0.75	0.64	0.55	0.48	0.42	0.37	0.33	0.29
0.9mm	Moment	7.31	6.04	5.07	4.32	3.73	3.25	2.85	2.53	2.26	2.02	1.83	1.66	1.51	1.38	1.27	1.17	1.08
	Inertia	7.16	5.38	4.14	3.26	2.61	2.12	1.75	1.46	1.23	1.04	0.89	0.77	0.67	0.59	0.52	0.46	0.41
	Reaction	48.49	44.08	40.41	37.30	34.64	32.33	30.31	28.53	26.94	25.52	24.25	23.09	22.04	21.08	20.21	19.40	18.65
	Limiting	7.16	5.38	4.14	3.26	2.61	2.12	1.75	1.46	1.23	1.04	0.89	0.77	0.67	0.59	0.52	0.46	0.41

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	2.99	2.47	2.07	1.77	1.52	1.33	1.17	1.03	0.92	0.83	0.75	0.68	0.62	0.56	0.52	0.48	0.44
	Inertia	7.83	5.88	4.53	3.56	2.85	2.32	1.91	1.59	1.34	1.14	0.98	0.85	0.74	0.64	0.57	0.50	0.45
	Reaction	10.59	9.63	8.83	8.15	7.57	7.06	6.62	6.23	5.88	5.57	5.30	5.04	4.81	4.61	4.41	4.24	4.07
	Interaction	4.75	4.09	3.55	3.12	2.76	2.46	2.21	1.99	1.81	1.65	1.51	1.38	1.28	1.18	1.09	1.02	0.95
	Limiting	2.99	2.47	2.07	1.77	1.52	1.33	1.17	1.03	0.92	0.83	0.75	0.68	0.62	0.56	0.52	0.48	0.44
0.7mm	Moment	5.01	4.14	3.48	2.97	2.56	2.23	1.96	1.73	1.55	1.39	1.25	1.14	1.04	0.95	0.87	0.80	0.74
	Inertia	12.34	9.27	7.14	5.61	4.50	3.66	3.01	2.51	2.12	1.80	1.54	1.33	1.16	1.01	0.89	0.79	0.70
	Reaction	19.36	17.60	16.13	14.89	13.83	12.91	12.10	11.39	10.75	10.19	9.68	9.22	8.80	8.42	8.07	7.74	7.45
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	5.01	4.14	3.48	2.97	2.56	2.23	1.96	1.73	1.55	1.39	1.25	1.14	1.04	0.95	0.87	0.79	0.70
0.9mm	Moment	7.31	6.04	5.07	4.32	3.73	3.25	2.85	2.53	2.26	2.02	1.83	1.66	1.51	1.38	1.27	1.17	1.08
	Inertia	17.24	12.95	9.98	7.85	6.28	5.11	4.21	3.51	2.96	2.51	2.16	1.86	1.62	1.42	1.25	1.10	0.98
	Reaction	30.31	27.55	25.26	23.31	21.65	20.21	18.94	17.83	16.84	15.95	15.15	14.43	13.78	13.18	12.63	12.12	11.66
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	7.31	6.04	5.07	4.32	3.73	3.25	2.85	2.53	2.26	2.02	1.83	1.66	1.51	1.38	1.25	1.10	0.98

1067/20C - ALUMINIUM



Dimension details	
Cover width	1067mm
Profile pitch	152.4mm
Profile depth	20mm
Crown width	56mm
Valley width	56mm
Rib width	96.4mm
Web	28mm
Underlap (right as shown above)	45mm (minimum)
Overlap (left as shown above)	15mm

Weight per linear metre	
0.7mm mill finish	2.338 kgs
0.9mm mill finish	3.006 kgs
0.7mm one side coated	2.363 kgs
0.9mm one side coated	3.039 kgs

Deflection < L/200

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	0.99	0.99	5.683	20.37
0.7	0.68	0.68	4.046	13.01

Single span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.75	0.69	0.63	0.58	0.54
	Inertia	3.19	2.39	1.84	1.45	1.16	0.94	0.78	0.65	0.55	0.46	0.40	0.34	0.30	0.26	0.23	0.20	0.18
	Reaction	17.35	15.77	14.46	13.34	12.39	11.56	10.84	10.20	9.64	9.13	8.67	8.26	7.88	7.54	7.23	6.94	6.67
	Limiting	3.19	2.39	1.84	1.45	1.16	0.94	0.78	0.65	0.55	0.46	0.40	0.34	0.30	0.26	0.23	0.20	0.18
0.7mm	Moment	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.20	1.09	1.00	0.92	0.84	0.78
	Inertia	4.47	3.36	2.59	2.04	1.63	1.33	1.09	0.91	0.77	0.65	0.56	0.48	0.42	0.37	0.32	0.29	0.25
	Reaction	27.16	24.69	22.63	20.89	19.40	18.11	16.98	15.98	15.09	14.29	13.58	12.93	12.35	11.81	11.32	10.86	10.45
	Limiting	4.47	3.36	2.59	2.04	1.63	1.33	1.09	0.91	0.77	0.65	0.56	0.48	0.42	0.37	0.32	0.29	0.25

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.5mm	Moment	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.75	0.69	0.63	0.58	0.54
	Inertia	7.67	5.76	4.44	3.49	2.80	2.27	1.87	1.56	1.32	1.12	0.96	0.83	0.72	0.63	0.55	0.49	0.44
	Reaction	10.84	9.86	9.03	8.34	7.74	7.23	6.78	6.38	6.02	5.71	5.42	5.16	4.93	4.71	4.52	4.34	4.17
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.72	0.63	0.55	0.49	0.44
0.7mm	Moment	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.20	1.09	1.00	0.92	0.84	0.78
	Inertia	10.78	8.10	6.24	4.91	3.93	3.19	2.63	2.19	1.85	1.57	1.35	1.16	1.01	0.89	0.78	0.69	0.61
	Reaction	16.98	15.43	14.15	13.06	12.13	11.32	10.61	9.99	9.43	8.93	8.49	8.08	7.72	7.38	7.07	6.79	6.53
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.16	1.01	0.89	0.78	0.69	0.61

Deflection < L/100

t (mm)	Mcap +ve (kNm/m)	Mcap -ve (kNm/m)	Ieff (mm4/m)	Rcap (kN/m)
0.9	0.99	0.99	5.683	20.37
0.7	0.68	0.68	4.046	13.01

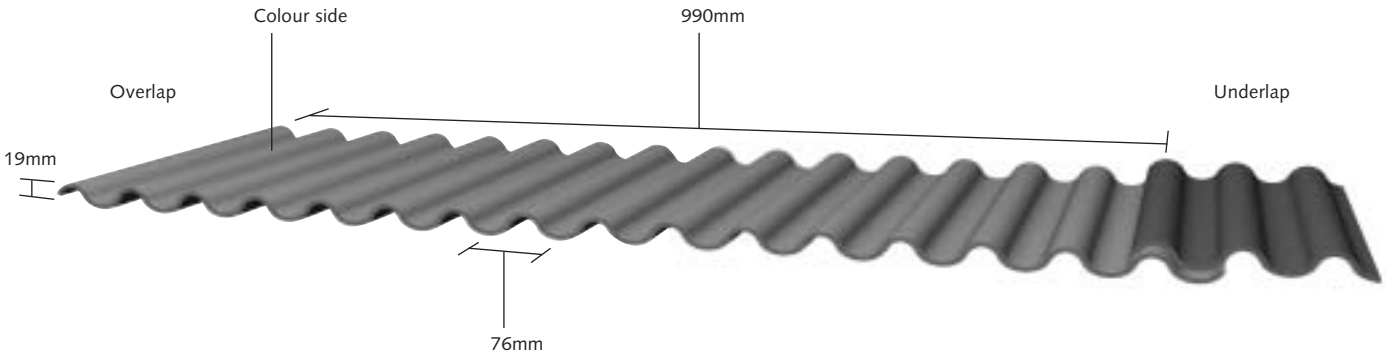
Single span case – permissible working +ve Loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.75	0.69	0.63	0.58	0.54
	Inertia	6.37	4.79	3.69	2.90	2.32	1.89	1.56	1.30	1.09	0.93	0.80	0.69	0.60	0.52	0.46	0.41	0.36
	Reaction	17.35	15.77	14.46	13.34	12.39	11.56	10.84	10.20	9.64	9.13	8.67	8.26	7.88	7.54	7.23	6.94	6.67
	Limiting	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.09	0.93	0.80	0.69	0.60	0.52	0.46	0.41	0.36
0.9mm	Moment	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.20	1.09	1.00	0.92	0.84	0.78
	Inertia	8.95	6.72	5.18	4.07	3.26	2.65	2.18	1.82	1.53	1.30	1.12	0.97	0.84	0.74	0.65	0.57	0.51
	Reaction	27.16	24.69	22.63	20.89	19.40	18.11	16.98	15.98	15.09	14.29	13.58	12.93	12.35	11.81	11.32	10.86	10.45
	Limiting	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.82	1.53	1.30	1.12	0.97	0.84	0.74	0.65	0.57	0.51

Double span case – permissible working +ve loads

Thickness	Design case	Spans in metres 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	2.50	2.60
0.7mm	Moment	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.75	0.69	0.63	0.58	0.54
	Inertia	15.34	11.53	8.88	6.98	5.59	4.55	3.75	3.12	2.63	2.24	1.92	1.66	1.44	1.26	1.11	0.98	0.87
	Reaction	10.84	9.86	9.03	8.34	7.74	7.23	6.78	6.38	6.02	5.71	5.42	5.16	4.93	4.71	4.52	4.34	4.17
	Interaction	8.47	7.27	6.31	5.53	4.89	4.36	3.91	3.52	3.19	2.91	2.66	2.44	2.25	2.08	1.93	1.79	1.67
	Limiting	3.63	3.00	2.52	2.15	1.85	1.61	1.42	1.25	1.12	1.00	0.91	0.82	0.75	0.69	0.63	0.58	0.54
0.9mm	Moment	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.20	1.09	1.00	0.92	0.84	0.78
	Inertia	21.55	16.19	12.47	9.81	7.85	6.39	5.26	4.39	3.70	3.14	2.69	2.33	2.02	1.77	1.56	1.38	1.23
	Reaction	16.98	15.43	14.15	13.06	12.13	11.32	10.61	9.99	9.43	8.93	8.49	8.08	7.72	7.38	7.07	6.79	6.53
	Interaction	12.73	10.91	9.46	8.28	7.32	6.51	5.83	5.25	4.76	4.33	3.96	3.63	3.35	3.09	2.87	2.66	2.48
	Limiting	5.28	4.36	3.67	3.12	2.69	2.35	2.06	1.83	1.63	1.46	1.32	1.20	1.09	1.00	0.92	0.84	0.78

QC 13½/3 - STEEL



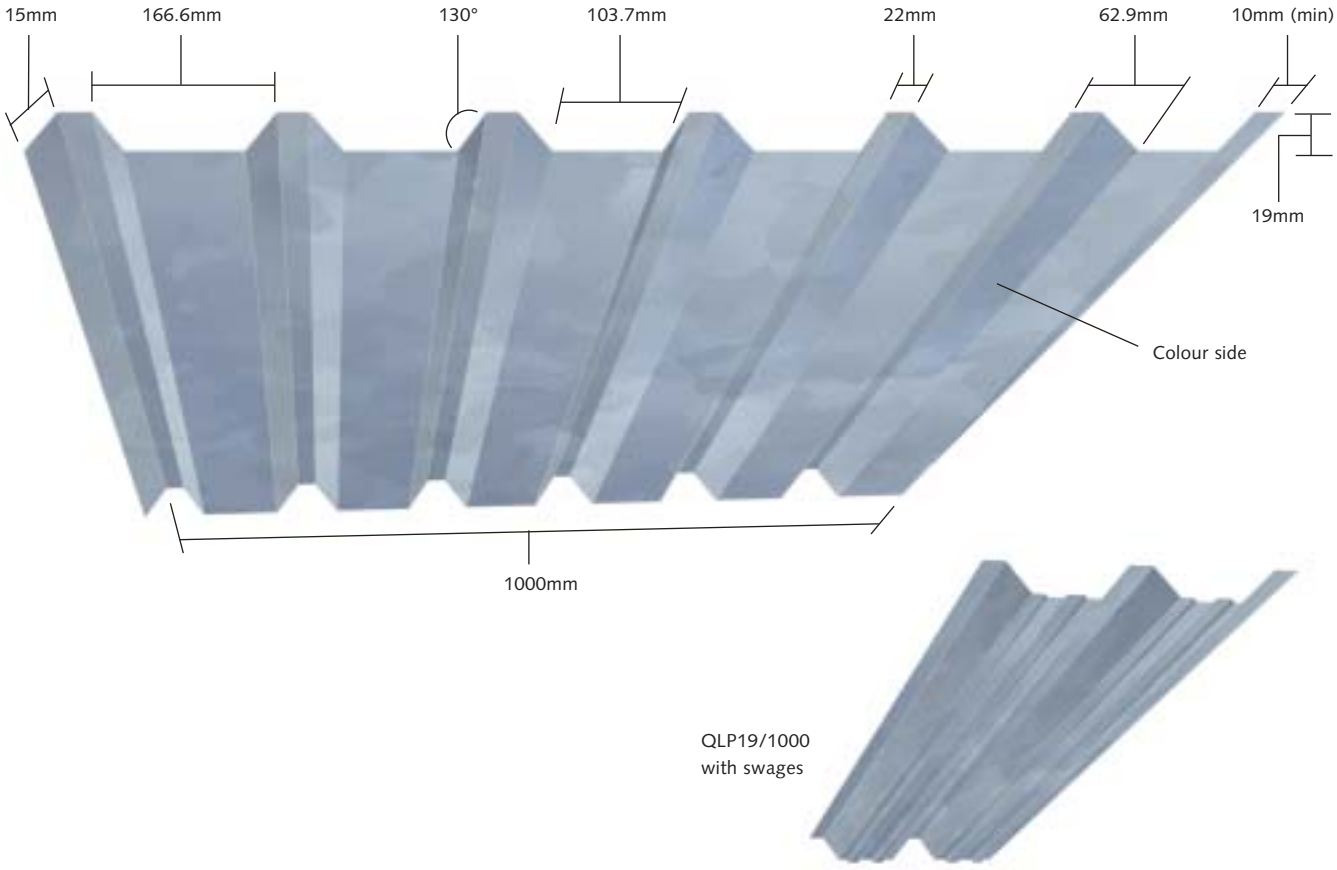
Dimension details	
Cover width	990mm
Profile pitch	76mm
Profile depth	19mm
Underlap (right as shown above)	19mm (from bottom dead centre)
Overlap (left as shown above)	19mm (from top dead centre)

Weight per linear metre	
0.5mm	4.823 kgs
0.7mm	6.753 kgs
0.9mm	8.682 kgs

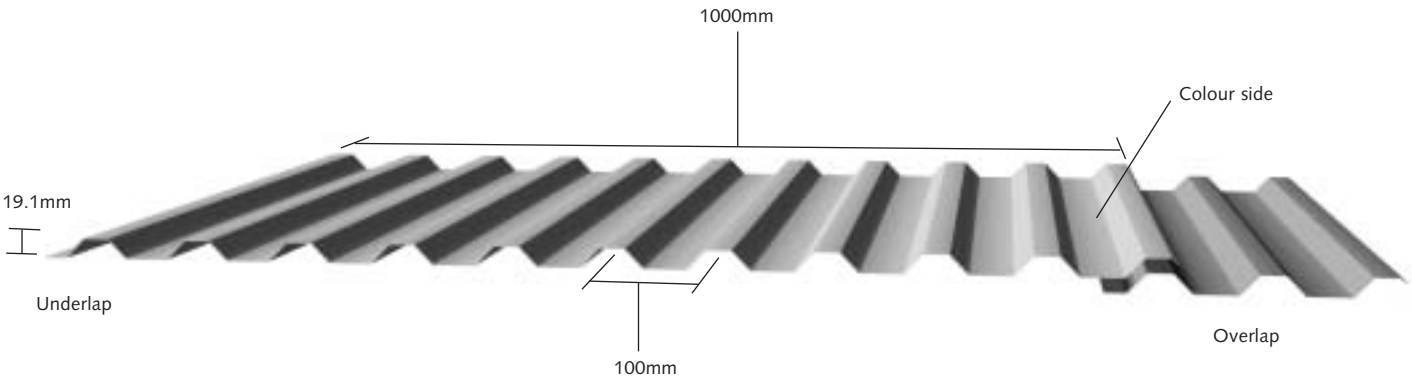
Load/Span deflection < L/200							
t mm	Span (m) condition	Maximum loads (dead and super) in kN/m²					
		1.2	1.4	1.6	1.8	2.0	2.2
0.55	▲▲	1.18	0.74	–	–	–	–
0.70		1.53	0.97	0.65	–	–	–
0.90		1.97	1.24	0.83	–	–	–
t mm	Span (m) condition	Maximum loads (dead and super) in kN/m²					
		1.2	1.4	1.6	1.8	2.0	2.2
0.55	▲▲▲	1.97	1.24	0.82	–	–	–
0.70		2.56	1.61	1.08	0.76	–	–
0.90		3.29	2.07	1.39	0.98	0.71	–


QUEDRON
QUEDRON
QUEDRON

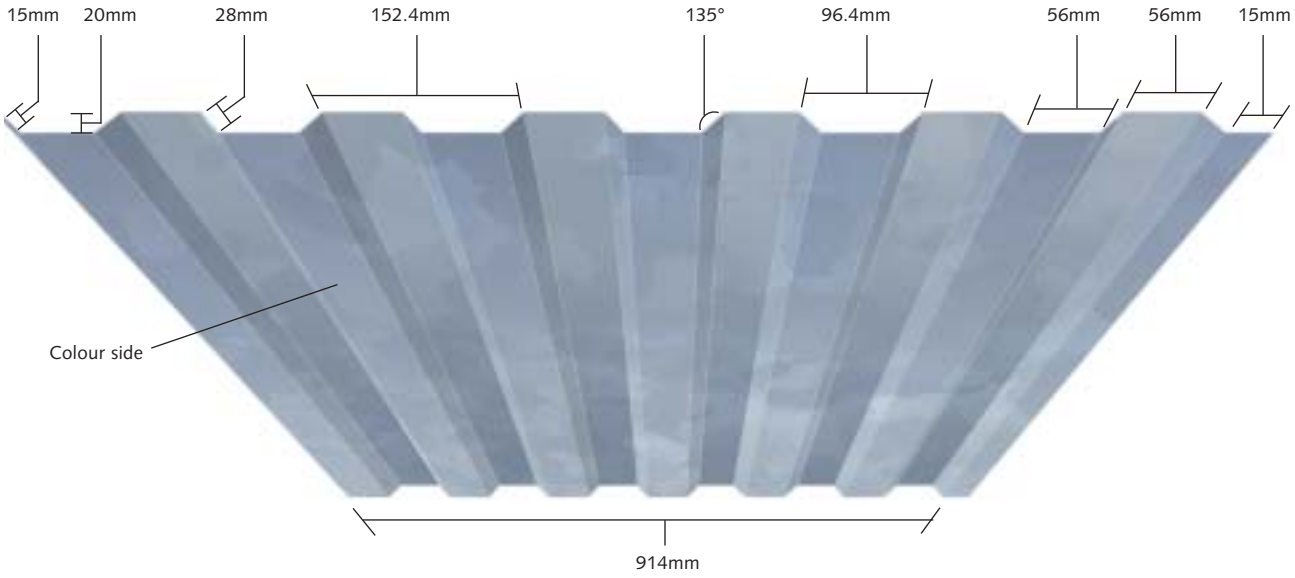
QLP19/1000



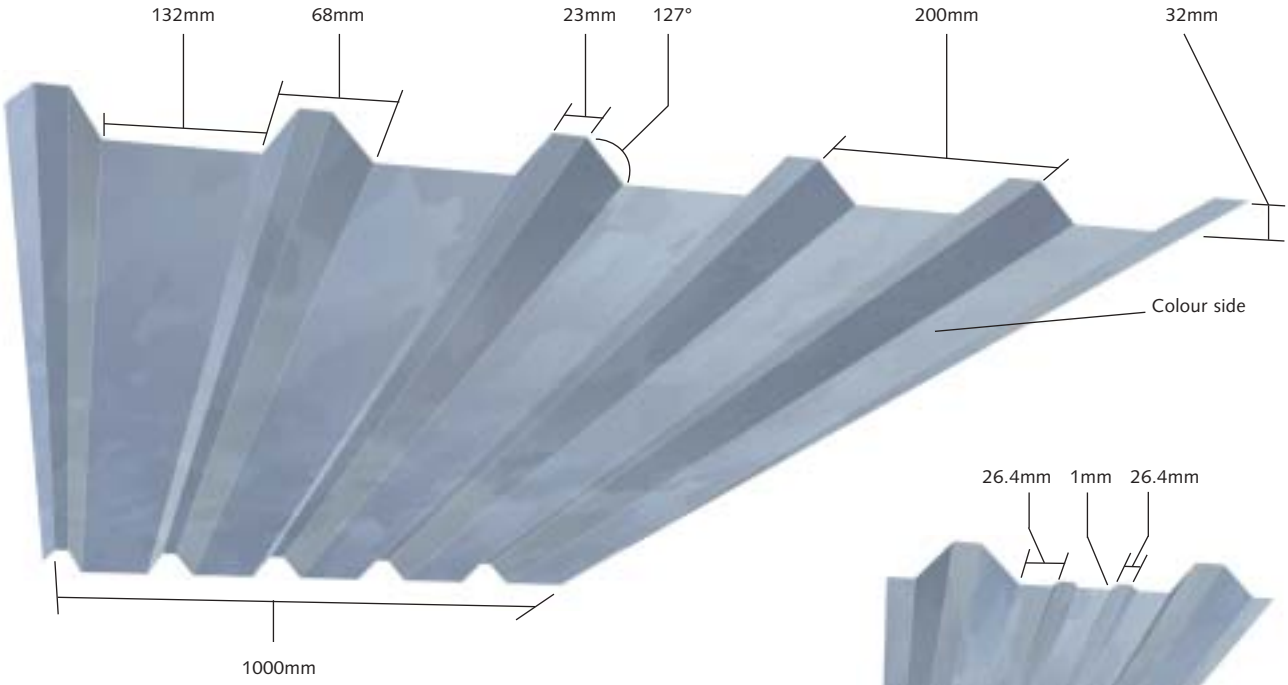
MM10



QLP20/914



QLP32/5



QLP32/5S
with swages

REVERSE LINER PROFILE

The following profiles are available with the colour to the reverse side:

QLP19/1000 AND QLP32/5S

Please clearly indicate your requirement with the suffix 'REVERSE' and note that the sidelap details will vary from that shown on the previous page.

For details please contact the Sales Office.

Typically this format is used in an under rail construction, when this is the case the system needs to be carefully checked to ensure that it complies with current Building Regulations.

PERFORATED SHEET

For acoustic applications the following liner profiles, including the reverse option, can be supplied perforated.

QLP19/1000 AND QPL32/5S

The standard pattern is a 3mm hole at 5mm staggered centres across the full width of the sheet achieving 30% perforation. Due to the reduction in strength of the sheet perforated liners are only supplied in 0.7mm thick material.

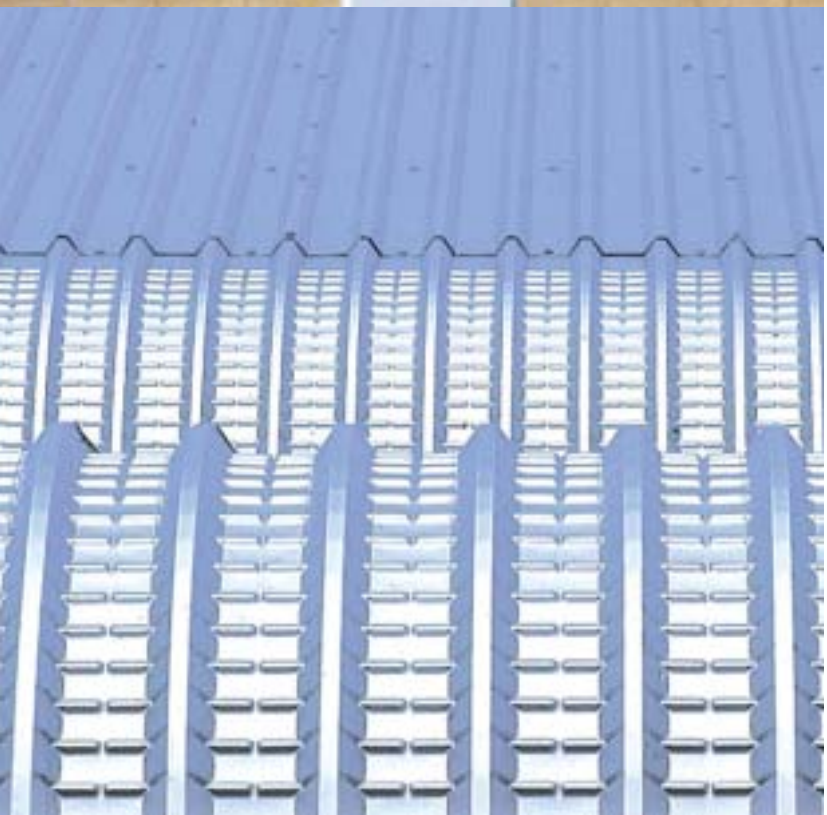
CURVED SHEET

All the profiles, except MM10, can be curved in both directions.

However, the design and fixing of curved sheet requires particular attention to detail.

The method of manufacture employed in producing a curved profiled sheet creates a particularly rigid panel and this must be borne in mind when using this product.

A guide to the best practice is described in the 'Curved sheet brochure'.



TYPICAL DOUBLE SKIN VERTICAL CLADDING SPECIFICATION

For fixing to cold rolled rails
Sheet laid vertically
U-value of 0.35W/m²K.

External sheet	
Material	0.55mm thick steel, coated one side with 200micron leathergrain finish PVC 200XT plastisol
Profile	**MW5CS, 32/1000C** 1000mm cover width x 32mm deep **WA6M** 914mm cover width x 38mm deep Supported at maximum 2000mm centres, subject to loading requirements The end lap to be minimum 100mm
Fixing	Main fixing on every rail at the side-lap and then every other profile with additional fixings as required in areas of high wind loads. Sidelap stitchers (if required), at maximum 600mm centres
Accessories	Profile filler

Spacer system	
	Bracket and bar support system 120mm brackets at maximum 1000mm centres
Fixing	2 No per bracket

Insulation	
	Rail centres = 1800mm λ = 0.040 Rockwool quilt 116 thick (minimum) λ = 0.044 glass fibre quilt 126 thick (minimum)

Liner	
Material	0.4mm thick steel coated face side bright white polyester
Profile	**QLP19/1000** 1000mm cover width x 19mm deep **QLP20/914** 914mm cover width x 20mm deep
Fixing	Every other profile +2 per bracket
Accessories	Sealant and profile filler

TYPICAL DOUBLE SKIN HORIZONTAL CLADDING SPECIFICATION

For fixing to cold rolled rails
Sheet laid horizontally
U-value of 0.35W/m²K.

External sheet	
Material	0.7mm thick steel, coated one side with 200micron leathergrain finish PVC 200XT plastisol
Profile	**MW5CS, 32/1000C** 1000mm cover width x 32mm deep **WA6M** 914mm cover width x 38mm deep Supported at maximum 2000mm centres, subject to loading requirements
Fixing	Main fixing on vertical support in every trough Sidelap stitchers (if required), at maximum 600mm centres
Accessories	Profile filler

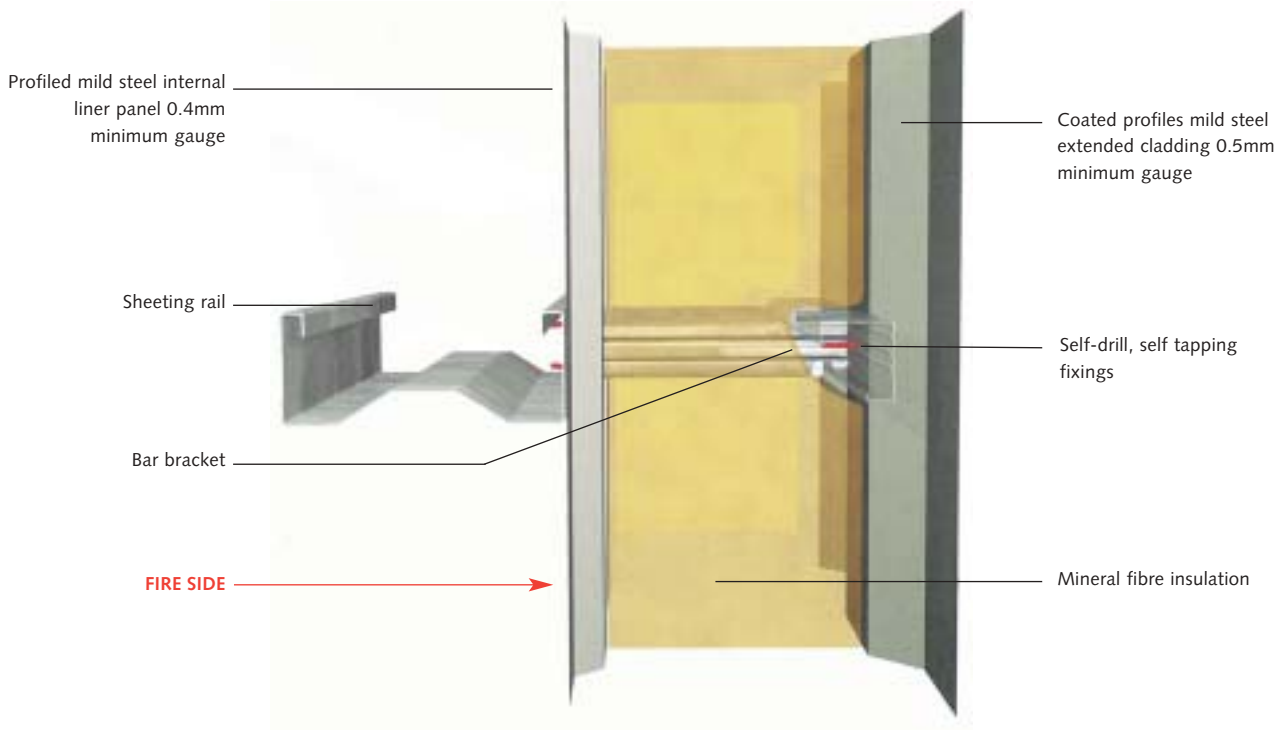
Spacer system	
	148mm deep vertical Z-spacer at 1800mm centres 50mm x 12mm compressed Rockwool slab to outer face
Fixing	2 No per rail

Insulation	
	(λ = 0.040 and vertical support centres = 1800mm) 160mm thick Quilt held by horizontal 60mm deep Z-spacer on 50mm ferrules

Liner	
Material	0.4mm thick steel coated face side bright white polyester
Profile	**QLP19/1000** 1000mm cover width x 19mm deep **QLP20/914** 914mm cover width x 20mm deep
Fixing	Every other profile
Accessories	Sealant and profile filler

For typical arrangement - see diagram on page 26.

DOUBLE SKIN VERTICAL CLADDING FIREWALL SPECIFICATION



For fixing to cold rolled rails
Insulation: to suit a U-value of 0.35W/m²K
Fire resistance: 15 minutes insulation
60 and 90 minutes integrity (WFRC report No's 111, 597, 36337, 34559 and C130586 refer)
Application: greater than one metre from the boundary

External sheet	
Material	0.55mm thick steel coated one side with 200 micron leathergrain finish PVC 200XT plasticol
Profile	**MW5CS, 32/1000C** 1000mm cover width x 32mm deep **WA6M** 914mm cover width x 38mm deep profile Supported at maximum 2000mm centres, subject to loading requirements The end lap to be a minimum 150mm
Fixing	Main fixing on every rail - at the sidelap and then every other profile with additional fixings as required in areas of high wind loads Sidelap sidelap stitcher c/w 16 diameter washer or steel rivets at 300mm centres
Accessories	Profile filler

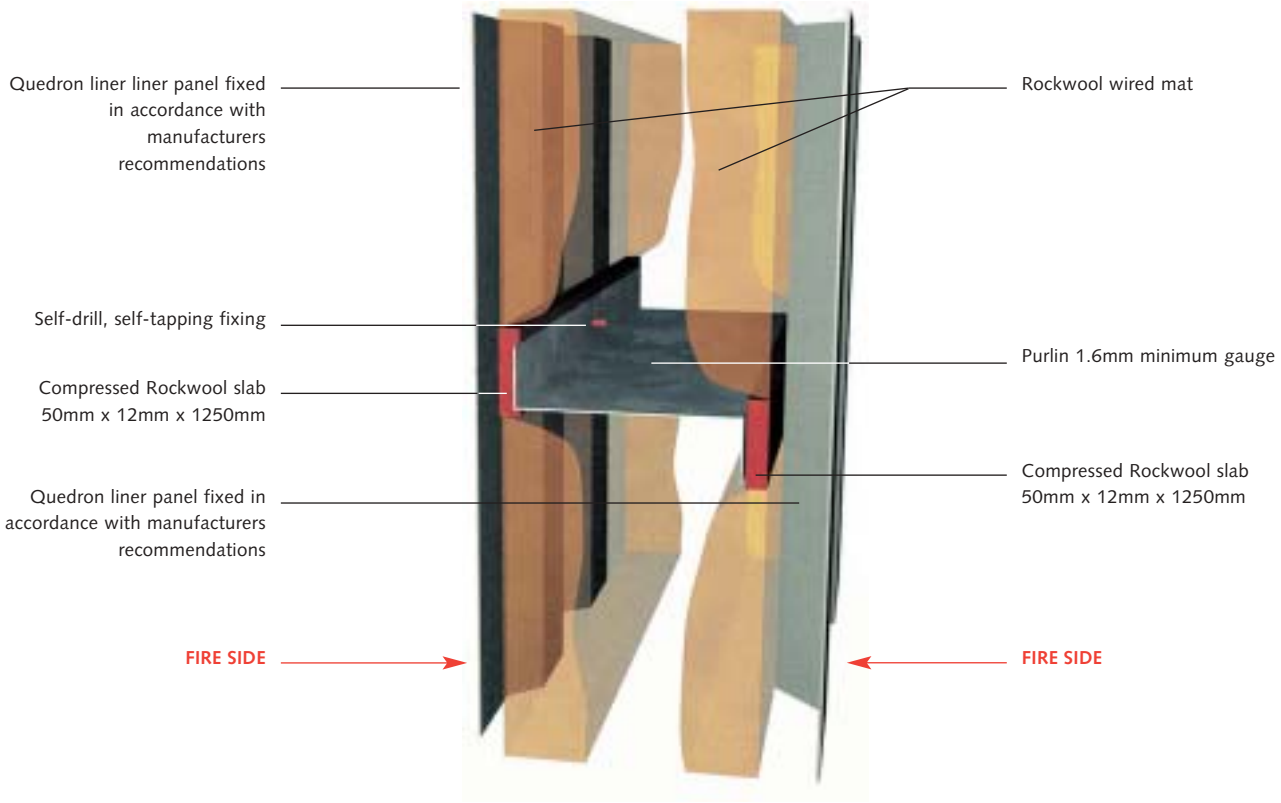
Spacer system	
	Support bar system Brackets 120mm deep at maximum 1000mm centres
Fixing	2 per bracket

Insulation	
	(λ = 0.040 and vertical support centres = 1800mm) 160mm thick Rockwool quilt 27kg/m3 x 120mm thick, clamped between bracket and liner sheet

Liner	
Material	0.4mm thick steel coated face side bright white polyester
Profile	**QLP19/1000** 1000mm cover width x 19mm deep, or: **QLP20/914** 914mm cover width x 20mm deep profile The end lap to be minimum 100mm
Fixing	Every other profile Sidelap rivetted at 300mm centres with steel rivets
Accessories	Profile filler

Note: Rails to be single span bolted to support cleat through 30mm long slotted holes and plastic washer.

TYPICAL INTERNAL 1 HOUR FIREWALL



For fixing - to cold rolled rails, sheet laid vertically.

Liner (both sides)	
Material	0.4mm thick steel coated face side bright white polyester
Profile	**QLP19/1000** 1000mm cover width x 19mm deep
Fixing	Every other profile Sidelaps rivetted at maximum 450mm centres
Spacer system	
	Minimum 1.6mm thick cold rolled rail
Insulation	
	2 No layers Rockwool wired mat 105kg/m³ x 50mm thick 2 No runs 50 x 12mm Rockwool barrier to rail

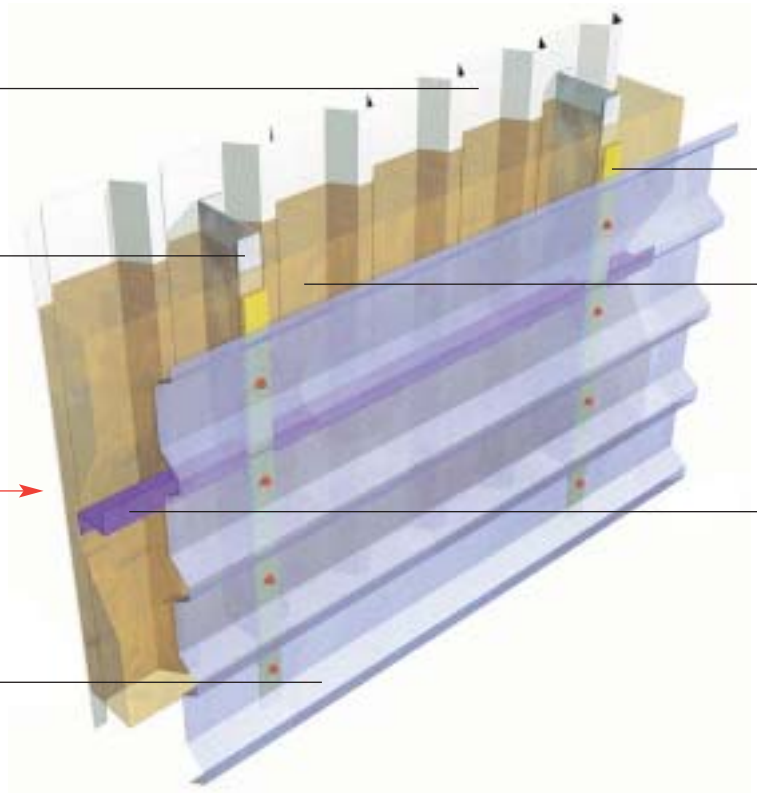
Note: Rails to be single span bolted to support cleat through 30mm long slotted holes and plastic washer.

In conjunction with Rockwool Limited, Quedron requested Warrington Fire Research Centre to assess a construction of steel purlins and liner panel which, in an internal wall position, would have a performance sufficient to satisfy the criteria for fire resistance for a period of 60 minutes.

Using the information contained in the reports referenced WRCSI No. 36337 and WRCSI No. 31890 an assessment was made on the construction, a section of which is illustrated above. The illustration is clearly labelled and all aspects of the construction have to be strictly adhered to.

The conclusion of the Research Centre personnel was that 'A non-load bearing internal wall assembly which utilises similar materials and design principals to a previously fire tested assembly reported in reference WRCSI No. 36337, should, if subject to a fire resistance test in accordance with BS476:Part 22: 1987, be capable of satisfying each of the criteria for integrity and insulation for the required period of 60 minutes'.

DOUBLE SKIN HORIZONTAL CLADDING FIREWALL SPECIFICATION



For fixing to cold rolled rails
Insulation: to suit a U-value of 0.35W/m2K
Fire resistance: 15 minutes insulation
60 and 90 minutes integrity (WFRC report No's 36337, C82221 and C126464 refer)
Application: greater than one metre from the boundary

External sheet	
Material	0.7mm thick steel coated one side with 200 micron leathergrain finish PVC 200XT plasticol
Profile	**MW5CS, 32/1000C** 1000mm cover width x 32mm deep, or: **WA6M** 914mm cover width x 38mm deep profile Supported at maximum 1800mm centres, subject to loading requirements The end lap to be a minimum 150mm
Fixing	Main fixing on vertical support in every trough Sidelap stitchers (if required) at maximum 450mm centres
Accessories	Profile filler

Spacer system	
	Vertical 148mm deep spacer at 1800mm centres Horizontal 60mm deep spacer on 50mm steel ferrules at rail centres

Insulation	
	(λ = 0.040 and rail centres = 1800mm) Rockwool quilt 24kg/m^3 x 160mm thick 50 x 12 Rockwool barrier to vertical spacer

Liner	
Material	0.4mm thick steel coated face side bright white polyester
Profile	**QLP19/1000** 1000mm cover width x 19mm deep, or: **QLP20/914** 914mm cover width x 20mm deep profile
Fixing	Every other profile Sidelap riveted at 300mm centres
Accessories	Profile filler

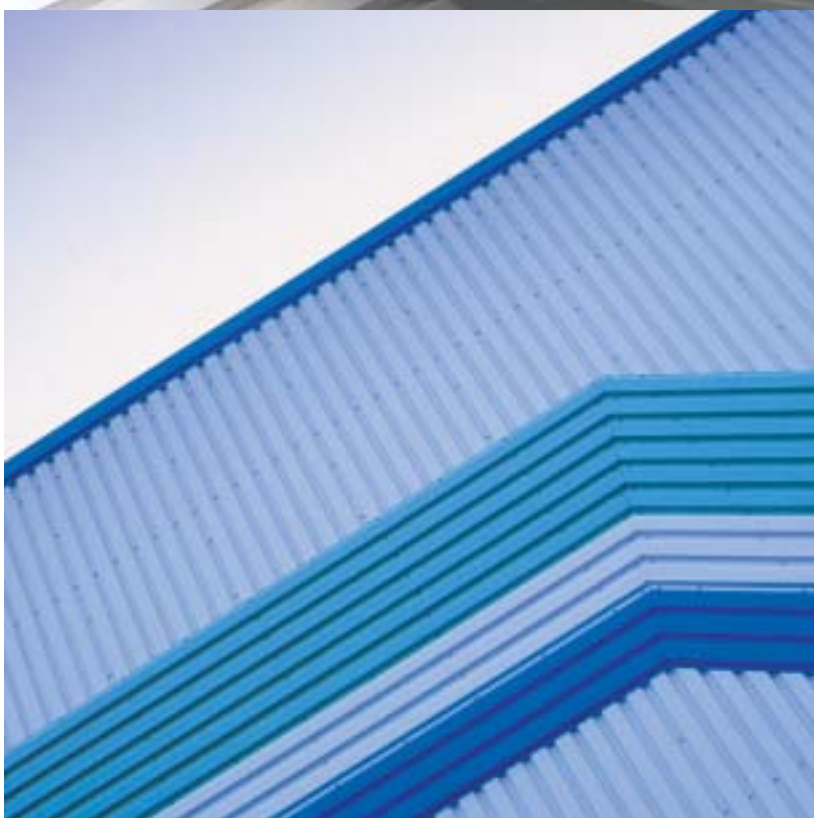
Note: Rails to be single span bolted to support cleat through 30mm long slotted holes and plastic washer.

Note: This Fire Wall has been designed and amended to incorporate the insulation requirements of the 2002 edition of the 'Building Regulations Part L2' (Conservation of fuel and power other than dwellings) to achieve a 0.35 U-value and Part J (Scotland) to achieve a 0.30 U-value. The amendments have been approved by the Warrington Fire Research Centre as satisfying the stability, integrity and insulation criteria of BS 476 : Part 8 : 1972. (Typical f-factor 0.83).

Quedron has tested an external wall assembly using mineral wool insulant at Warrington Fire Research Centre reference WRCSI No. 36337* and have had further assessments using mineral wool, reference C82221 and C126464.

Warrington's conclusion was that the wall assembly, having mineral wool of up to 160mm thickness and 27 kg/m^3 nominal density, substituted for mineral wool of 60mm thickness and 23 kg/m^3 nominal density within the cavity of the assembly spacer should, if subjected to a fire resistance test in accordance with BS 476 Part 8 : 1972, be capable of complying with the integrity and insulation criteria of the standard for periods of at least 240 minutes and 15 minutes respectively. This applies only to the application where the external wall has the internal lining facing to the fire side. All other details are to remain the same as in the original report.

A section of the assembly is illustrated and labelled to assist in a clear understanding of the construction.



*An independent laboratory approved by the DOE.
(A copy of the complete report and subsequent assessments are available on request).

MATERIALS & COATINGS

Quedron profiles are available in a wide range of finishes as listed below. For the colours available please refer to the appropriate colour chart.

PVC LEATHERGRAIN

SSAB Dobel 200XT. 200 micron plastisol leathergrain emboss finish to one side, on Galvanised steel to BS EN10147 - 2000 S250DG + 275MC substrate with a 15 micron smooth light grey primer reverse.

Stock gauges are 0.7 and 0.55 mm thick.

Double-sided 200XT is also available with a nominal 100 micron smooth plastisol coating to the reverse.

PVC SCINTILLA

Corus Colorcoat HPS200. 200 micron organic Scintilla emboss finish to one side, on a hot dipped zinc-aluminium alloy coated steel substrate to BS EN 10214 : 1995 with a two coat primer and polyester reverse.

Stock gauges are 0.7 and 0.5 mm thick.

PVDF

Colorcoat PVDF 27 micron smooth fluorocarbon finish to one side, on a hot dipped zinc coated steel substrate to BS EN 10147 : 2000 with a two coat primer and polyester reverse. Stock gauges are 0.7 and a limited colour range in 0.5 mm thick.

POLYESTER

SSAB Dobel Base 30. 27 micron smooth polyester to one side, on galvanised steel to BS EN10215 : 1995 S250DG + AZ150 substrate with a 15 micron smooth light grey primer reverse.

Stock gauges are 0.5mm and a limited colour range in 0.7mm thick.

NOVA

SSAB Dobel Nova. 50 micron polyester to one side on hot dipped zinc galvanised steel to BS EN10147 : 2000 5250DG + AZ275 substrate with a smooth grey epoxy reverse.

LINER

17 micron bright white (S5020) polyester to one side on hot dipped zinc galvanised steel to BS EN 10147, Fe E 220g substrate with a smooth grey polyester reverse.

Stock gauges are 0.4 and 0.7 mm thick.

GALVANISED STEEL, ALUMINIUM AND ALUZINC

These materials are all available in mill finish and a range of gauges.

FIRE RATING

PVC plastisol, PVDF and polyester coated steel have a non-combustible core of galvanised substrate with an FAA rating to BS476, Part 3. The PVC, PVDF and polyester coatings have a Class 1 surface spread of flame and are deemed to satisfy ‘Class 0' of the Building Regulations. Aluminium alloy is non-combustible and has an FAA rating to BS476, Part 4 : 1970, and has a Class 1 surface spread of flame when tested in accordance with BS476, Part 7.

INSTALLATION

WALL CLADDING

Ideally suited to the cladding of the walls of developments, including retail, educational, health service, commercial and industrial. All the trapezoidal profiles in the product range are suitable for use in vertical applications.

Aesthetics are undoubtedly the main criteria upon which a vertical cladding is chosen. The cladding may be fixed vertically, horizontally or even diagonally, but the specification of cladding profile as depicted in this brochure imparts certain advantages to the aesthetics irrespective of the the manner in which the sheets are laid.

ADVANTAGES OF THE CLADDING PROFILE

a *Reduces the shade effect, and with its narrower trough and wide crest the colour of the sheet is highlighted rather than the shadow.*

This effect is even more noticeable when cladding is laid horizontally.

b *Effectively hides the fixings which are located in the trough.*

c *If horizontal cladding is used a very effective profiled corner piece can be incorporated successfully.*

HORIZONTALLY LAID WALL CLADDING

Without doubt this is one of the most difficult applications for profiled sheet. Aesthetics are obviously paramount and great care is needed to guarantee a successful result. One of the most common problems is the uneven effect resulting from careless fixings. The precise alignment of end laps is critical.

However, with certain precautions observed, the result can be very effective, and several features can be incorporated to give a building a particularly pleasing appearance.

One of the options open to the horizontal cladding is to incorporate profiled mitred corners or curved profiled corners.

Several key points need to be observed to ensure a successful result:

a Sheets are laid from the bottom up i.e. the first sheet laid is the one adjacent to the drip detail.

b Cover width must be checked on each sheet as fixed.

c Alignment of end laps requires time and care.

d Sheets should be fixed in every trough.

e The inclusion of a feature band in the cladding must be approached with care as any stretching or shrinking of the cover width by the fixer to accommodate such a feature will have an adverse affect upon the aesthetics of the elevation.

f Steelwork must be checked carefully since inaccuracies will be 'telegraphed' through the cladding sheet.

g Do not use PVDF roof profiles for horizontal cladding. Always use 0.7mm thick materials.

VERTICALLY LAID WALL CLADDING

The standard method of fixing wall cladding with the profiles running from eave to drip details. Although the profiled sheet lends itself to this application, care must be taken to ensure a successful result:

a Irrespective of profile, side laps, where possible, should be laid with the overlaps away from the prevailing wind.

b End laps should be a minimum of 100mm.

c Irrespective of profile, the stitching of side laps is at the discretion of the cladding contractor. Where deemed necessary side laps should be fixed at 600mm centres.

d The primary fixing of the profile is generally accomplished in the trough using self-tapping, self-drilling fixings from a reputable manufacturer.

e Under normal UK urban conditions fixing should be used in every alternate trough.

f All holes should be drilled, not punched.

g 0.5mm gauge material is usually specified.

SPACER

The over rail built up system is typically a spacer incorporating a 1.5mm gauge hot dipped galvanised steel bracket and a 1.2mm gauge hot dipped galvanised steel rail (both Z275 to BS EN 10147 : 1992, Fe E 220g). The bottom of the bracket has two pre-drilled holes and the size of the bracket determines the size of the cavity created for the insulation. Various bracket sizes are supplied by Quedron with rail lengths available in 1, 2 or 3 metre modules.

QUEDRON LINER

Quedron liner sheets are usually specified with Quedron outer sheet and hence are designed with a common cover width to minimise problems when fixing. They can, however, be used successfully in conjunction with a variety of systems.

In the over-rail system the liner sheet is laid first. Four primary fixings per panel are recommended which have the function of temporarily securing the sheets and helping to maintain cover width and position before the spacer system is fully secure.

The insulation quilt is laid from eave to drip allowing generous side and end laps to prevent gaps. The rail and bracket system is used to trap the insulation and then is secured by the recommended fixings to the cladding rail. The use of the rail and bracket system in this manner overcomes the problems of the integrity of the system relying upon the compression of the insulation quilt and minimises the thermal bridge effect.

If the liner sheet is being employed as a vapour control layer, the side and end laps must be sealed and fixings with an integral sealed washer must be used.

The weather sheet is fixed to the spacer system with the appropriate fixings.

Because of the flexibility of the sheet, care should be taken not to spread the liner sheet when the fixings are installed.

Maximum spans for 19 and 20 liner sheets	
0.4mm	2.000 metres
0.5mm	2.100 metres
0.7mm	2.200 metres

Liner sheets should be laid in tiers with the insulation and outer sheet.

With the new focus on airtightness, the effective sealing of the liner in both built-up and composite constructions is fundamental to the system performance.

Both in controlled small-scale tests and practical air permeability tests in actual buildings, a correctly sealed metal liner successfully passes Building Regulations criteria.

Specification for sealing Quedron liner sheets	
Side lap sealing	50mm x 1mm butyl sealing strip (polybond or similar)
End lap sealing	4mm butyl mastic bead or a 6mm x 2mm, or a 9mm x 3mm, rectangular section is recommended, fixed in each corrugation

- Position the sealant in straight, unbroken lines covering the sheet laps.
- Place into corrugations or troughs.
- Do not stretch the sealant.
- Ensure continuity and effectiveness of seal, especially at corners of sheets and at all penetrations of pipes, ducts, rooflights etc.

MAINTENANCE

CUT EDGE PROTECTION

Discussing the prospect of using a Colorcoat sheet for cladding buildings will invariably raise the question of cut edge corrosion, it is a natural concern.

A fear that many architects and design engineers have experienced is that a sheared edge of Colorcoat will corrode when exposed to the atmosphere. It is the case that when steel and zinc are in contact in the presence of moisture there is an automatic electro-chemical reaction which protects the steel. The Dobel 200XT material guarantee now covers corrosion commencing at cut edges.

It is usually necessary during the course of cladding a structure that either the Colorcoat sheet or the flashings will be cut on site. To ensure that the ability of the zinc to protect the steel is not impaired, these cuts must be achieved with the correct tools. Above all, heat must not be created during the process because of the risk of damage to the zinc coating and therefore a corresponding reduction in the life expectancy of the roof or cladding.

However, the exposed edge may be treated with an approved edge protection paint system to enhance its resistance to atmospheric pollution. The edge referred to here is that defined by the profile shape in cross section i.e. the cut end of the sheet. Painting the edges will considerably enhance the durability of the coating and the substrate in the region of the cut edge will also reduce the possibility of pattern staining.

Suppliers who offer paint systems are listed below:

Becker Industrial Coatings Limited
Goodlass Road
Speke
Liverpool
L24 9HJ

Tel: 0151 448 1010

Azko Nobel Coatings Limited
PO Box 37
Crown House
Hollins Road
Darwen
Lancashire
BB3 0BG

Tel: 01254 760760

Covac Limited
Eagle House
Bilton Way
Lutterworth
Leicestershire
LE17 4JA

Tel: 01455 556631

The paint systems from these companies can be applied to the area of the cut edge with a brush or other suitable means.

HANDLING AND STORAGE

The following comments refer to all trapezoidal profiles. Every profiled sheet is carefully inspected before despatch and consignments are packed in edge wrapped strapped bundles. It must be emphasised that these sheets are quality products and should be handled accordingly.

On arrival at the site, care should be taken in the offloading; avoid unnecessary handling of the sheets, lifting (not dragging) them directly off the bundles.

When hoisting bundles and sheets into position, protect the edges and ensure that the pressure across the sheets does not cause distortion. Use rope, not chains, for hoisting.

Note: Quedron pallets are not suitable for crane off-load.

If a protective strippable film has been applied to the coating, this should be removed from the underlap edge prior to fixing and the remainder removed within seven days.

Failure to observe simple, but essential, precautions when storing and handling galvanised and colour coated cladding sheets on site, leads to repeated complaints of corrosion and other damage. Investigation shows that in almost every case damage is due to negligence prior to use. The most common fault is exposing stacked sheets to the weather for weeks, even months – often lying in long grass. Avoid careless handling.

To ensure that sheets do not deteriorate when stored on building sites, the following precautions are essential:

Do not leave uncovered stacks lying in the open. Store under cover and away from open doorways.

If stacks cannot be kept under cover, erect a simple scaffolding around them and cover with a waterproof sheet, tarpaulin or polythene, but leave space between cover and sheets to allow air to circulate.

Store stacks off the ground and on a slope so that, should rain penetrate the covering, the water will drain away.

Inspect the storage site regularly to ensure that moisture, despite the above precautions, has not penetrated the stock.

Do not store sheets where people will walk across them.

Observing these precautions will save you trouble, time and money.

QUEDRON

ROOFING & CLADDING PRODUCTS

Quedron (2001) Limited
Runnings Road
Kingsditch Trading Estate
Cheltenham
Gloucestershire
GL51 9NQ

Telephone 01242 241222
Facsimile 01242 584934
E-mail profilesales@quedron.co.uk

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