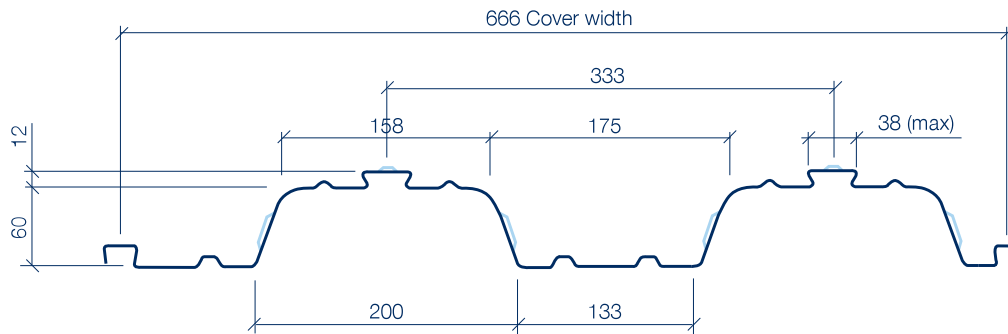


TR60+™ Data Sheet

TR60+



- Un-propped spans in excess of 3.5m
- Reduced concrete volume
- Engineered embossment design for optimum composite action between decking and concrete
- Fire Rating up to 4.0hrs
- Soffit 'Wedge Nut' fixings available with load capacity of up to 1kN
- Acoustic Robust Solution – Refer 'Robust Standard Details'
- Available in both z120gsm and z275gsm galvanization

Section Properties

Nominal Thickness mm	Design Thickness (Bare Steel) mm	Grade N/mm ²	Depth of Profile mm	Weight of Profile		Height of Neutral Axis mm	Area of Steel mm ² /m	Moment of Inertia cm ⁴ /m
				kg/m ²	kN/m ²			
0.9	0.86	S350	60 / 72*	10.25	0.100	33.6	1216	93.5
1.0	0.96	S350	60 / 72*	11.34	0.111	33.6	1355	102.1
1.2	1.16	S350	60 / 72*	13.61	0.133	33.7	1633	119.8

Note: Figures against depth of profile indicate the nominal depth, with overall depth (including height of re-entrant) marked *.

Concrete Volume and Weight

Slab Depth mm	Volume of Concrete m ³ /m ²	Weight of Concrete (Normal Weight)		Weight of Concrete (Lightweight)	
		Wet (kN/m ²)	Dry (kN/m ²)	Wet (kN/m ²)	Dry (kN/m ²)
120	0.086	2.02	1.98	1.60	1.52
130	0.096	2.26	2.21	1.79	1.70
140	0.106	2.50	2.44	1.98	1.87
150	0.116	2.73	2.67	2.16	2.05
175	0.141	3.32	3.25	2.63	2.49
200	0.166	3.91	3.83	3.09	2.93
225	0.191	4.50	4.40	3.56	3.37
250	0.216	5.09	4.98	4.03	3.81

Deflection

This table is based on concrete poured to a constant thickness and does not take account for deflection of the decking or supporting beams. (as a guide, to account for the deflection of the decking a concrete volume of span/250 should be added to the figures indicated in the table)

Concrete Weight

These tables indicate concrete weight only and do not include the weight of decking or reinforcement.

Concrete weights are based on the concrete densities specified in BS5950 Part 4 clause 3.3.3

as follows:

Normal Weight Concrete - 2400kg/m³ (wet) and 2350 kg/m³ (dry).

Lightweight Concrete - 1900kg/m³ (wet) and 1800 kg/m³ (dry).

Load Span Tables (Normal Weight Concrete) – Steel Grade S350

Maximum spans (m) using Normal Weight Concrete (wet density 2400 kg/m³) for S350 grade steel.

Span Type	Fire Rating (hours)	Slab Depth (mm)	Mesh	Maximum Permissible Span (m)											
				0.9mm Gauge				1.0mm Gauge				1.2mm Gauge			
				Total Unfactored Applied Load (kN/m ²)											
				3.5	5.0	7.5	10.0	3.5	5.0	7.5	10.0	3.5	5.0	7.5	10.0
Single Span	1.0	130	A142	3.15	3.15	3.15	2.74	3.40	3.40	3.28	2.81	3.71	3.71	3.43	2.93
		150	A193	2.99	2.99	2.99	2.99	3.24	3.24	3.24	3.24	3.53	3.53	3.53	3.53
		200	A393	2.71	2.71	2.71	2.71	2.90	2.90	2.90	2.90	3.20	3.20	3.20	3.20
	1.5	140	A193	3.06	3.06	3.06	2.76	3.28	3.28	3.28	2.79	3.62	3.62	3.35	2.87
		150	A193	2.99	2.99	2.99	2.88	3.24	3.24	3.24	2.91	3.53	3.53	3.53	2.99
		200	A393	2.71	2.71	2.71	2.71	2.90	2.90	2.90	2.90	3.20	3.20	3.20	3.20
2.0	150	A193	2.99	2.99	2.91	2.55	3.24	3.24	2.92	2.56	3.53	3.53	2.95	2.60	
	175	A252	2.89	2.89	2.89	2.89	3.06	3.06	3.06	3.06	3.35	3.35	3.35	3.25	
	200	A393	2.71	2.71	2.71	2.71	2.90	2.90	2.90	2.90	3.20	3.20	3.20	3.20	
Double Span	1.0	130	A142	3.59	3.53	3.00	2.66	3.83	3.61	3.07	2.73	4.34	3.77	3.21	2.85
		150	A193	3.38	3.38	3.38	3.09	3.70	3.70	3.57	3.15	4.12	4.12	3.71	3.28
		200	A393	2.97	2.97	2.97	2.97	3.18	3.18	3.18	3.18	3.76	3.76	3.76	3.76
	1.5	140	A193	3.48	3.48	2.99	2.66	3.80	3.56	3.03	2.70	4.22	3.66	3.12	2.77
		150	A193	3.38	3.38	3.10	2.75	3.70	3.69	3.14	2.79	4.12	3.78	3.23	2.87
		200	A393	2.97	2.97	2.97	2.97	3.18	3.18	3.18	3.18	3.76	3.76	3.76	3.76
2.0	150	A193	3.38	3.23	2.77	2.47	3.69	3.25	2.79	2.49	3.73	3.29	2.83	2.53	
	175	A252	3.16	3.16	3.16	2.94	3.44	3.44	3.33	2.96	3.91	3.91	3.37	2.99	
	200	A393	2.97	2.97	2.97	2.97	3.18	3.18	3.18	3.12	3.76	3.76	3.55	3.16	
Double Span (Propped)	1.0	130	A393	4.78	4.37	3.80	3.24	4.84	4.43	3.85	3.34	4.96	4.54	3.95	3.53
		150	A393	5.04	4.56	4.00	3.60	5.12	4.63	4.06	3.66	5.26	4.76	4.17	3.76
		200	2 x A393	4.42	4.42	4.42	4.42	4.88	4.88	4.88	4.56	5.70	5.70	5.31	4.79
	1.5	140	A393	4.54	4.09	3.57	3.21	4.59	4.13	3.61	3.25	4.67	4.21	3.68	3.31
		150	A393	4.65	4.20	3.68	3.32	4.70	4.25	3.72	3.35	4.79	4.33	3.79	3.42
		200	2 x A393	4.42	4.42	4.42	4.21	4.88	4.88	4.65	4.24	5.70	5.29	4.72	4.30
2.0	150	A393	4.31	3.89	3.41	3.07	4.33	3.92	3.43	3.09	4.38	3.96	3.47	3.13	
	175	2 x A252	4.78	4.49	3.97	3.59	4.95	4.52	3.99	3.62	5.00	4.56	4.03	3.65	
	200	2 x A393	4.42	4.42	4.15	3.78	4.88	4.68	4.17	3.80	5.14	4.72	4.20	3.83	

Design Table Limits – Criteria

Typically, spans are governed by the maximum 'un-propped' condition at Construction Stage, except where values are for propped spans and/or are indicated as follows:

Spans shown in **red** indicate where spans are limited by the fire condition, greater spans may be achievable by either increasing mesh size or addition of bottom reinforcement – refer JSWSMD Deck Design Software or contact JSWSMD Technical Department.

Spans shown in **blue** indicate where spans are limited by the composite/normal stage conditions, greater spans may be achievable where shear studs are provided. Refer JSWSMD Deck Design Software or Contact JSWSMD Technical Department.

TR60+ Fire Insulation Thickness



Minimum Insulation Thickness (x) of Concrete (mm)					
Fire Rating	1 hr	1.5 hr	2 hr	3 hr	4 hr
NWC	70	80	90	115	130
LWC	60	70	80	100	115

The image and table above details the minimum insulation thickness required to suit fire design criteria – in accordance with BS5950 Part 8.

Head Office: JSW Structural Metal Decking Ltd.

601, Gujral House, 6th Floor, 167, CST Road, Opp. IDBI Bank, Kalina, Santacruz (East), Mumbai - 400 098

Tel: +91 22 2652 9383 Fax: +91 22 6731 7070 Email: contactus@jswsmd.in Web: www.jswsmd.in