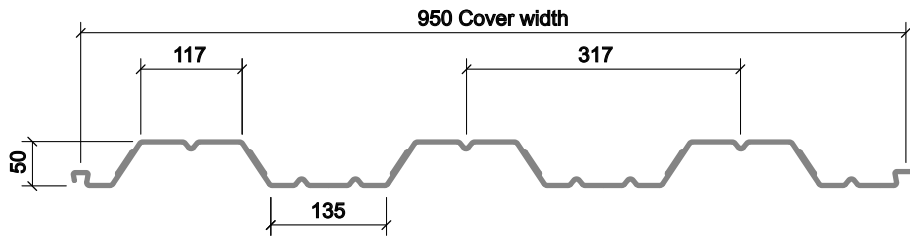


# TR50<sup>TM</sup>



## Description

This profile should only be used as formwork, where the reinforcement within the slab has been designed by the structural engineer, taking no account of the metal decking.

## Benefits

- Formwork for non-composite RCC floor and roof slabs
- Optimised cover width for speed of installation
- Flexible side-lap detail for control of cover width

## Gauges

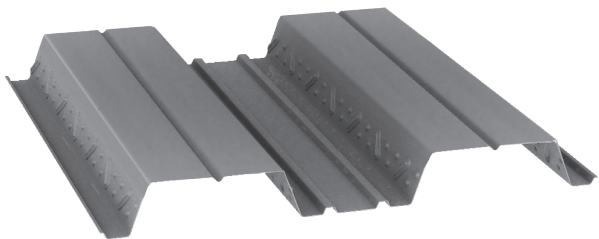
- 0.7mm
- 0.8mm
- 0.9mm
- 1.0mm
- 1.2mm

## Specification

- 950mm cover width
- 50mm deep

## Steel Grade

- S250
- S350



## Finishes

- Galvanised (Z275)
- Interior liner

## Profile Properties

Nominal Thickness mm	Design Thickness (bare steel) mm	Weight of Profile kg/m <sup>2</sup>	Weight of Profile kN/m <sup>2</sup>	Height of Neutral Axis mm	Area of Steel mm <sup>2</sup> /m	Moment of Inertia cm <sup>4</sup> /m
0.7	0.66	6.82	0.070	-	848	26.20
0.8	0.76	7.85	0.080	-	976	31.10
0.9	0.86	8.88	0.090	-	1104	36.90
1.0	0.96	9.92	0.100	-	1233	42.30
1.2	1.16	11.98	0.120	-	1490	55.40

Section properties are calculated assisted by testing in accordance with Eurocode 3.

## Fire Design

With TR50 being a formwork-only profile, the fire design and reinforcement required must be determined by the structural engineer designing the slab. In the table below the concrete weight is based upon concrete density of 26kN/m<sup>3</sup> allowing for 1kN/m<sup>3</sup> of reinforcement.

## Concrete Volume and Weight

Slab Depth mm	Volume of Concrete m <sup>3</sup> /m <sup>2</sup>	Weight of Concrete (Normal Weight)		Weight of Concrete (Lightweight)	
		Wet (kN/m <sup>2</sup> )	Dry (kN/m <sup>2</sup> )	Wet (kN/m <sup>2</sup> )	Dry (kN/m <sup>2</sup> )
130	0.106	2.76	2.65	2.24	2.13
150	0.126	3.28	3.15	2.66	2.53
200	0.176	4.58	4.40	3.71	3.54

This table is based upon concrete poured to a constant thickness and does not take account of deflection of the decking or supporting beams – as a guide, to account for the deflection of the decking, a volume of span/250 should be added to the figures indicate in the Concrete Volume and Weight table. Concrete weight indicated does not include the weight of the deck profile. Overall slab depth includes deck profile

## Load Tables (Eurocode)

### Steel Grade S350 – Normal Weight Concrete

Span Condition	Fire Rating (hours)	Slab Depth (mm)	Mesh	Maximum Permissible Span (m)				
				0.7mm Gauge	0.8mm Gauge	0.9mm Gauge	1.0mm Gauge	1.2mm Gauge
				FW	FW	FW	FW	FW
 Single	NA	110	-	2.045	2.300	2.480	2.664	3.019
	NA	120	-	1.984	2.238	2.407	2.585	2.930
	NA	130	-	1.922	2.172	2.354	2.515	2.850
	NA	150	-	1.819	2.053	2.230	2.387	2.715
	NA	170	-	1.695	1.953	2.126	2.281	2.600
	NA	180	-	1.624	1.910	2.083	2.230	2.546
	NA	200	-	1.492	1.831	2.004	2.141	2.445
	NA	220	-	1.375	1.726	1.938	2.065	2.358
	NA	250	-	1.242	1.554	1.843	1.961	2.242
 Double	NA	110	-	1.835	2.125	2.414	2.664	3.164
	NA	120	-	1.742	2.022	2.296	2.546	3.023
	NA	130	-	1.664	1.930	2.195	2.438	2.899
	NA	150	-	1.527	1.777	2.026	2.250	2.680
	NA	170	-	1.414	1.649	1.883	2.093	2.507
	NA	180	-	1.366	1.593	1.819	2.026	2.426
	NA	200	-	1.277	1.492	1.711	1.907	2.288
	NA	220	-	1.203	1.407	1.616	1.800	2.164
	NA	250	-	1.108	1.300	1.492	1.668	2.010

Deflection limit = span/130. Construction imposed load is taken as 1.5kN/m<sup>2</sup>. Spans are centre to centre of 127mm supports