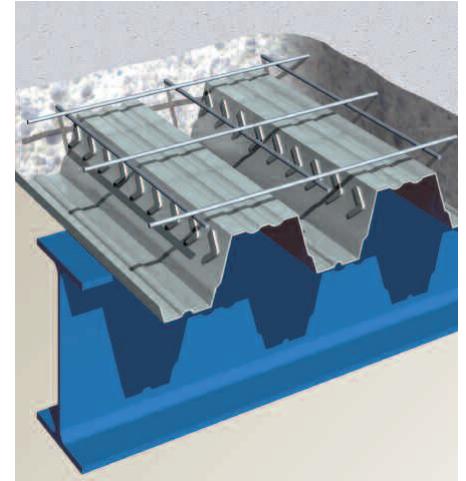
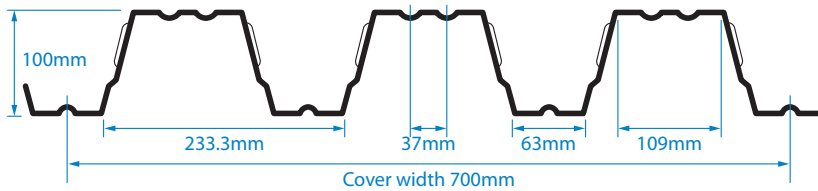


ComFlor® 100

Design information



ComFlor® 100 Composite slab – volume and weight

| Slab depth (mm) | Concrete volume (m ³ /m ²) | Weight of concrete (kN/m ²) | | | |
|-----------------|---|---|------|----------------------|------|
| | | Normal weight Concrete | | Lightweight Concrete | |
| | | Wet | Dry | Wet | Dry |
| 160 | 0.100 | 2.36 | 2.31 | 1.87 | 1.77 |
| 170 | 0.110 | 2.59 | 2.54 | 2.05 | 1.94 |
| 180 | 0.120 | 2.83 | 2.77 | 2.24 | 2.12 |
| 190 | 0.130 | 3.06 | 3.00 | 2.43 | 2.30 |
| 195 | 0.135 | 3.18 | 3.12 | 2.52 | 2.39 |
| 200 | 0.140 | 3.30 | 3.23 | 2.61 | 2.47 |
| 210 | 0.150 | 3.53 | 3.46 | 2.80 | 2.65 |
| 220 | 0.160 | 3.77 | 3.69 | 2.98 | 2.83 |
| 230 | 0.170 | 4.01 | 3.92 | 3.17 | 3.00 |
| 250 | 0.190 | 4.48 | 4.38 | 3.54 | 3.36 |

Notes:

- Deck and beam deflection (i.e. ponding) is not allowed for in the table.
- Deck and mesh weight is not included in the weight of concrete figures.
- Density of concrete is taken as:
 Normal weight (wet) 2400kg/m³
 Normal weight (dry) 2350kg/m³
 Lightweight (wet) 1900kg/m³
 Lightweight (dry) 1800kg/m³

ComFlor® 100 section properties (per metre width) BS5950

| Nominal thickness (mm) | Design thickness (mm) | Cross section area (mm ² /m) | Profile weight (kN/m ²) | Height to neutral axis (mm) | Moment of inertia (cm ⁴ /m) | | Ultimate moment capacity (kNm/m) | |
|------------------------|-----------------------|---|-------------------------------------|-----------------------------|--|---------|----------------------------------|---------|
| | | | | | Sagging | Hogging | Sagging | Hogging |
| 0.90 | 0.86 | 1511 | 0.12 | 58.00 | 225.77 | – | 11.26 | 11.20 |
| 1.20 | 1.16 | 2022 | 0.16 | 58.00 | 298.00 | – | 12.40 | 18.64 |

Section properties in the above table conform to BS5950.

Design Notes:

Deck material

Tata Steel Galvatite®, hot dip zinc coated steel EN 10326-S280GD+Z275. Guaranteed minimum yield stress 280N/mm². Minimum zinc coating mass 275g/m² total both sides.

Anti-crack mesh

BS 5950: Part 4 currently recommends that anticrack mesh should comprise 0.1% of slab area. The Eurocode 4 recommendation is that anticrack mesh should comprise 0.2% of slab area for unpropped spans and 0.4% of slab area for propped spans.

Where forklift truck (or other similar concentrated loading) is expected 0.5% minimum percentage reinforcement should be used over the supports and 2% elsewhere to control cracking. For further information contact us or refer to SCI AD150.

Mesh top cover must be a minimum of 15mm for lightweight concrete and 25mm for normal weight concrete. Mesh laps are to be 300mm for A142 mesh and 400mm for A193, A252 & A393 mesh.

Fire

For details of the performance of composite slabs comprising ComFlor® 100 decking under a fire condition with nominal anti-crack mesh, please contact the technical team. For other simplified design cases or for full fire engineering, refer to the ComFlor® software.

Technical services

The Technical Department at Tata Steel offers a comprehensive advisory service on design of composite flooring, which is available to all specifiers and users. Should queries arise which are not covered by this literature or by the ComFlor® software, please contact us.