

GRS Bond-Dek

Global Roofing Solutions Bond-Dek™ Composite Deck

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GRS Bond-Dek



GLOBAL ROOFING SOLUTIONS

BrownBuilt | HH Robertson



Bond-Dek™ Composite Deck

- Bond-Dek is a composite steel flooring system for multi-storey steel or concrete buildings.
- Bond-Dek's unique side-lap interlocking system provides for fast and simple construction. The speed of erection results in major labour cost savings.
- Bond-Dek is able to span up to 3 metres unsupported under wet concrete with a minimum depth of 65mm over the profile.
- Bond-Dek will accept most floor service systems.
- Bond-Dek is available in a galvanised coated steel 0.8mm, 1.0mm and 1.2mm thick.
- Bond-Dek has been fire tested by the CSIR and has qualified for a rating of 120 minutes.
- Brownbuilt has been assessed and certified complying with ISO 9002 Quality Management Systems



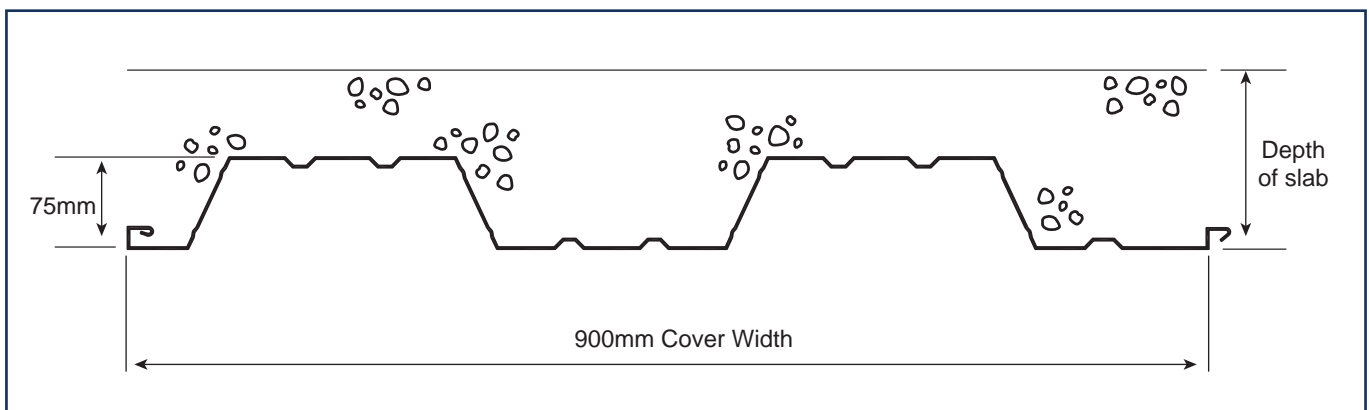
Note

The Bond-Dek profile displaces 0,037 m³ per m² of deck.

Material:

ISQ 300, galvanised to Z275.

Refer to the Bond-Dek installation procedure before proceeding with installation of panels (pages 6-11).



General

1. Bond-Dek floor slabs are basically one-way slabs designed to carry uniformly distributed loads. The tables below do not cater for heavy concentrated loads or moving loads. Where these occur the design should be referred to a civil / structural engineer.
2. Calculations are generally in accordance with BS5950: Part 4: 1984 (limit states design). Deflection during construction calculated at span/180m.
3. Where the Bond-Dek is not fixed directly to the end supports (e.g. shear studs, Hilti nails, etc.) steel closer pieces or transverse straps are required along the ends.
4. For normal applications of Bond-Dek steel floors, no additional reinforcing other than a light mesh for shrinkage control is required, typically 193 mesh.
5. For "Fire Applications" of Bond-Dek floors, welded steel mesh reinforcement of 8mm diameter steel bars at 200mm spacing in each direction is required, with minimum top cover along supports (typically on top of shear studs). This gives the following ratings for a nominal superimposed load of 2,5kN/m² maximum, for spans up to 3,0m. 120 minutes, where the thickness of the slab plus any concrete screed is greater than 170mm, and 90 minutes where the thickness of the slab plus any concrete screed is less than 170mm.

For further information on fire applications contact GRS. N.B. All tabulated values serve as a guide only for single span conditions, and should be certified and approved by a civil / structural engineer.

Accessories

The following accessories are available for use with Bond-Dek: Steel side and end closures, self-tapping screws, pop rivets, hammer drive screws and flashings made to order.

| SECTION PROPERTIES OF STEEL DECKING - SIMPLY SUPPORTED CONDITION | | | | | | | |
|--|-----------|---|--|--|--|-----------------------------------|--|
| Thickness (mm) | | Area of steel per metre width of cross section (mm ²) | Mass per square metre (kg/m ²) | Minimum reduced "Z" per metre width (10 ³ mm ³) | Reduced "I" per metre width (10 ⁶ mm ⁴) | Effective depth of Bond-Dek™ (mm) | Neutral axis from bottom of Bond-Dek™ (mm) |
| Nominal | Effective | | | | | | |
| 0.8 | 0.76 | 993 | 7.8 | 22.2 | 0.884 | 74.76 | 35.05 |
| 1.0 | 0.96 | 1254 | 9.85 | 30.3 | 1.170 | 74.96 | 36.38 |
| 1.2 | 1.16 | 1515 | 11.9 | 38.7 | 1.463 | 75.16 | 37.37 |

Bond-Dek™ Composite Deck: ALLOWABLE LOAD TABLES

| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m ²) | 0.8mm Thick COMPOSITE BOND-DEK™ SLAB | | | | | | | | | | | |
|--------------------|---|---|-------|-------|-------|-------|-------|-------|------|------|------|------|--|
| | | Nominal uniformly distributed superimposed load (Ln) in kN/m ² for simply supported conditions 25 Mpa concrete | | | | | | | | | | | |
| | | Span in metres | | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | |
| 140 | 2.52 | 10.00 | 8.72 | 7.80 | 6.84 | 6.10 | 5.37 | 4.80 | | | | | |
| 150 | 2.75 | 10.00 | 9.61 | 8.60 | 7.53 | 6.70 | 5.93 | 5.30 | | | | | |
| 160 | 2.99 | 10.00 | 10.00 | 9.39 | 8.21 | 7.29 | 6.46 | 5.79 | | | | | |
| 170 | 3.22 | 10.00 | 10.00 | 10.00 | 8.79 | 7.89 | 7.01 | 6.29 | | | | | |
| 180 | 3.46 | 10.00 | 10.00 | 10.00 | 9.43 | 8.48 | 7.54 | 6.78 | 6.13 | | | | |
| 190 | 3.69 | 10.00 | 10.00 | 10.00 | 10.00 | 9.17 | 8.11 | 7.27 | 6.50 | 5.87 | | | |
| 200 | 3.93 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.49 | 7.76 | 6.94 | 6.26 | 5.66 | 5.16 | |
| 210 | 4.17 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.03 | 8.24 | 7.36 | 6.64 | 5.99 | 5.44 | |
| 220 | 4.40 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.58 | 8.74 | 7.86 | 7.14 | 6.42 | 5.84 | |
| 230 | 4.64 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.23 | 8.28 | 7.53 | 6.75 | 6.13 | |
| 240 | 4.87 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.74 | 7.93 | 7.11 | 6.42 | |
| 250 | 5.11 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.14 | 8.32 | 7.51 | 6.82 | |

*Broken line indicates maximum modified span/20.

Spans to the right of the solid line require propping during construction.

| 0.8mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m ² plus wet concrete | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Slab depth (mm) | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | |
| Unpropped span (m) | 2.7 | 2.6 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | |

| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m²) | 1.0mm Thick | COMPOSITE BOND-DEK™ SLAB | | | | | | | | | | |
|--------------------|--|---|--------------------------|-------|-------|-------|-------|-------|------|------|------|------|--|
| | | Nominal uniformly distributed superimposed load (Ln) in kN/m2 for simply supported conditions | | | | | | | | | | | |
| | | 25 Mpa concrete | | | | | | | | | | | |
| | | Span in metres | | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | |
| 140 | 2.53 | 10.00 | 8.73 | 7.81 | 6.84 | 6.11 | 5.38 | 4.81 | | | | | |
| 150 | 2.77 | 10.00 | 9.61 | 8.60 | 7.53 | 6.70 | 5.93 | 5.30 | | | | | |
| 160 | 3.00 | 10.00 | 10.00 | 9.40 | 8.21 | 7.30 | 6.46 | 5.80 | | | | | |
| 170 | 3.24 | 10.00 | 10.00 | 10.00 | 8.79 | 7.89 | 7.01 | 6.29 | | | | | |
| 180 | 3.48 | 10.00 | 10.00 | 10.00 | 9.43 | 8.48 | 7.54 | 6.78 | | | | | |
| 190 | 3.71 | 10.00 | 10.00 | 10.00 | 10.00 | 9.07 | 8.06 | 7.27 | 6.49 | 5.87 | | | |
| 200 | 3.95 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.49 | 7.76 | 6.94 | 6.26 | 5.66 | 5.16 | |
| 210 | 4.19 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.03 | 8.24 | 7.36 | 6.64 | 5.99 | 5.44 | |
| 220 | 4.42 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.59 | 8.74 | 7.81 | 7.04 | 6.33 | 5.74 | |
| 230 | 4.66 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.23 | 8.24 | 7.42 | 6.72 | 6.13 | |
| 240 | 4.89 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.59 | 7.83 | 7.07 | 6.43 | |
| 250 | 5.13 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.98 | 8.22 | 7.46 | 6.82 | |

*Broken line indicates maximum modified span/20.
Spans to the right of the solid line require propping during construction.

| 1.0mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | | | |
|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 |

| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m²) | 1.2mm Thick | COMPOSITE BOND-DEK™ SLAB | | | | | | | | | | |
|--------------------|--|---|--------------------------|-------|-------|-------|-------|-------|------|------|------|------|--|
| | | Nominal uniformly distributed superimposed load (Ln) in kN/m² for simply supported conditions | | | | | | | | | | | |
| | | 25 Mpa concrete | | | | | | | | | | | |
| | | Span in metres | | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | |
| 140 | 2.56 | 10.00 | 8.75 | 7.80 | 6.80 | 6.00 | 5.34 | 4.80 | | | | | |
| 150 | 2.79 | 10.00 | 9.46 | 8.50 | 7.45 | 6.60 | 5.89 | 5.30 | | | | | |
| 160 | 3.03 | 10.00 | 10.00 | 9.29 | 8.16 | 7.29 | 6.45 | 5.79 | | | | | |
| 170 | 3.27 | 10.00 | 10.00 | 10.00 | 8.78 | 7.88 | 7.00 | 6.28 | | | | | |
| 180 | 3.50 | 10.00 | 10.00 | 10.00 | 9.48 | 8.48 | 7.54 | 6.78 | | | | | |
| 190 | 3.74 | 10.00 | 10.00 | 10.00 | 10.00 | 9.06 | 8.06 | 7.26 | 6.49 | 5.86 | | | |
| 200 | 3.97 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.76 | 7.76 | 6.94 | 6.26 | 5.66 | 5.16 | |
| 210 | 4.21 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.33 | 8.24 | 7.36 | 6.64 | 5.99 | 5.44 | |
| 220 | 4.44 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.69 | 8.74 | 7.81 | 7.04 | 6.33 | 5.74 | |
| 230 | 4.68 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.13 | 8.19 | 7.43 | 6.72 | 6.13 | |
| 240 | 4.91 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 8.63 | 7.83 | 7.07 | 6.42 | |
| 250 | 5.15 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 9.09 | 8.22 | 7.41 | 6.72 | |


*Broken line indicates maximum modified span/20.
Spans to the right of the solid line require propping during construction.

| 1.2mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | | | |
|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 3.5 | 3.4 | 3.4 | 3.3 | 3.2 | 3.1 | 3.1 | 3.0 | 2.9 | 2.9 | 2.8 | 2.8 |

Bond-Dek™ Composite Deck: FACTORED LOAD TABLES


| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m²) | 0.8mm Thick | | COMPOSITE BOND-DEK™ SLAB Total FACTORED uniformly distributed superimposed load in kN/m² for simply supported conditions (1,4 Dn + 1,6 Ln) 25 Mpa concrete | | | | | | | | | |
|--------------------|--|----------------|-------|---|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | Span in metres | | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | |
| | | | | | | | | | | | | | |
| 140 | 2.52 | 19.53 | 17.48 | 16.01 | 14.47 | 13.29 | 12.13 | 11.21 | | | | | |
| 150 | 2.75 | 19.85 | 19.22 | 17.62 | 15.90 | 14.58 | 13.33 | 12.34 | | | | | |
| 160 | 2.99 | 20.19 | 20.19 | 19.20 | 17.32 | 15.84 | 14.52 | 13.44 | | | | | |
| 170 | 3.22 | 20.51 | 20.51 | 20.51 | 18.57 | 17.13 | 15.72 | 14.57 | | | | | |
| 180 | 3.46 | 20.84 | 20.84 | 20.84 | 19.93 | 18.41 | 16.91 | 15.69 | 14.64 | | | | |
| 190 | 3.69 | 21.17 | 21.17 | 21.17 | 21.17 | 19.84 | 18.15 | 16.80 | 15.57 | 14.56 | | | |
| 200 | 3.93 | 21.50 | 21.50 | 21.50 | 21.50 | 21.50 | 19.08 | 17.92 | 16.61 | 15.52 | 14.56 | 13.76 | |
| 210 | 4.17 | 21.84 | 21.84 | 21.84 | 21.84 | 21.84 | 20.29 | 19.03 | 17.62 | 16.47 | 15.42 | 14.55 | |
| 220 | 4.40 | 22.16 | 22.16 | 22.16 | 22.16 | 22.16 | 21.48 | 20.15 | 18.73 | 17.59 | 16.44 | 15.51 | |
| 230 | 4.64 | 22.50 | 22.50 | 22.50 | 22.50 | 22.50 | 22.50 | 21.26 | 19.74 | 18.54 | 17.30 | 16.30 | |
| 240 | 4.87 | 22.82 | 22.82 | 22.82 | 22.82 | 22.82 | 22.82 | 22.82 | 20.81 | 19.50 | 18.20 | 17.10 | |
| 250 | 5.11 | 23.15 | 23.15 | 23.15 | 23.15 | 23.15 | 23.15 | 23.15 | 21.77 | 20.46 | 19.16 | 18.06 | |

*Broken line indicates maximum modified span/20.
Spans to the right of the solid line require propping during construction.

|  | | 0.8mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | |
|--|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 2.7 | 2.6 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 |

| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m²) | 1.0mm Thick | COMPOSITE BOND-DEK™ SLAB Total FACTORED uniformly distributed superimposed load in kN/m² for simply supported conditions (1,4 Dn + 1,6 Ln) 25 Mpa concrete | | | | | | | | | | |
|--------------------|--|----------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | Span in metres | | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | |
| | | | | | | | | | | | | | |
| 140 | 2.53 | 19.54 | 17.50 | 16.04 | 14.49 | 13.32 | 12.15 | 11.24 | | | | | |
| 150 | 2.77 | 19.88 | 19.25 | 17.64 | 15.93 | 14.60 | 13.36 | 12.36 | | | | | |
| 160 | 3.00 | 20.20 | 20.20 | 19.23 | 17.34 | 15.87 | 14.54 | 13.47 | | | | | |
| 170 | 3.24 | 20.54 | 20.54 | 20.54 | 18.60 | 17.15 | 15.75 | 14.59 | | | | | |
| 180 | 3.48 | 20.87 | 20.87 | 20.87 | 19.96 | 18.44 | 16.94 | 15.72 | 14.67 | | | | |
| 190 | 3.71 | 21.19 | 21.19 | 21.19 | 21.19 | 19.70 | 18.09 | 16.82 | 15.59 | 14.58 | | | |
| 200 | 3.95 | 21.53 | 21.53 | 21.53 | 21.53 | 21.53 | 19.12 | 17.95 | 16.64 | 15.55 | 14.59 | 13.79 | |
| 210 | 4.19 | 21.87 | 21.87 | 21.87 | 21.87 | 21.87 | 20.32 | 19.05 | 17.65 | 16.49 | 15.45 | 14.57 | |
| 220 | 4.42 | 22.19 | 22.19 | 22.19 | 22.19 | 22.19 | 21.54 | 20.18 | 18.68 | 17.46 | 16.32 | 15.38 | |
| 230 | 4.66 | 22.52 | 22.52 | 22.52 | 22.52 | 22.52 | 22.52 | 21.28 | 19.71 | 18.40 | 17.27 | 16.32 | |
| 240 | 4.89 | 22.85 | 22.85 | 22.85 | 22.85 | 22.85 | 22.85 | 22.85 | 20.59 | 19.37 | 18.16 | 17.13 | |
| 250 | 5.13 | 23.18 | 23.18 | 23.18 | 23.18 | 23.18 | 23.18 | 23.18 | 21.55 | 20.33 | 19.12 | 18.09 | |


*Broken line indicates maximum modified span/20.
Spans to the right of the solid line require propping during construction.

|  | | 1.0mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | |
|---|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 |

Bond-Dek™ Composite Deck: FACTORED LOAD TABLES

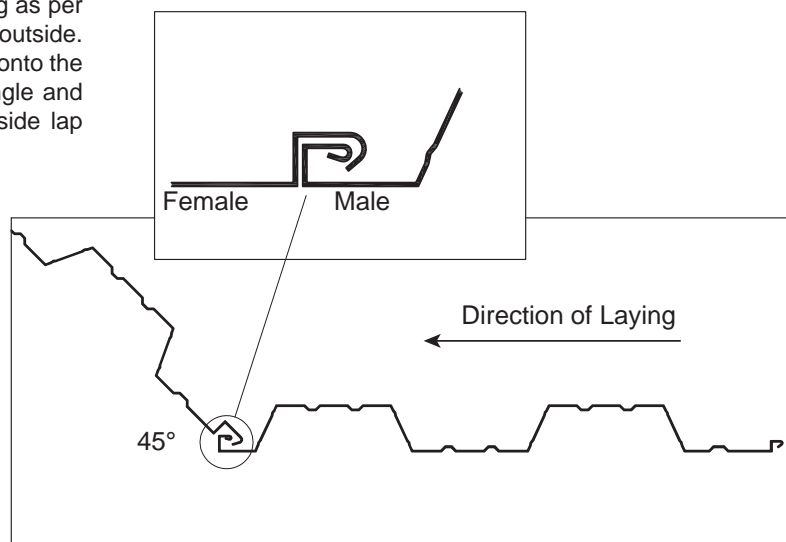
| Depth of slab (mm) | Nominal dead load of slab (Dn) (kN/m²) | 1.2mm Thick COMPOSITE BOND-DEK™ SLAB | | | | | | | | | | |
|--------------------|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | Total FACTORED uniformly distributed superimposed load in kN/m² for simply supported conditions (1,4 Dn + 1,6 Ln) | | | | | | | | | | |
| | | 25 Mpa concrete | | | | | | | | | | |
| | | Span in metres | | | | | | | | | | |
| | | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 |
| 140 | 2.56 | 19.58 | 17.58 | 16.07 | 14.46 | 13.19 | 12.13 | 11.27 | | | | |
| 150 | 2.79 | 19.91 | 19.04 | 17.51 | 15.83 | 14.47 | 13.34 | 12.39 | | | | |
| 160 | 3.03 | 20.24 | 20.24 | 19.10 | 17.29 | 15.90 | 14.56 | 13.50 | | | | |
| 170 | 3.27 | 20.58 | 20.58 | 20.58 | 18.62 | 17.18 | 15.78 | 14.64 | | | | |
| 180 | 3.50 | 20.90 | 20.90 | 20.90 | 20.06 | 18.46 | 16.97 | 15.74 | 14.69 | | | |
| 190 | 3.74 | 21.24 | 21.24 | 21.24 | 21.24 | 19.73 | 18.13 | 16.87 | 15.64 | 14.62 | | |
| 200 | 3.97 | 21.56 | 21.56 | 21.56 | 21.56 | 21.56 | 19.57 | 17.97 | 16.67 | 15.57 | 14.62 | 13.81 |
| 210 | 4.21 | 21.89 | 21.89 | 21.89 | 21.89 | 21.89 | 20.81 | 19.08 | 17.67 | 16.52 | 15.47 | 14.60 |
| 220 | 4.44 | 22.22 | 22.22 | 22.22 | 22.22 | 22.22 | 21.72 | 20.20 | 18.71 | 17.48 | 16.35 | 15.40 |
| 230 | 4.68 | 22.55 | 22.55 | 22.55 | 22.55 | 22.55 | 22.55 | 21.15 | 19.66 | 18.43 | 17.30 | 16.35 |
| 240 | 4.91 | 22.87 | 22.87 | 22.87 | 22.87 | 22.87 | 22.87 | 22.87 | 20.68 | 19.39 | 18.18 | 17.15 |
| 250 | 5.15 | 23.21 | 23.21 | 23.21 | 23.21 | 23.21 | 23.21 | 23.21 | 21.75 | 20.36 | 19.06 | 17.96 |

*Broken line indicates maximum modified span/20.
Spans to the right of the solid line require propping during construction.

|  | 1.2mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) | | | | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | | |
| Slab depth (mm) | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | |
| Unpropped span (m) | 3.5 | 3.4 | 3.4 | 3.3 | 3.2 | 3.1 | 3.1 | 3.0 | 2.9 | 2.9 | 2.8 | 2.8 | |

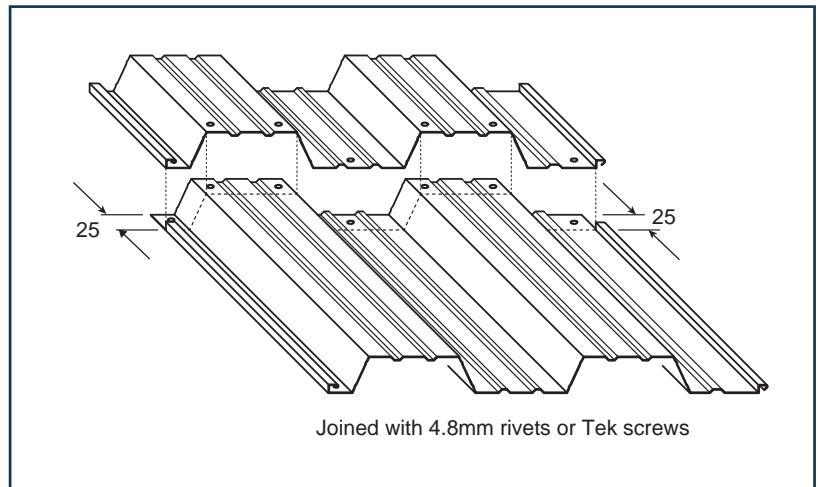
Installation procedure (Read entire procedure before pouring concrete)

Bond-Dek panels act as formwork for wet concrete and reinforcing for the slab. To commence installation the first Bond-Dek panel is placed in the required position with the male interlocking rib pointing in the direction of laying as per the sketch. Place the female interlocking rib to the outside. Place the interlocking female rib of the second panel onto the male rib of the first panel at an approximate 45° angle and then lower panel down onto supports, locking the side lap together. Repeat for each additional panel.



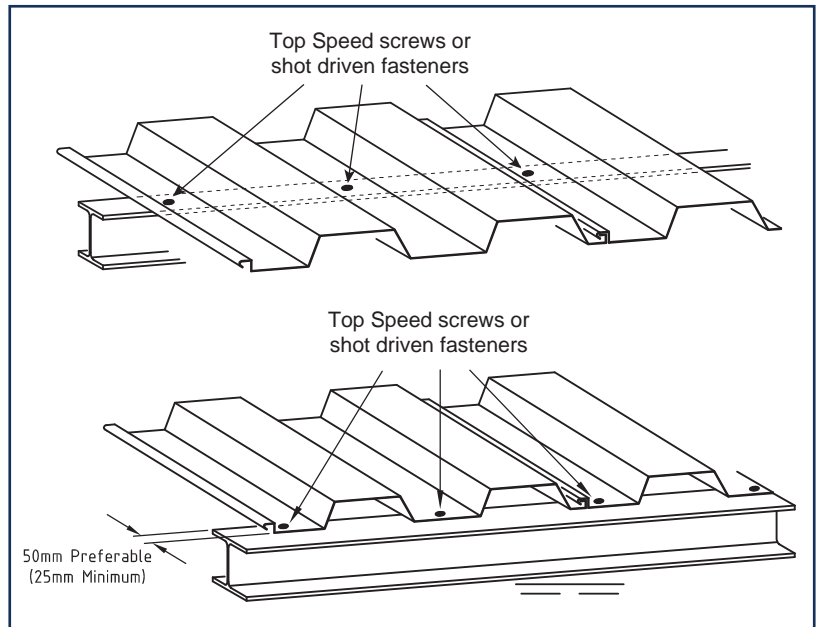
End lapping of sheets

The standard procedure is to lap Bond-Dek and not to butt joint it. To end lap Bond-Dek panels cut back 25mm on male and female interlocking ribs on the bottom panel then overlap top panel. Fix with Top Speed screws into beam to ensure lateral stability at supports.



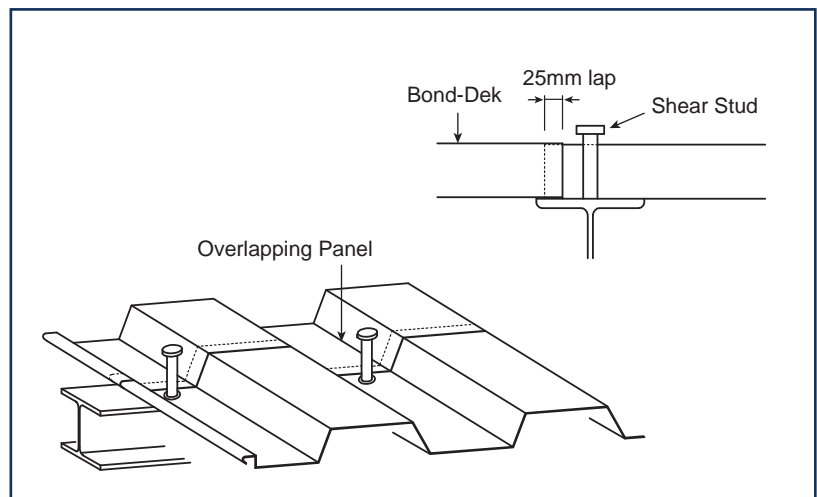
Structural steelwork

Bond-Dek panels can be conveniently fixed to steel supports with either “Top Speed” screws or shot driven fasteners. One fixing in each pan is required.



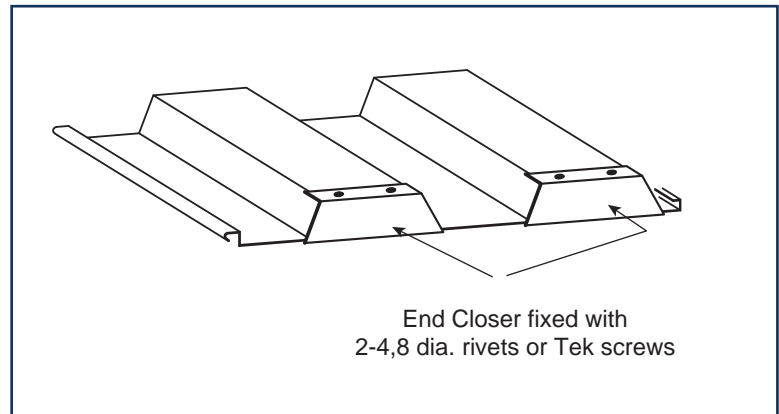
Shear stud

If shear studs are to be used, these should be placed in the pan of the panel over a beam. Where panels are end lapped, this lap of 25mm must be to one side of the beam, allowing for shear stud to be positioned through the centre of the beam and fixed through the bottom panel.



Preventing concrete run out at Bond-Dek™ ends

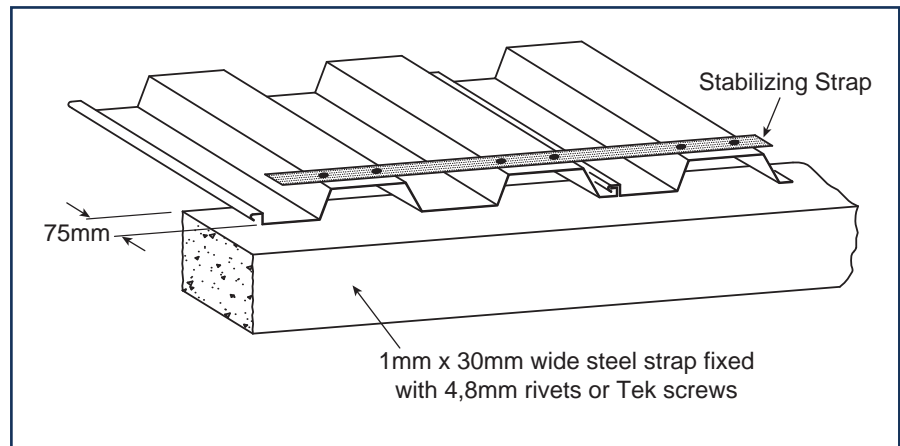
When utilising a closer at the ends of the Bond-Dek panels, lateral stability is provided without the use of strapping (closer to fit snugly over Bond-Dek).



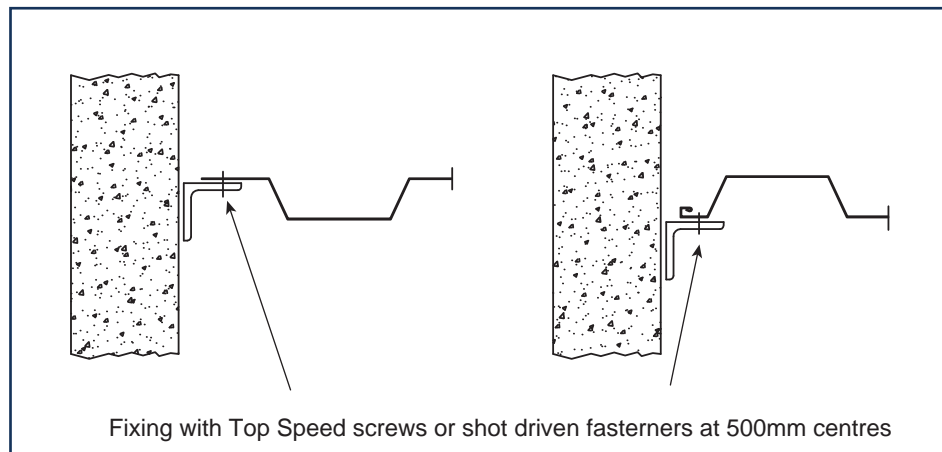
Concrete or brick construction

Before laying any Bond-Dek panels, ensure that the top face of the concrete beam or the brick wall is level. An uneven top face will result in an excessive amount of concrete in places and therefore possible overloading.

Installation of the Bond-Dek is to simply place the panels onto the concrete beams or the top of the brick walls. A steel strap is placed across the panels and fixed at each flute. This is done to ensure lateral stability while casting the slab. When the deck is spanning its maximum, a steel strap should be fixed at mid span as well as the ends.

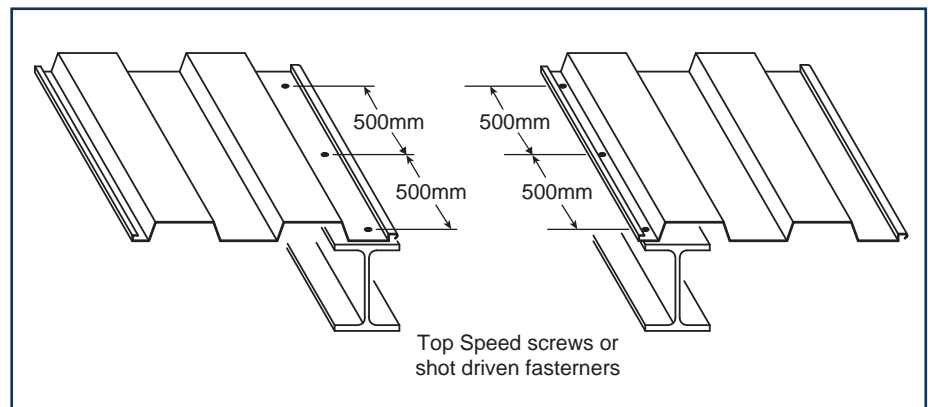
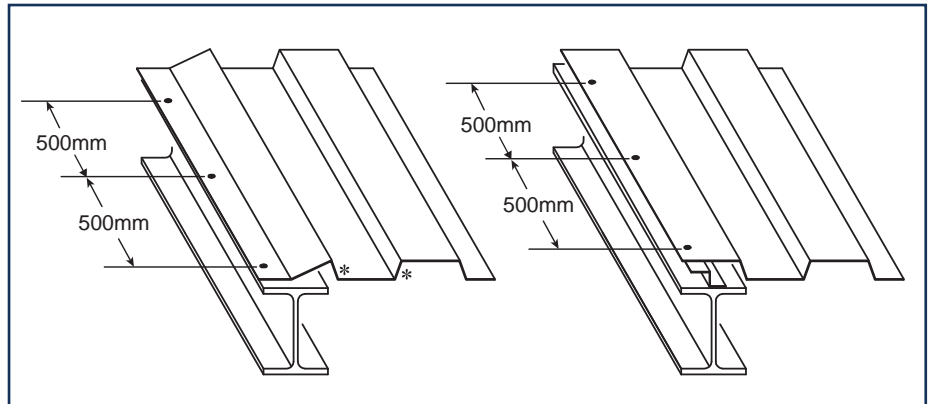


Fixing to concrete

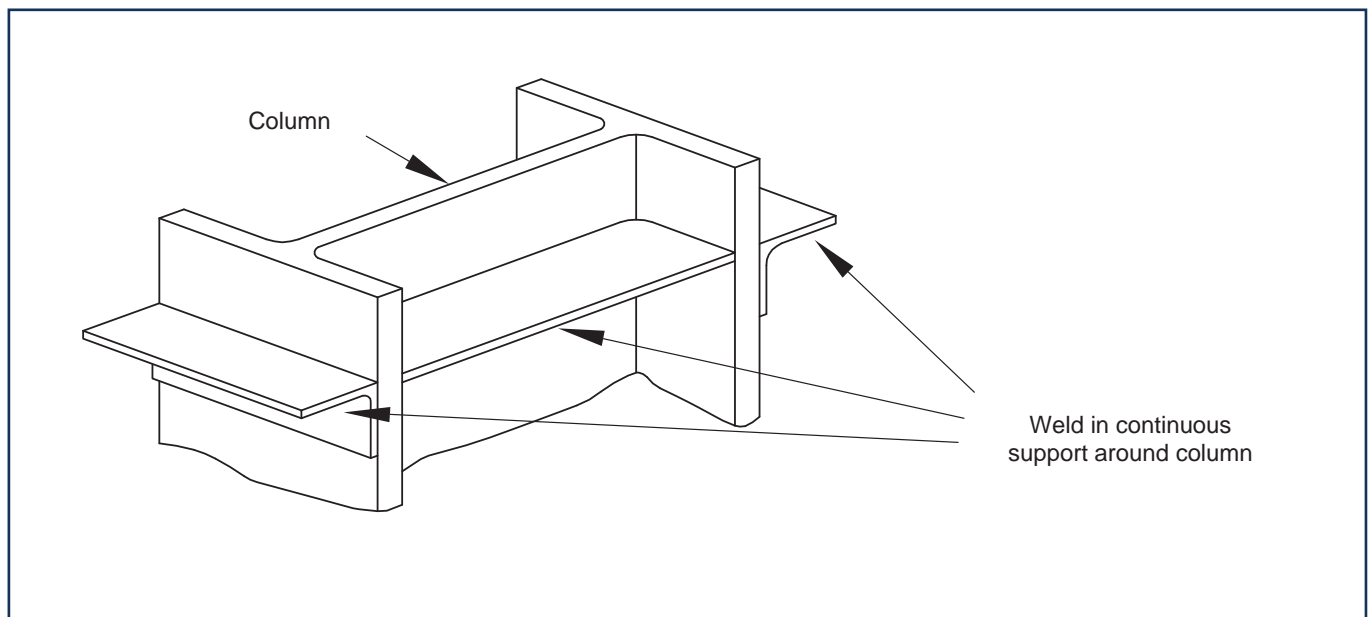


Side fixing to supporting structure

Bend down, cut edge of panel and fix with Top Speed or shot driven fastener. Ensure angle* of rib remains the same. Alternatively a make-up Z-piece 75mm deep can be fixed to the beam and Bond-Dek.

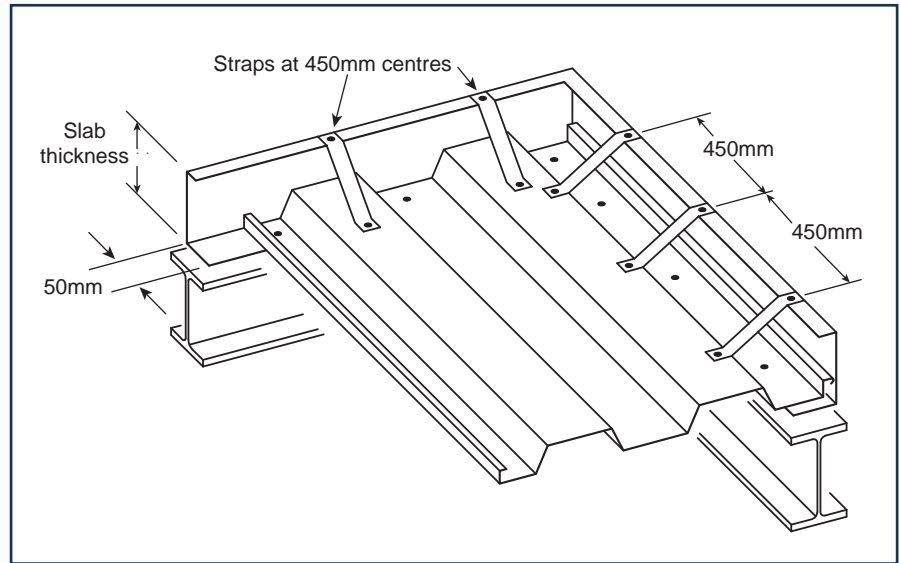


Fixing around columns



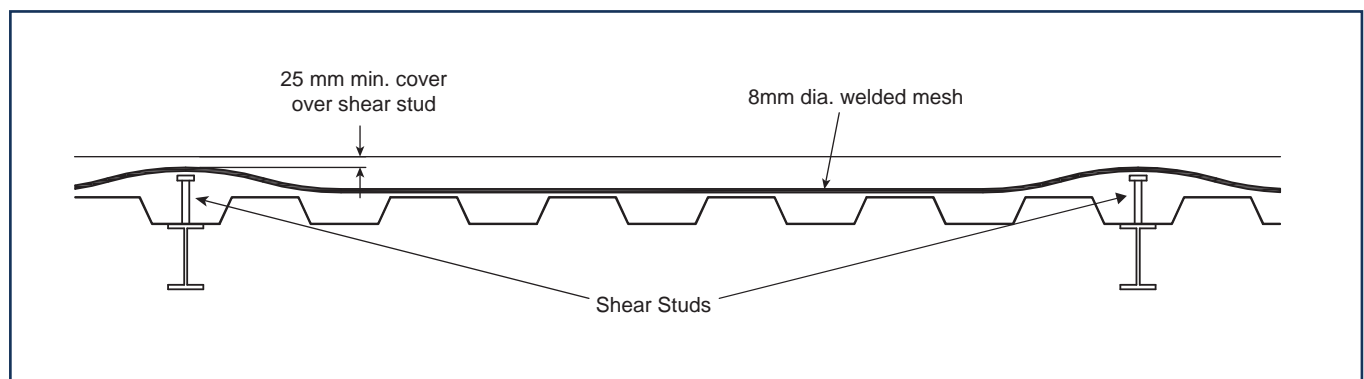
Kerb flashing

Standard kerb flashing is secured by riveting the bottom of the deck to the bottom of the Kerb flash, and the top by riveting a steel strap to the top leg of the Kerb flash and the top of the Bond-Dek rib. Kerb flashings to be a minimum of 1mm thick



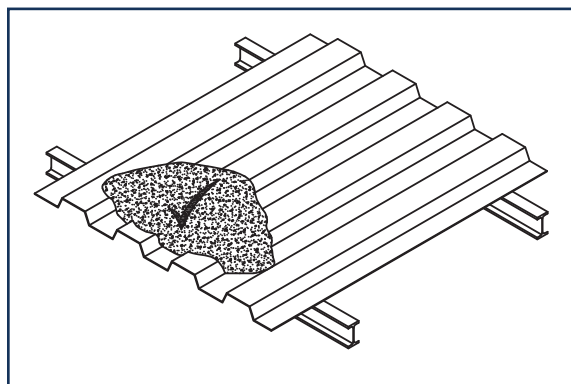
Fire Applications

For “Fire Applications” of Bond-Dek floors, welded steel mesh reinforcement of 8mm diameter steel bars at 200mm centres in each direction is required with minimum top cover along supports (typically on top of shear studs).

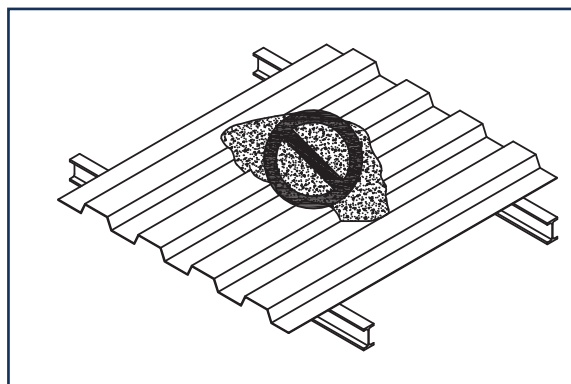


Pouring concrete


Pour concrete over load bearing beams. Never exceed a concrete height of 300mm and avoid load concentrations, i.e. excessive equipment or manpower.





NEVER POUR CONCRETE AT MID-SPAN!



Safe Load Tables

|  | | 0.8mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | |
|---|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 2.7 | 2.6 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 |

|  | | 1.0mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | |
|---|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 |

|  | | 1.2mm THICK BOND-DEK™ DECKING SPANS DURING CONSTRUCTION (UNPROPPED) Allowing for a construction load of 1,5 kN/m² plus wet concrete | | | | | | | | | | | |
|---|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Slab depth (mm) | | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 |
| Unpropped span (m) | | 3.5 | 3.4 | 3.4 | 3.3 | 3.2 | 3.1 | 3.1 | 3.0 | 2.9 | 2.9 | 2.8 | 2.8 |



Please visit our website or contact GRS for standard flashing details

| | | | | | |
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