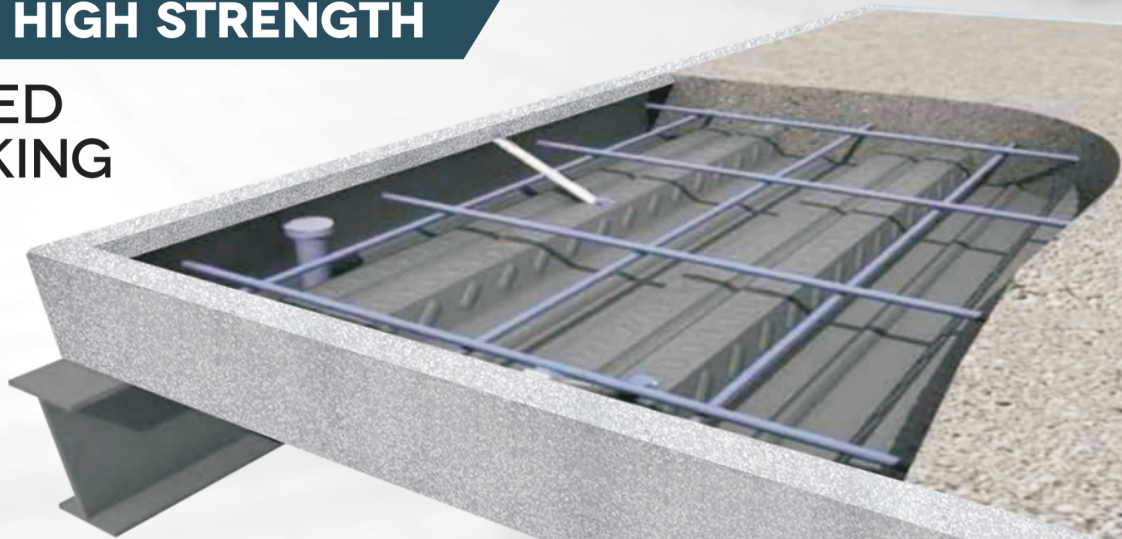


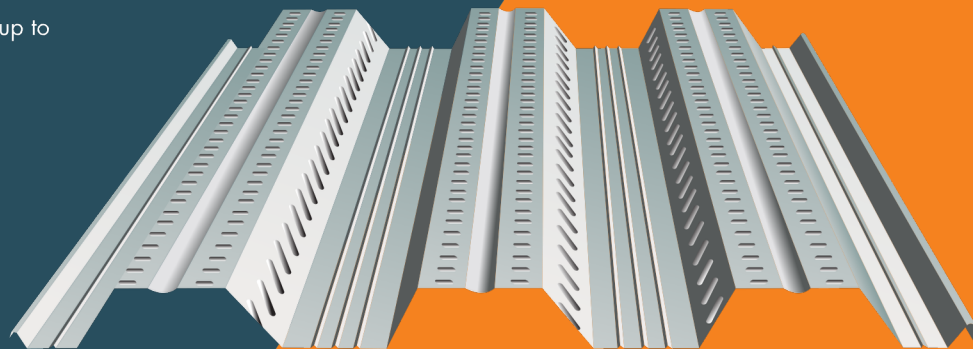
INNOVATIVE HIGH STRENGTH

ZINC-COATED STEEL DECKING SYSTEM



UNIQUE BLEND OF STRENGTH & AFFORDABLE WITH VARIOUS FEATURES.

- / Embossments provide mechanical interlock ensuring adequate composite action.
- / Acts as bottom tensile reinforcement & eliminates the need of bottom rebars.
- / Excellent spanning capacities for greater strength & less deflection.
- / Precision engineered; brings greater economy & design freedom.
- / Composite slabs can be designed for up to 4 hours of fire rating.
- / Greater corrosion resistance provides long life.
- / Saves on concrete & reinforcement cost.
- / Ease of installation combined with safety.



COLFORM SDN. BHD. (605945-H)

KOTA KINABALU (HQ)

Lot 8, Jalan 2A KKIP Timur, Industrial Zone 12
(IZ12), Kota Kinabalu Industrial Park,
89208 Tuaran, Sabah.
Tel: +6088-472 221 / 011-3307 6264

SANDAKAN

Lot 197, Lorong Sedco 5,
Sedco Light Industrial Estate, Off Mile 2.5,
Jalan Utara, 90000 Sandakan, Sabah.
Tel: +6089-238 833 / 089-272 323 Fax: +6089-278 530



Another
quality product
from

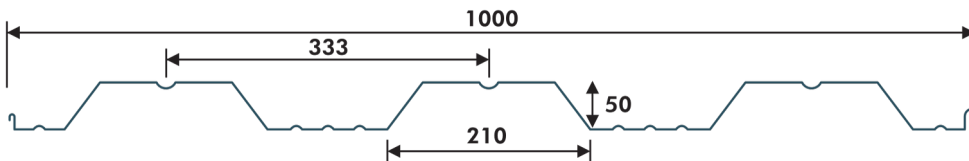


ABOUT ECOSPAN FLOOR DECK 50

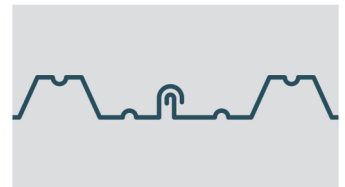
ECOSPAN FLOOR DECK 50 System is an innovative high strength zinc-coated steel decking system designed for use in the construction of composite floor slabs. It is one of the most economical structural steel decking in the industry. ECOSPAN Floor Deck 50 is suitable for typical construction application as it provides widest cover per weight of steel and also minimises the requirement for reinforcement. It acts as a permanent formwork for a composite concrete slab, which in its assembled state can be used as a working platform as well as a formwork to support wet concrete, construction materials and trades. When the concrete hardens, it acts as the bottom tensile reinforcement. Ecospan Floor Deck 50 system has excellent spanning capacities that ensure greater strength and less deflection.

Ecospan Floor Deck 50 panel has a rib depth of 51 mm and provides an effective cover width of 1000mm. Embossments on top of the flange provide excellent mechanical interlocking between steel and concrete. In the assembled state, the profile comprises of intermediate male and female ribs for every interlocking side-lap joint.

PROFILE SPECIFICATION



OVERLAP DETAIL



MATERIAL SPECIFICATION

Thickness	0.75mm, 1.00mm, 1.20mm
Steel Grade	MS 2384: 2011 - Continuous Hot-Dip Zinc-Coated Carbon Steels Sheet Of Structural Quality
Yield Stress	G550
Zinc Coating	Z275
Mechanical Property	Y/P Min. 550 MP, T/s Min 550 MP, E/l Min. 10%

DIMENSION & PROPERTIES SECTION PROPERTIES (PER METER WIDTH)

Type	Material Thickness	Cross-sectional Area, A	Weight Area	Centroid		Moment of Inertia, I _x	Max Section Modulus, S _x	Max Plastic Section Modulus, Z _x	Max Plastic Bending Moments, M _{pl,max}	Max Deflection, q _{max} (mm)	Allowable Deflection L/500, q _c (mm)
	(mm)	(mm)	(Kg/m2)	X-dir (mm)	Y-dir (mm)	(mm4)	(mm3)	(mm3)	(kNm)	(mm3)	(kNm)
ECO_FD_08	0.75	931.6	7.24	505	24.15	395309	16309	18105	4.98	2.65	2.66
ECO_FD_10	1.00	1239.8	9.64	505	24.25	526047	21574	24097	6.63	2.88	2.92
ECO_FD_12	1.20	1485.6	11.55	505	24.25	630328	25730	28875	7.94	3.05	3.10

CONCRETE VOLUME & WEIGHT TABLE

Slab Thk	Concrete Volume	Weight (kN/m2)			
		Normal Concrete		Light Weight Concrete	
(mm)	(m3/m2)	WET	DRY	WET	DRY
100	0.075	1.77	1.69	1.43	1.38
110	0.085	2.00	1.92	1.63	1.56
120	0.095	2.24	2.14	1.82	1.74
130	0.105	2.47	2.37	2.01	1.93
140	0.115	2.71	2.59	2.20	2.11
150	0.125	2.94	2.82	2.39	2.29

SPAN TABLE

LOAD ALLOWANCE & DEFINITIONS

Floor Live Load	1.5kN/m ² , 3.0kN/m ²
Concentrated Load	N/A
Dead Load	Self-weight plus Weight of flooring.
Partition Loads	Weight of non-load bearing walls, floor underlays and floor coverings, ceilings, services through floors, are assumed to be a maximum of 0.5kN/m ² .
Deck Spans	The distance between the end supports of a joist, which is usually the webs of the bearers to which the joist is attached.

LIVE LOAD, SPAN VS DEFLECTION TABLES

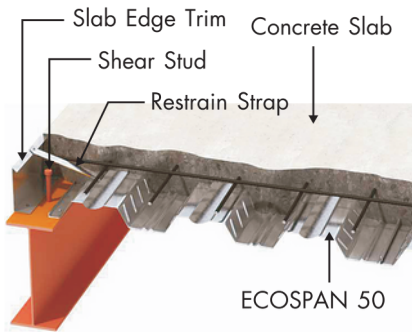
100mm slab thickness with 1.5kN/m ² Live Load					100mm slab thickness with 3.0kN/m ² Live Load				
Profile	Thk. (mm)	Span (mm)	Max Def. d _{max} (mm)	Allowable L/500, d _c (mm)	Profile	Thk. (mm)	Span (mm)	Max Def. d _{max} (mm)	Allowable L/500, d _c (mm)
ECO_FD_75	0.75	300	0.005	0.60	ECO_FD_75	0.75	300	0.007	0.60
ECO_FD_75	0.75	400	0.016	0.80	ECO_FD_75	0.75	400	0.022	0.80
ECO_FD_75	0.75	450	0.025	0.90	ECO_FD_75	0.75	450	0.035	0.90
ECO_FD_75	0.75	500	0.038	1.00	ECO_FD_75	0.75	500	0.053	1.00
ECO_FD_75	0.75	600	0.079	1.20	ECO_FD_75	0.75	600	0.110	1.20
ECO_FD_75	0.75	750	0.193	1.50	ECO_FD_75	0.75	750	0.268	1.50
ECO_FD_75	0.75	1000	0.600	2.00	ECO_FD_75	0.75	1000	0.847	2.00
ECO_FD_75	0.75	1250	1.487	2.50	ECO_FD_75	0.75	1250	2.068	2.50
ECO_FD_75	0.75	1480	2.923	2.96	ECO_FD_75	0.75	1330	2.651	2.66
ECO_FD_10	1.0	300	0.004	0.60	ECO_FD_10	1.0	300	0.005	0.60
ECO_FD_10	1.0	400	0.011	0.80	ECO_FD_10	1.0	400	0.016	0.80
ECO_FD_10	1.0	450	0.019	0.90	ECO_FD_10	1.0	450	0.026	0.90
ECO_FD_10	1.0	500	0.029	1.00	ECO_FD_10	1.0	500	0.040	1.00
ECO_FD_10	1.0	600	0.059	1.20	ECO_FD_10	1.0	600	0.082	1.20
ECO_FD_10	1.0	750	0.144	1.50	ECO_FD_10	1.0	750	0.201	1.50
ECO_FD_10	1.0	1000	0.456	2.00	ECO_FD_10	1.0	1000	0.635	2.00
ECO_FD_10	1.0	1250	1.114	2.50	ECO_FD_10	1.0	1250	1.549	2.50
ECO_FD_10	1.0	1500	2.310	3.00	ECO_FD_10	1.0	1460	2.883	2.92
ECO_FD_10	1.0	1630	3.220	3.26					
ECO_FD_12	1.2	300	0.003	0.60	ECO_FD_12	1.2	300	0.004	0.60
ECO_FD_12	1.2	400	0.010	0.80	ECO_FD_12	1.2	400	0.014	0.80
ECO_FD_12	1.2	450	0.016	0.90	ECO_FD_12	1.2	450	0.022	0.90
ECO_FD_12	1.2	500	0.024	1.00	ECO_FD_12	1.2	500	0.033	1.00
ECO_FD_12	1.2	600	0.049	1.20	ECO_FD_12	1.2	600	0.068	1.20
ECO_FD_12	1.2	750	0.120	1.50	ECO_FD_12	1.2	750	0.167	1.50
ECO_FD_12	1.2	1000	0.380	2.00	ECO_FD_12	1.2	1000	0.528	2.00
ECO_FD_12	1.2	1250	0.927	2.50	ECO_FD_12	1.2	1250	1.289	2.50
ECO_FD_12	1.2	1500	1.923	3.00	ECO_FD_12	1.2	1500	2.674	3.00
ECO_FD_12	1.2	1730	3.400	3.46	ECO_FD_12	1.2	1550	3.048	3.10

*Deflections (mm) of Floor Deck at Nominated Span (mm) for 1.5kN/m² Floor Live Load Typical for Residential Applications.

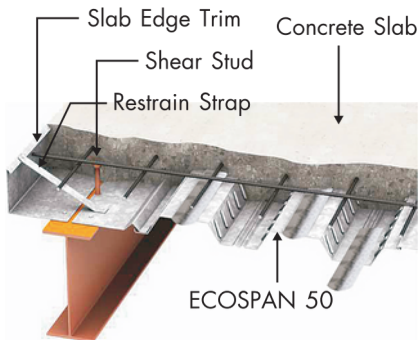
*Deflections (mm) of Floor Deck at Nominated Span (mm) for 3.0kN/m² Floor Live Load Typical for Commercial Applications.

CONNECTION DETAILS

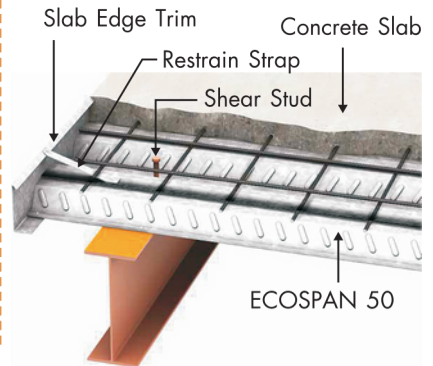
SIDE DETAIL



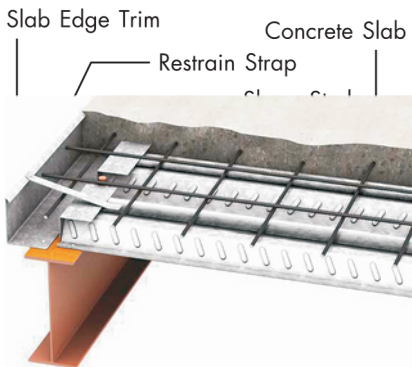
SIDE DETAIL USING CLOSURE TRIM



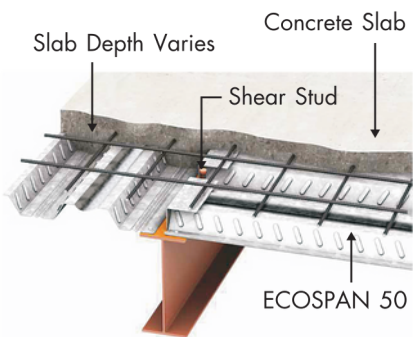
END DETAIL ECOSPAN CANTILEVER



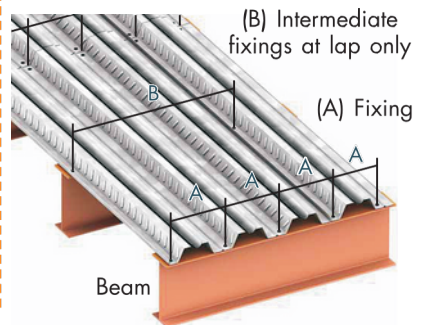
END DETAIL USING END CLOSURE



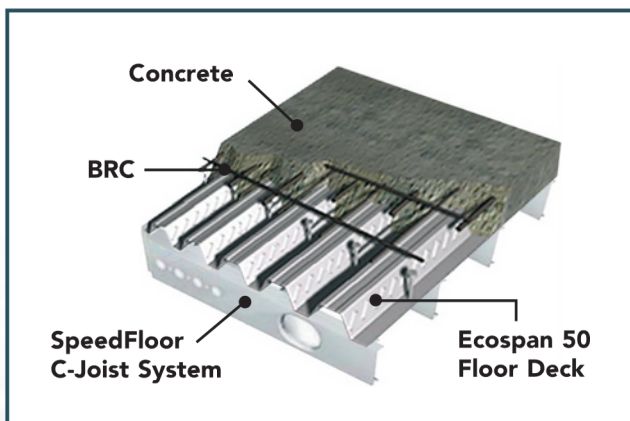
INTERMEDIATE BEAM CHANGE IN DIRECTION OF LAY



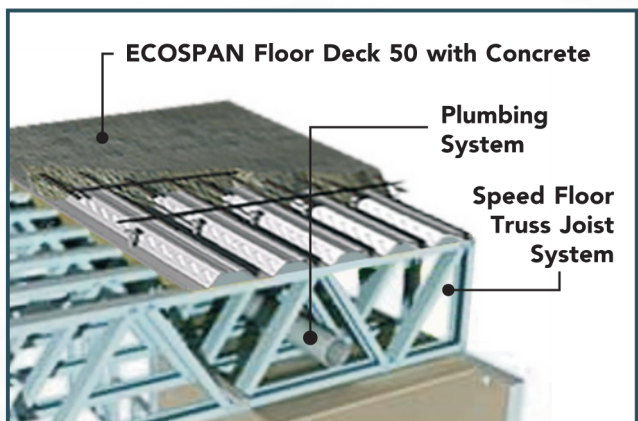
PRIMARY FIXING OF ECOSPAN



INSTALLATION ON C-JOIST



INSTALLATION ON FLOOR TRUSS



SHEAR STUD

DO I NEED A STEAR STUD

Where the supporting beam is engineered to be composite with the slab, shear connection is required between the steel beam and the concrete.

SHEAR STUD SIZE & LENGTHS

Shear studs for through deck welding are 19mm diameter headed studs of varying lengths. The material is low carbon steel with a minimum yield strength of 350N/mm² and a minimum ultimate tensile strength of 450N/mm².

STEEL BEAM SUPPORT

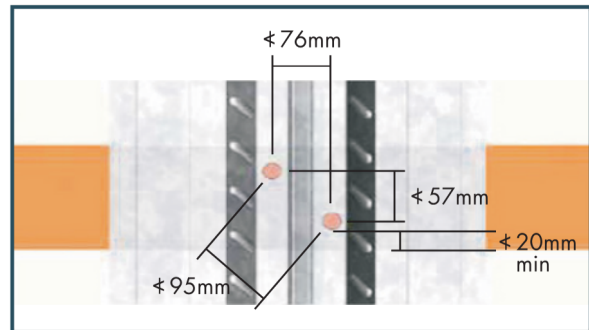
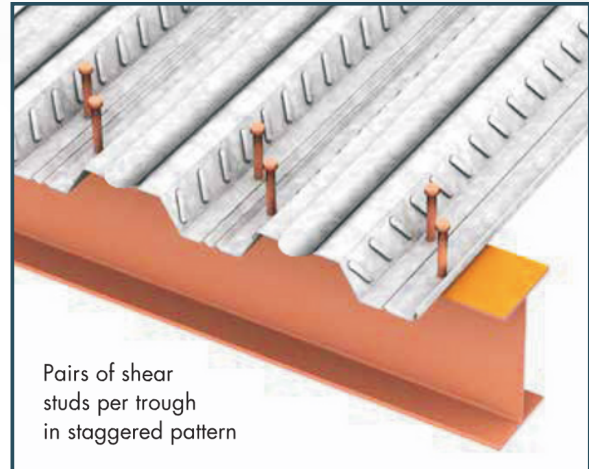
The flange thickness of the underlying support beam should not be less than 0.4 x the stud diameter or 7.6mm for the 19 diameter stud.

CONCRETE COVER TO STUD

The concrete cover over the stud should not be less than 15mm.

STUD WELDING EQUIPMENT

Welding equipment should be from a reputable manufacturer with a minimum of 200KVA for a diesel generator or mains power at 415V 3 phase fused at 100A per phase.



TEMPORARY PROP

DO I NEED A PROP?

Decking is usually designed and sized to be self supporting during the construction stage where the deck alone supports the weight of the wet concrete and construction loads. Temporary props are only required where the actual deck support centres exceed the construction stage performance of the deck.

LAYOUT & LOCATION OF PROPS

Normally props are positioned at mid span (one line of props) or third points (two lines of props) within the span. Props normally consist of lengths of timber bearer and / or steel runners placed directly below the deck and supported on adjustable steel tubes (scaffolding). The decking sheets must never be cut at the location of the temporary support nor should the deck be fixed to the temporary support

Props in this arrangement are generally placed at 1.0m c/c according to the designers requirements. Where props are being used to facilitate large spans it may be necessary to have the props in place before laying the deck to facilitate a safe working environment.

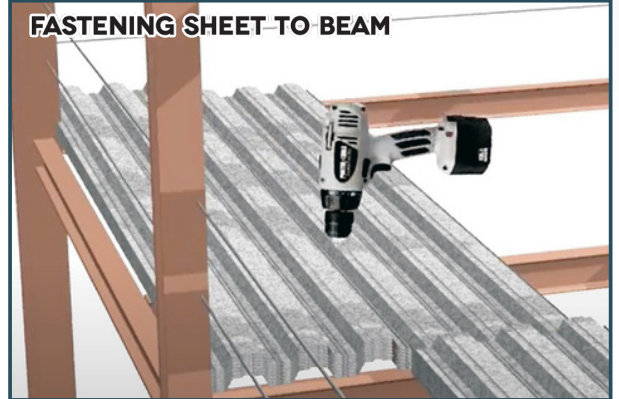


INSTALLATION

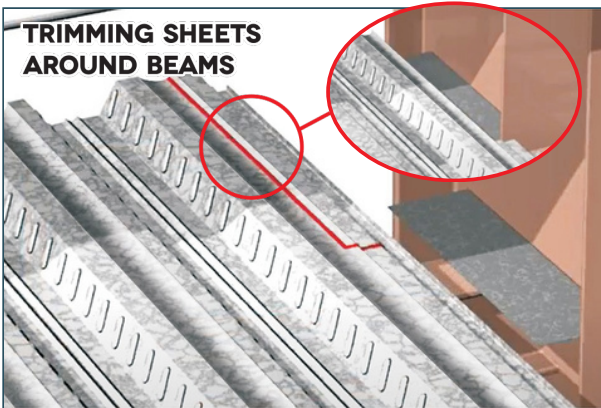
1 **INSTALLING TEMPORARY SUPPORT**



2 **FASTENING SHEET TO BEAM**



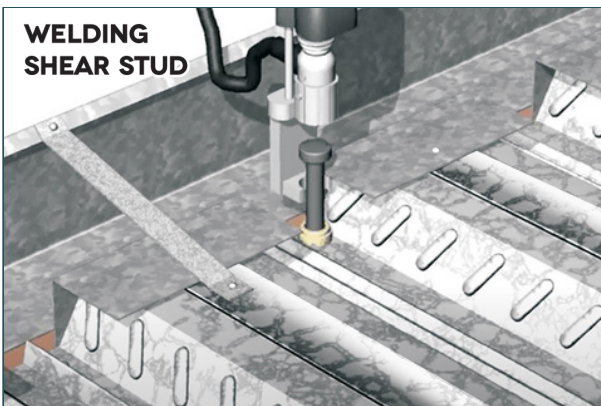
3 **TRIMMING SHEETS AROUND BEAMS**



4 **INSTALLING END TRIM & RESTRAINT STRAP**



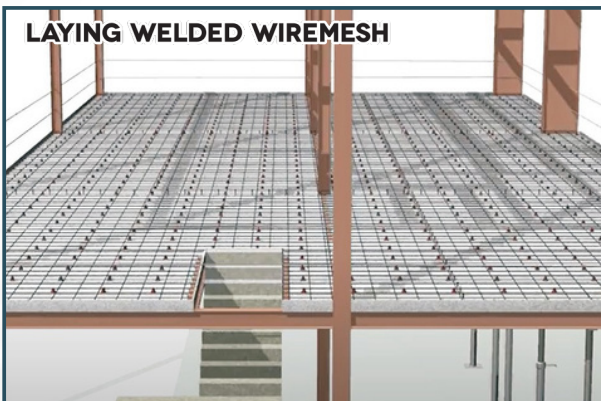
5 **WELDING SHEAR STUD**



6 **FORMING FLOOR OPENING**



7 **LAYING WELDED WIREMESH**



8 **CASTING CONCRETE**

