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ROOFING & PROFILES (FIJI) PTE LTD

Build With Confidence

FlorDek®

HIGH STRENGTH STRUCTURAL DECKING FOR EVERY BUILD®

ISO 9001 CERTIFIED

FIJIAN MADE

STEEL SUPPLIED BY BLUESCOPE

Colorbond®

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RPFL FlorDek® Roofing Profile

RPFL FlorDek® is a traditional flat pan or 're-entrant' profile that provides unmatched performance in suspended concrete slabs. RPFL FlorDek® is used in both concrete and steel frame construction and utilizes patented technology to achieve superior spanning capabilities, less deflection and greater composite strength than similar re-entrant profiles. RPFL FlorDek® comes complete with a range of accessories allowing for easy suspension of ceilings and surfaces.

Specifications

Profile: RPFL FlorDek®
Material: G550 (550 MPa Yield Stress steel) High Tensile to AS1397:2011
Galvanized Coating: Z450 (450gsm) Hot Dipped Galvanized in accordance with AS 1397:2011
Thickness: 1.00mm BMT is standard stocked. 0.60, 0.75, and 0.90BMT can be ordered on special request.
Length: Customizable to suit your project requirements.

Design Advantages

- Excellent spanning capacities for greater strength and less deflection.
- Acts as permanent formwork with minimal propping and no stripping of formwork face is required
- Fast and easy to install (590mm wide) wiht less handling required
- Works as reinforcement with composite slab saving on concrete and reinforcement costs
- Ribs at 200mm centres creating a safe working platform with slip resistant emobossments on the ribs
- Advanced design for fire resistance
- Stronger composite strength – RPFL FlorDek® is stronger than similar decks due to Rib locked corner embossments. Rib locking develops a strong mechanical interlock with the concrete slab.
- Greater spanning capacities – RPFL FlorDek® is stronger than similar decks in positive bending and end shear due to the dovetail ribs which resist lateral deflection by up to 10%.
- RPFL FlorDek® has superior corrosion protection with guaranteed minimum yield strength depending on the specification used.

Material

Thickness (mm)	Mass		Yield Strength MPa	Coverage m2/t
	kg/m2	kg/m		
0.60	8.52	5.03	550	117.31
0.75	10.50	6.19	550	95.24
0.90	12.48	7.36	550	80.16
1.00	13.79	8.14	550	72.50

Complete Range of Accessories

Our offering comes complete with a range of accessories designed to simplify the installation process and enhance the overall functionality. From easy suspension of ceilings to seamless integration with surfaces, RPFL FlorDek® ensures a hassle-free construction experience.

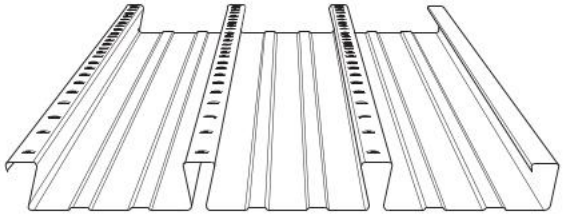
RPFL FlorDek® has superior corrosion protection with guaranteed minimum yield strength depending on the specification used. Upon request, RPFL FlorDek® can also be supplied with Blue anti-glare coating reducing reflected light by a minimum of 80%.

Confidence in Construction

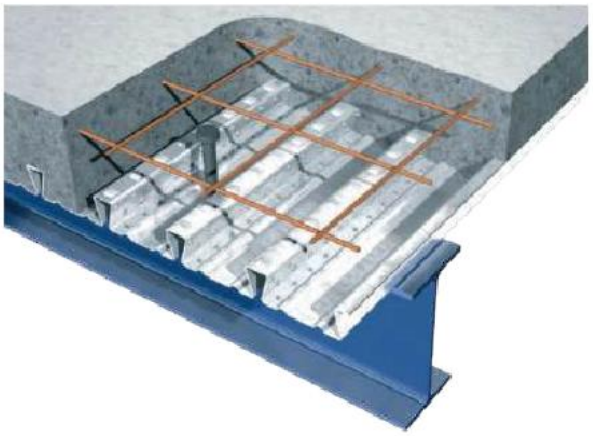
Builders, architects, and engineers can place their confidence in RPFL FlorDek®. The amalgamation of cutting-edge design and advanced technology ensures that your construction projects not only meet but exceed expectations. With RPFL FlorDek®, you're not just getting a deck; you're investing in a foundation of strength and reliability.

Quality You Can Trust

When you choose RPFL FlorDek®, you're choosing a commitment to quality. Our product undergoes rigorous testing to meet and exceed industry standards. Trust in a flooring solution that not only enhances the aesthetics of your space but also provides a solid foundation for the years to come.



RPFL FlorDek®



Innovation in Every Detail

Our commitment to innovation is evident in the careful consideration of every detail. RPFL FlorDek® doesn't just provide a surface; it engineers a solution. The integration of rib-locked corner embossments and dovetail features showcases a dedication to pushing boundaries and setting new benchmarks in decking solutions.

FORMWORK/SLAB SPAN TABLES

Maximum slab spans, mm
RPFL FlorDek® sheets continous over single slab span
Formwork deflections limits L/240 (Visual appearance important)

Slab Depth D (mm)	0.6mm BMT RPFL FlorDek® Number of props per span			0.75mm BMT RPFL FlorDek® Number of props per span			0.9mm BMT RPFL FlorDek® Number of props per span			1.0mm BMT RPFL FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2000	4950	7350	2150	5850	8150	2250	6300	8700	2350	6500	9050
110	1900	4750	7150	2050	5700	7900	2200	6100	8450	2250	6350	8800
120	1800	4650	6900	2000	5550	7700	2150	5950	8250	2200	6150	8550
130	1750	4500	6650	1950	5400	7500	2100	5800	8050	2150	6000	8350
140	1700	4400	6400	1900	5300	7300	2050	5650	7850	2100	5900	8100
150	1650	4300	6200	1850	5200	7100	2000	5550	7600	2050	5750	7900
160	1600	4250	6050	1750	5050	6900	1900	5450	7400	2000	5650	7700
170	1550	4150	5850	1750	5000	6750	1850	5300	7250	1950	5550	7500
180	1550	4050	5700	1700	4900	6550	1850	5200	7050	1900	5400	7350
190	1500	4000	5550	1650	4750	6400	1800	5100	6900	1850	5300	7200
200	1450	3900	5400	1600	4650	6250	1750	5000	6750	1850	5200	7050
210	1400	3850	5300	1550	4550	6150	1700	4900	6600	1800	5050	6900
220	1400	3800	5200	1550	4450	6000	1650	4800	6500	1750	5000	6800
230	1350	3750	5050	1500	4350	5900	1650	4700	6400	1700	4900	6650
240	1350	3700	4950	1500	4300	5800	1600	4600	6250	1700	4800	6550
250	1300	3600	4850	1450	4200	5650	1600	4550	6150	1650	4750	6450

Maximum slab spans, mm
RPFL FlorDek® sheets continous over 2 slab spans
Formwork deflections limits L/240 (Visual appearance important)

Slab Depth D (mm)	0.6mm BMT RPFL FlorDek® Number of props per span			0.75mm BMT RPFL FlorDek® Number of props per span			0.9mm BMT RPFL FlorDek® Number of props per span			1.0mm BMT RPFL FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2450	4900	7350	2900	5550	8350	3150	5900	8900	3250	6150	9250
110	2350	4750	7150	2850	5400	8100	3050	5750	8650	3150	5950	8950
120	2300	4650	6950	2750	5250	7850	2950	5600	8400	3050	5800	8750
130	2250	4500	6800	2700	5100	7650	2900	5450	8200	3000	5650	8500
140	2200	4400	6600	2650	5000	7500	2800	5350	8000	2950	5550	8300
150	2150	4250	6400	2600	4850	7300	2750	5200	7800	2850	5400	8100
160	2100	4150	6200	2500	4750	7100	2700	5050	7600	2800	5250	7900
170	2050	4000	6050	2500	4600	6950	2650	4950	7400	2750	5150	7700
180	2000	3900	5900	2450	4500	6750	2600	4800	7250	2700	5000	7550
190	2000	3800	5750	2350	4400	6600	2550	4700	7100	2650	4900	7350
200	1950	3700	5600	2300	4300	6450	2500	4600	6950	2600	4800	7200
210	1900	3650	5450	2250	4200	6300	2450	4500	6800	2500	4700	7100
220	1900	3550	5350	2200	4100	6200	2400	4450	6650	2500	4600	6950
230	1850	3450	5200	2150	4050	6050	2350	4350	6550	2450	4550	6850
240	1800	3400	5100	2150	3950	5950	2300	4300	6450	2400	4450	6700
250	1800	3350	5000	2100	3900	5850	2250	4200	6300	2350	4400	6600

Notes
1. These are formwork selection tables only. Maximum slab spans in these tables shall be designed by a qualified structural engineer.
2. 1 kPa Live Load due to stacked materials is used - this shall be indicated on formwork documentation and controlled on site.
3. 1.00mm BMT is standard stocked. 0.60, 0.75, and 0.90BMT can be ordered on special request.
4. Refer to General Engineering Notes using these tables.

FORMWORK/SLAB SPAN TABLES

Maximum slab spans, mm
RPFL FlorDek® sheets continous over single slab span
Formwork deflections limits L/240 (Visual appearance important)

Slab Depth D (mm)	0.6mm BMT RPFL FlorDek® Number of props per span			0.75mm BMT RPFL FlorDek® Number of props per span			0.9mm BMT RPFL FlorDek® Number of props per span			1.0mm BMT RPFL FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2450	4900	7350	2700	5550	8350	2900	5900	8900	3000	6150	9250
110	2350	4750	7150	2600	5400	8100	2800	5750	8650	2900	5950	8950
120	2300	4650	6950	2550	5250	7850	2750	5600	8400	2850	5800	8750
130	2200	4500	6800	2500	5100	7650	2650	5450	8200	2750	5650	8500
140	2100	4400	6600	2450	5000	7500	2600	5350	8000	2700	5550	8300
150	2050	4250	6400	2350	4850	7300	2500	5200	7800	2600	5400	8100
160	2000	4150	6200	2300	4750	7100	2450	5050	7600	2550	5250	7900
170	1950	4000	6050	2250	4600	6950	2400	4950	7400	2500	5150	7700
180	1900	3900	5900	2150	4500	6750	2350	4800	7250	2450	5000	7550
190	1850	3800	5750	2100	4400	6600	2300	4700	7100	2400	4900	7350
200	1800	3700	5600	2050	4300	6450	2250	4600	6950	2350	4800	7200
210	1750	3650	5450	2050	4200	6300	2200	4500	6800	2300	4700	7100
220	1700	3550	5350	2000	4100	6200	2150	4450	6650	2250	4600	6950
230	1650	3450	5200	1950	4050	6050	2100	4350	6550	2200	4550	6850
240	1650	3400	5100	1900	3950	5950	2050	4300	6450	2150	4450	6700
250	1600	3350	5000	1850	3900	5850	2050	4200	6300	2150	4400	6600

Maximum slab spans, mm
RPFL FlorDek® sheets continous over 2 slab spans
Formwork deflections limits L/240 (Visual appearance important)
Slabs spans ratio up to 1:1:2

Slab Depth D (mm)	0.6mm BMT RPFL FlorDek® Number of props per span			0.75mm BMT RPFL FlorDek® Number of props per span			0.9mm BMT RPFL FlorDek® Number of props per span			1.0mm BMT RPFL FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2400	4900	7250	2750	5350	8000	2950	5700	8550	3050	5950	8900
110	2350	4650	7000	2700	5200	7800	2850	5550	8300	3000	5750	8650
120	2300	4450	6700	2600	5050	7600	2800	5400	8100	2900	5600	8400
130	2200	4300	6500	2550	4900	7400	2700	5250	7900	2850	5450	8150
140	2150	4150	6250	2500	4750	7150	2650	5100	7650	2750	5300	7950
150	2100	4050	6050	2450	4600	6950	2600	4950	7450	2700	5150	7700
160	2050	3900	5900	2350	4500	6750	2500	4800	7250	2600	5000	7550
170	2000	3800	5700	2300	4350	6550	2450	4700	7050	2550	4900	7350
180	1950	3700	5550	2250	4250	6400	2350	4600	6900	2500	4800	7200
190	1900	3600	5400	2200	4150	6250	2350	4500	6750	2450	4700	7050
200	1850	3500	5300	2150	4050	6100	2300	4400	6600	2400	4600	6900
210	1800	3450	5150	2100	4000	6000	2250	4300	6450	2350	4500	6750
220	1750	3350	5050	2050	3900	5850	2200	4200	6350	2300	4400	6650
230	1750	3300	4950	2000	3800	5750	2150	4150	6250	2250	4350	6500
240	1700	3200	4850	1950	3750	5650	2150	4050	6100	2200	4250	6400
250	1650	3150	4750	1950	3700	5550	2100	4000	6050	2200	4200	6300

Notes

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	0	1	2	0	1	2	0	1	2	0	1	2
100	2350	4900	7250	2600	5350	8000	2800	5700	8550	2900	5950	8900
110	2250	4650	7000	2550	5200	7800	2700	5550	8300	2800	5750	8650
120	2150	4450	6700	2450	5050	7600	2650	5400	8100	2750	5600	8400
130	2100	4300	6500	2400	4900	7400	2550	5250	7900	2650	5450	8150
140	2000	4150	6250	2300	4750	7150	2500	5100	7650	2600	5300	7950
150	1950	4050	6050	2250	4600	6950	2400	4950	7450	2500	5150	7700
160	1900	3900	5900	2200	4500	6750	2350	4800	7250	2450	5000	7550
170	1850	3800	5700	2150	4350	6550	2300	4700	7050	2400	4900	7350
180	1800	3700	5550	2050	4250	6400	2250	4600	6900	2350	4800	7200
190	1750	3600	5400	2000	4150	6250	2200	4500	6750	2300	4700	7050
200	1700	3500	5300	2000	4050	6100	2150	4400	6600	2250	4600	6900
210	1650	3450	5150	1950	4000	6000	2100	4300	6450	2200	4500	6750
220	1650	3350	5050	1900	3900	5850	2050	4200	6350	2150	4400	6650
230	1600	3300	4950	1850	3800	5750	2000	4150	6250	2100	4350	6500
240	1550	3200	4850	1800	3750	5650	2000	4050	6100	2050	4250	6400
250	1550	3150	4750	1800	3700	5550	1950	4000	6050	2050	4200	6300

Notes

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4. Refer to General Engineering Notes using these tables.

Additional Notes

- The table above denote maximum allowable centreline to centreline span in millimeters between permanent support after temporary propping is removed.
- The practical limit for span to slab depth ratio is considered to be 35 for single span slabs, or 40 for continuous slabs. Values above these limits have been listed in brackets.
- The use of results of the results in brackets must be confirmed with the structural engineer or a RPFL representative as the long term serviceability and composite performance of the resulting concrete slab may not be suitable for the project application.
- Allowance has been made for ponding of wet concrete due to decking deflection, density 2400kg/m3
- Loading is considered in accordance with AS 1170.0:2002, AS 2327.1:2003, AS3610:1995 with a Stage III construction live load allowance of 1.0kPa in accordance with AS 2327.1:2003 Appendix F.
- The requirements for Stage II & IV material staking loads in accordance with AS 2327.1:2003 Appendix F are assumed to be zero.
- It is recommended that an experienced structural engineer design the composite slab to ensure sufficient capacity to meet strength and long term deflection requirements.
- The temporary propping tables have been prepared for a span/240 deflection criterion. A span/240 deflection is generally considered aesthetically satisfactory for exposed offits.
- These tables are based upon effective section properties of the sheeting calculated in accordance to AS 4600:2005
- Care must be taken when placing concrete to avoid mounding. Wide ply strips, of 300mm wide, shall be provided to prevent any concentrated loads being applied to the sheeting, particularly for exposed soffits, to avoid direct point loading of the sheet overlap ribs and unsupported edges of the sheeting.
- When using the table for two or more spans, the adjacent spans should not differ in length by more than 5%.
- A maximum bearing width of the permanent support has been considered to be 50mm.
- Recommend a gauge of 1.00mm BMT for exposed soffits in propped applications to avoid creasing of steel decking. Please contact your local RPFL representative for further information.

Figure 3.1c

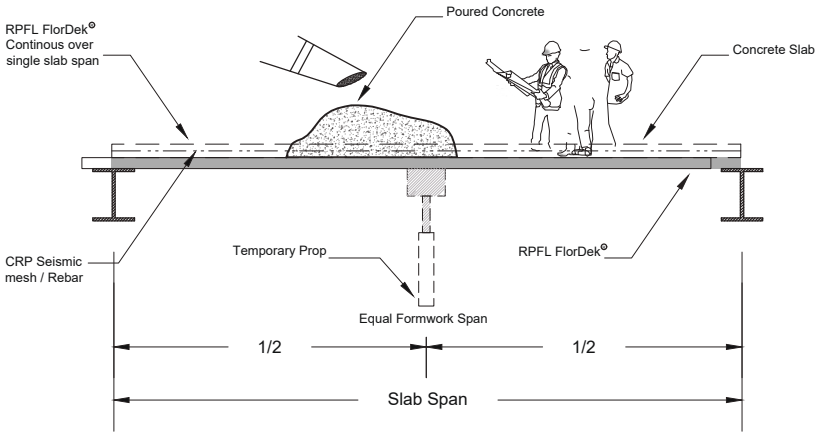


Figure 3.1b

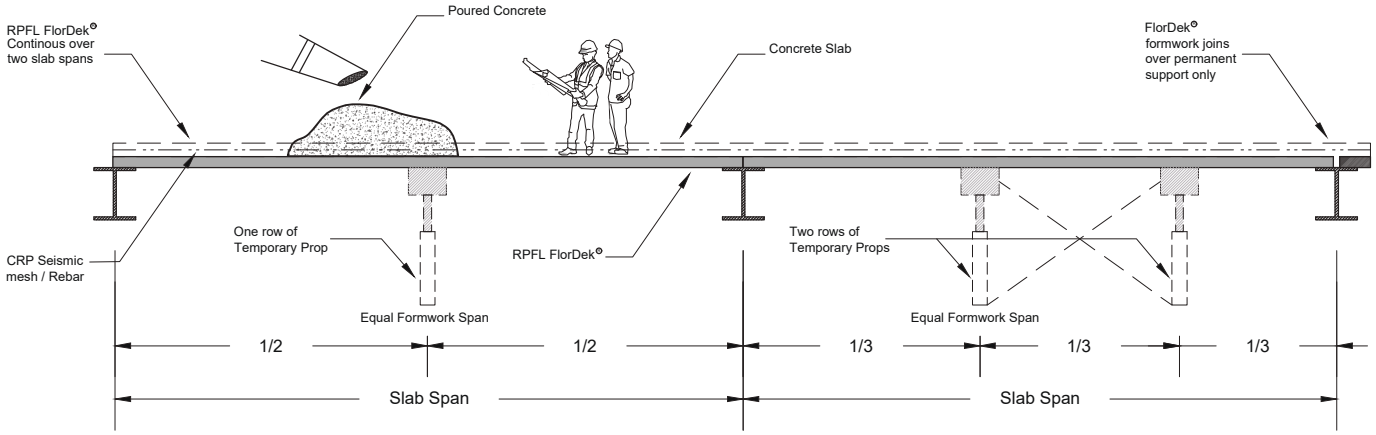
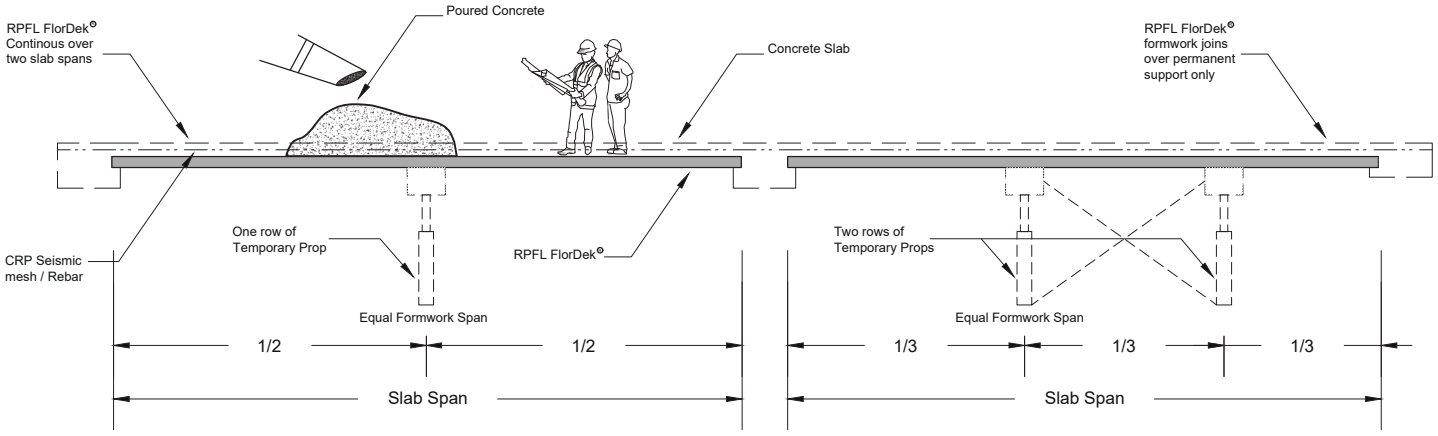


Figure 3.1c

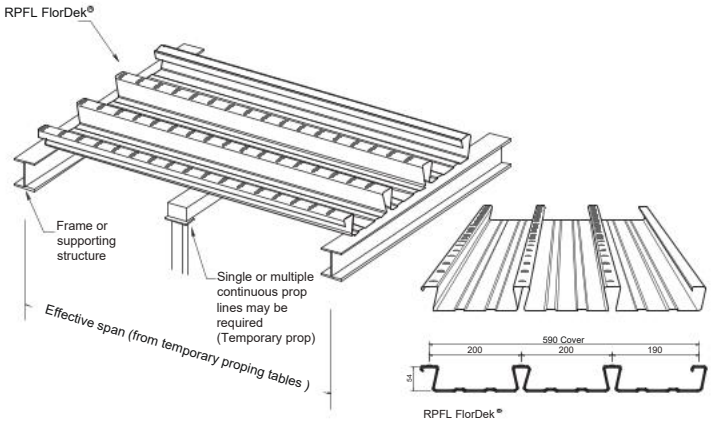


Installing RPFL FlorDek®

If temporary propping is required (refer to the temporary propping tables). Props should be placed at the correct centres prior to laying the RPFL FlorDek® sheets. Generally, timber or steel bearers with a minimum dimension of 75mm x 75mm are used on vertical props. The props should be installed so as to prevent settlement during loading by wet concrete and other construction loads.

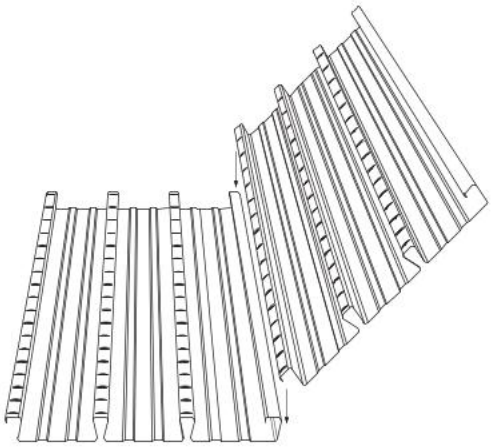
Wide ply strips, of 300mm wide, may be positioned above the header bearers to assist in dispersing the load and minimize any local deformation of the decking due to the headers.

Temporary props should only be removed after the slab has reached sufficient strength (at least 75% of the specified 28-day strength). The full design load may only be applied once the slab has achieved 28-day strength.



Laying RPFL FlorDek®

1. Place the RPFL FlorDek® sheet over the supports ensuring a minimum end bearing of 50mm. If supporting on a brick or masonry wall, provide a separating strip as malthoid.



2. Tap the female rib with a hammer at a 45 angle to lock into place.

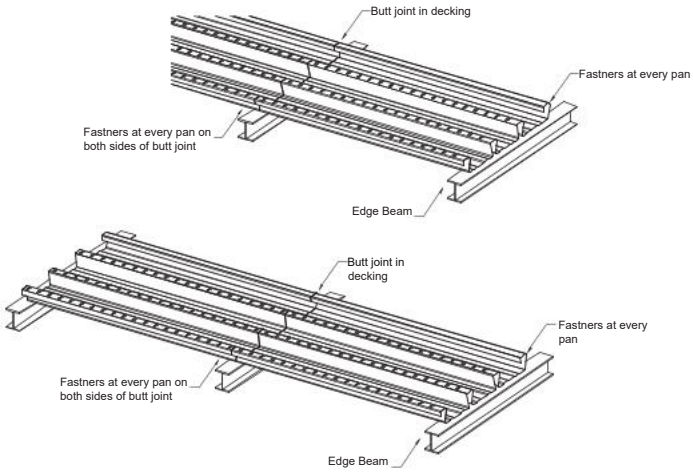
Female & Male Rib Locking System for RPFL Flordek®

Fasteners and Locations

The decking must be secured to the supporting structure in order to avoid movement and excessive deflection during the pouring of concrete.

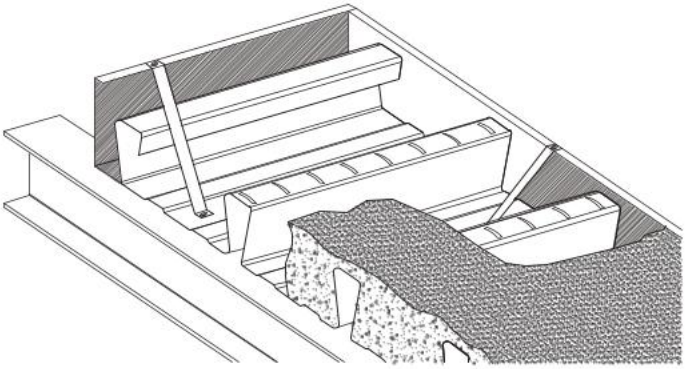
When fixing to a steel support structure, RPFL Shear Studs fasteners should be used. Provide one fastener should be used. Provide one fastener in each pan at every support.

In case of the other support systems, such as brickwork, block work and concrete, the RPFL FlorDek® sheets must be temporarily held in place against wind and other effects until the concrete is poured.



Edgeform

Galvanised steel EDGEFORM can be used for the retention of wet concrete to the correct level at the decked floor perimeters. EDGEFORM is usually shot-fired to the steel support structure or to the RPFL FlorDek® deck and the top of the EDGEFORM is connected back to the decking with restraint straps at approximately 600mm centres using either pop-riverts or self drilling screws.



Reinforcement

Place all reinforcement in strict accordance with the structural engineer's drawings and specifications.

Concrete Placement

The specified grade of concrete and any chemical admixtures must be in strict accordance with AS 3600:2001 and the structural engineer's drawings and specification. The deck must be clear of any excess dirt, grease or debris as this inhibits bonding between the deck concrete.

Ensure that concrete is applied evenly over the decking surface, as mounding of the wet concrete will cause excessive local loading.

Product Description

All descriptions, specifications, illustrations, drawings, data, dimensions and weights contained in this catalogue, all technical literature and websites containing information and identification purposes and do not create a sale by description. RPFL reserves the right anytime to:

a) Supply goods with such minor modifications from its drawings and specifications as it sees fit; and
b) Alter specifications shown in its promotional literature to reflect changes made after the date of such publication.

Disclaimer, Warranties and Limitations of Liability

This publication is intended to be an aid for all trades and professionals involved with specifying and installing RPFL products and not to a substitute for professional judgement.

Terms and conditions of sale available at local RPFL sales offices.

Except to the extent to which liability may not lawfully be excluded or limited, Roofing & Profiles Pte (Fiji) Ltd will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

Workmanship to get best results

1. Keep the roofing sheets dry when closely stacked or keep the sheets well ventilated if subjected to wet condition.
2. Care should be taken to avoid dragging sheets which will cause scratching and scouring to the coated surface.
3. Fix roof permanently in position using the required Shear Studs or as Specified by project engineers.
4. Shear Studs to be installed by Trained welder, using appropriate draw arc stud welding machine.
5. The key to safe and competent installation of metal decking and shear connectors is the use of a qualified workforce.

SHEAR STUDS

Features

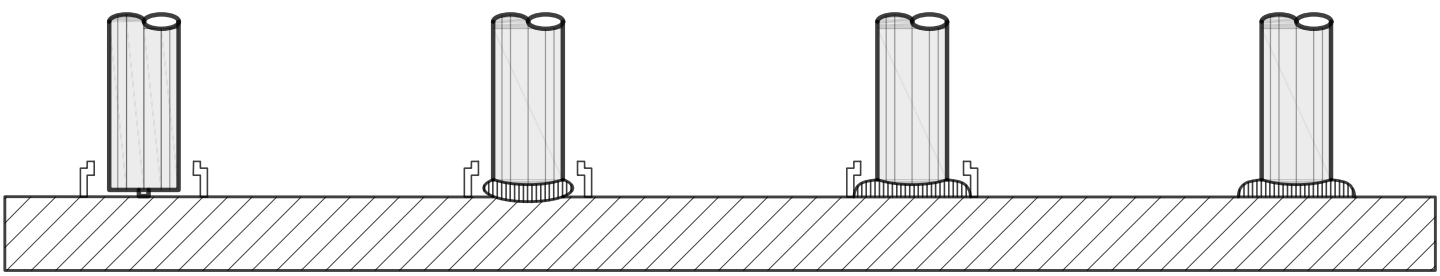
- Time Saving - No need for drilling, punching, threading, riveting, screwing.
  For mass production, can complete 6-20pcs/min (depends on the stud and welding power)
- High Strength - For DA welding, the strength is higher or similar, compare with traditional MIG/MAG/TIG welding.

Shear Stud Requirements

- Specific size of Shear Stud's to be recommended by project engineer.
- RPFL stocks 16mm x 100mm, 19mm x 90mm, 19mm x 100mm, 25mm x 105mm
- If the stocked item is unavailable, this can be arranged with a lead time of 6 to 8 weeks.
- For other specific size required this can be arrange with a lead time of 6 to 8 weeks.
- For Terms and Conditions of payment please refer to quotation.
- Once Shear Studs and FlorDek are delivered to site, it must be stored in a dry place and is not eligible for return.

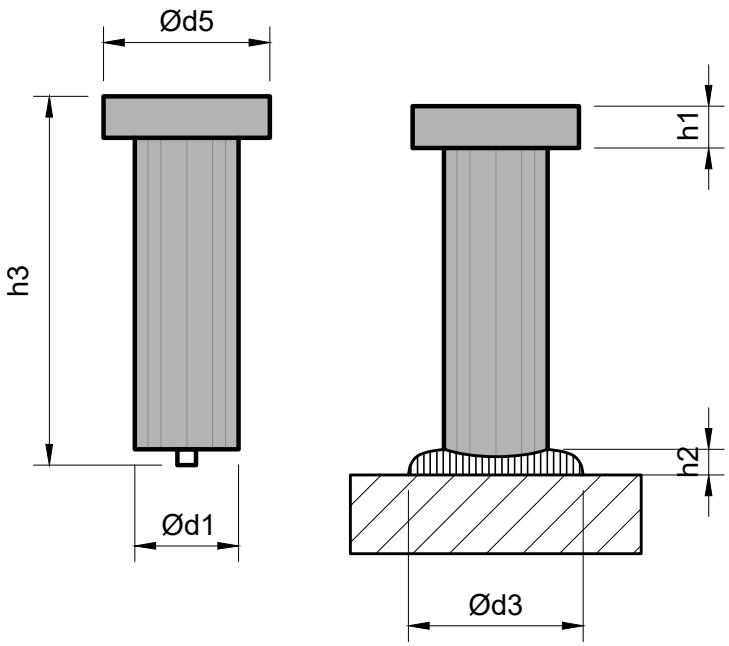
Drawn ARC Studs

1. Stud and ceramic ferrule against the work plate
2. Stud lifts and arc is drawn
3. Control times out and stud plunges into molten steel
4. Metal solidifies and weld is completed in a split second



Drawn ARC Stud Welding Machine

KDA-2500i
Inverter type
Max current
Draw arc stud welding



ød1	ød3	ød5	h1	h2	h3
D16	21	32	8	4.5	100
D19	23	32	10	6	90
D19	23	32	10	6	100
D25	31	40	12	7	105

Properties of Product	Specification of Welded Shear Stud
Steel Grade Mechanical Property	Grade 4.8
Base Material Chemical Composition	Carbon Steel – Grade 1018 / SWRCH18A
Minimum tensile strength	400 MPa
Minimum yield strength	320 MPa
Manufacturing Standard	Manufactured in compliance with ISO 13918
Welding Standard	Complies with AWS D1.1 Structural Welding Code – Steel
Application	Headed shear connector for composite steel

TERMS AND CONDITIONS

HIRING OF SHEAR STUD WELDING MACHINE

Stud welding machine can be hired from RPFL on the following terms and conditions:

- Stud welding machine must be operated by trained welders and refundable deposit for machine ($3,500.00 will need to be paid at time of hiring.
- RPFL can provide fully trained Shear Stud welders, which can be hired with the machine at additional cost, subject to site location extra charges can accumulate for air fares, meals, accomodations. Minimum 2 operators required per machine.
- 2 weeks advance booking required for Shear Stud welding machine.
- 3 phase power outlet (415V, 50Hz, 3Ph) to be provided on site by contractor or client.
- If the welding machine is hired and operated by clients represenative then upon any damages to the machine , all repair costs will be billed to client or contractor.
- If any delay occurs in installation of RPFL FlorDek®, resulting in delays of Shear Stud installation, then additional charges to retain RPFL welders have to be paid by others (Customer, Client or Contractor)