ROOFING & PROFILES (FIJI) PTE LTD

Build With Confidence

ROOFING & SHEET METAL MANUFACTURERS

FlorDek®

USER AND INSTALLATION GUIDE

info@roofingandprofiles.com.fj | www.roofingandprofiles.com.fj

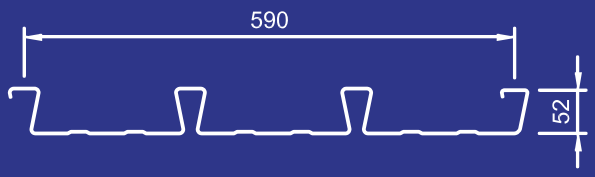
V-07/19

FlorDek® 2

FlorDek®

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

FlorDek® PROFILE



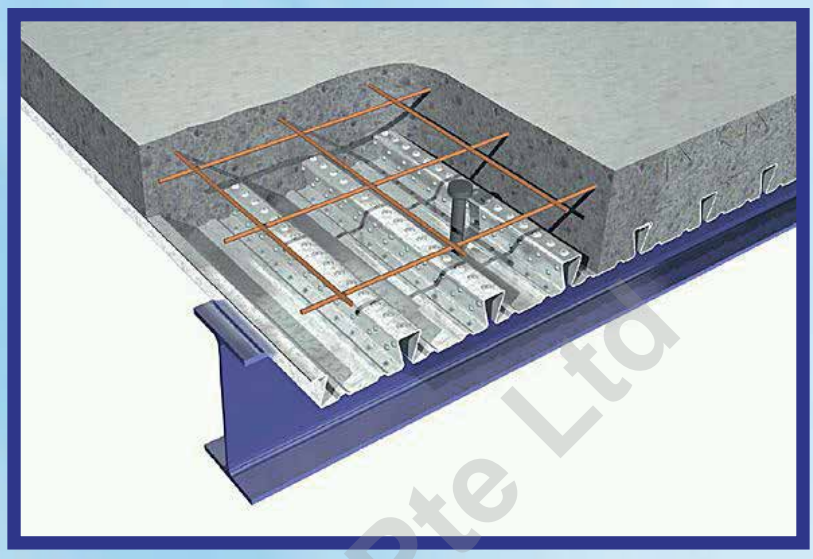
DESIGN ADVANTAGES

- Stronger composite strenght - FlorDek® is stronger than similar decks due to Rib locking corner embossments. Rib locking develops a strong mechanical interlock with the concrete slab.
- Greater spanning capacities - 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%.
- FlorDek has superior corrosion protection with guaranteed minimum yield strength depending on the specification used. Upon request FlorDek can also be supplied with Blue anti-glare coating redusing reflected light by a minimum of 80%.

MATERIAL SPECIFICATIONS

RPFL FlorDek® profiles steel decking is rollformed from G550 (550 MPa) Yield Stress steel with a Base Metal Thickness (BMT) of 0.60mm, 0.75mm, 0.90mm and 1.00mm. The galvanized coating thickness is Z450 (450gm/2) Galvabond in accordance with AS 1397:2011

Thickness mm	Mass		Yeild Strenght MPa	Coverage
	kg/m^2	kg/m		m^2/t
0.60	8.38	5.03	550	119.3
0.75	10.32	6.19	550	96.9
0.90	12.48	7.36	550	80.16
1.00	13.56	8.14	550	73.7

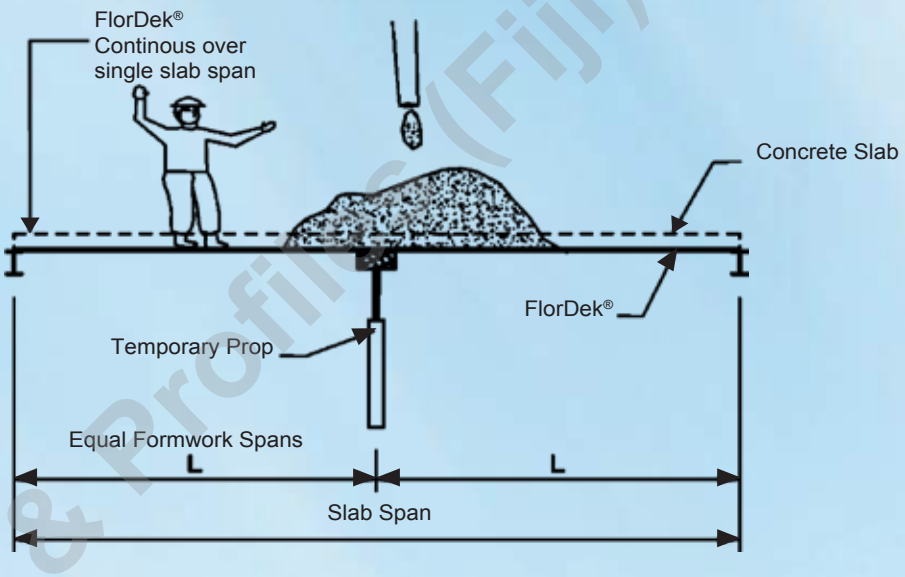


FlorDek®
MAXIMUM SLABS SPANS (MM)

Formwork deflections limits L/240 (visual appearance important)

Slab Depth D (mm)	0.60 BMT FlorDek® Number of props per span			0.75 BMT FlorDek® Number of props per span			0.90 BMT FlorDek® Number of props per span			1.0 BMT FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2,000	[4,800]	[7,000]	2,250	[5,950]	[8,250]	2,370	6,280	8,700	2,450	[6,500]	[9,000]
110	2,000	[4,800]	[7,000]	2,200	[5,750]	[8,000]	2,320	6,080	8,450	2,400	[6,300]	[8,750]
120	1,950	[4,800]	[7,000]	2,150	[5,600]	[7,800]	2,270	5,930	8,250	2,350	[6,150]	[8,550]
130	1,900	[4,800]	[6,900]	2,100	[5,500]	[7,600]	2,190	5,800	8,020	2,250	[6,000]	[8,300]
140	1,850	4,550	[6,650]	2,050	[5,350]	[7,400]	2,140	5,650	7,850	2,200	[5,850]	[8,150]
150	1,800	4,300	[6,400]	1,950	[5,250]	[7,200]	2,100	5,550	7,650	2,200	[5,750]	[7,950]
160	1,750	4,100	[6,200]	1,900	5,100	[6,950]	2,210	5,430	7,460	2,150	[5,650]	[7,800]
170	1,700	3,900	[6,000]	1,850	5,000	[6,750]	2,020	5,300	7,290	2,100	5,500	[7,650]
180	1,650	3,700	5,800	1,850	4,850	[6,550]	1,970	5,180	7,150	2,050	5,400	[7,550]
190	1,600	3,550	5,600	1,800	4,750	6,350	1,940	5,110	6,980	2,000	5,350	[7,400]
200	1,600	3,400	5,300	1,750	4,600	6,200	1,920	4,990	6,800	2,000	5,250	[7,200]
210	1,550	3,300	5,150	1,700	4,500	6,050	1,870	4,890	6,470	1,950	5,150	7,000
220	1,550	2,900	4,950	1,700	4,400	5,900	1,820	4,820	6,320	1,900	5,100	6,850
230	1,500	2,850	4,450	1,650	4,300	5,750	1,850	4,720	6,320	1,850	5,000	6,700
240	1,450	2,750	4,300	1,600	4,200	5,600	1,750	4,650	4,170	1,850	4,950	6,550
250	1.450	2,700	4,200	1,600	4,150	5,500	1,720	4,570	4,040	1,800	4,850	6,400

FIGURE 1. FlorDek® sheets continuous over single slab span



Notes

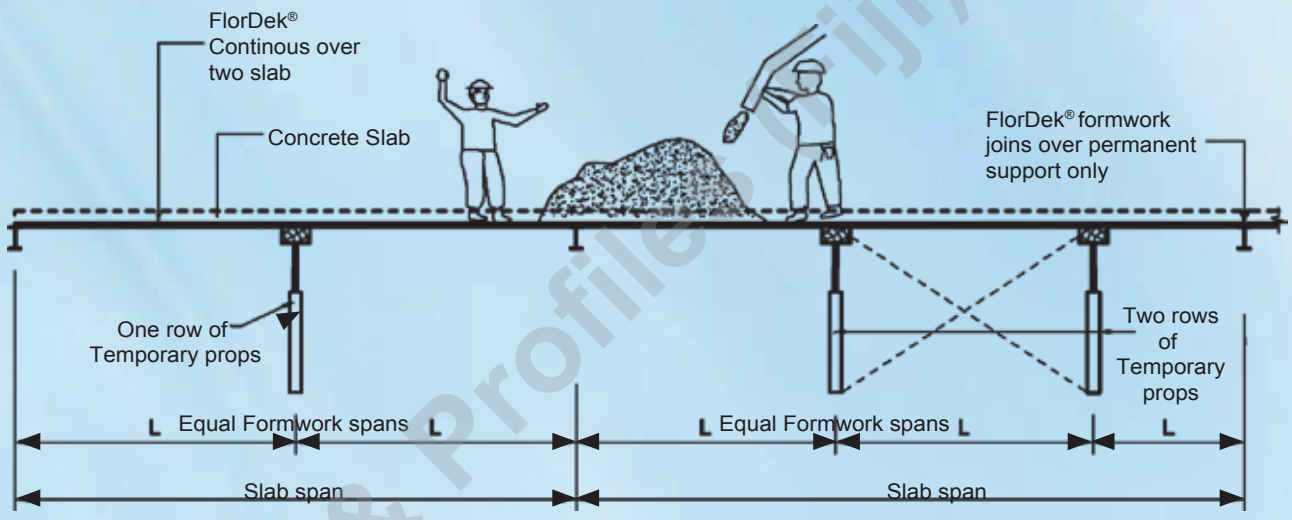
- The tables above denote maximum allowable centreline to centreline span in milimetres between permanent support after temporary propping is removed.
- The practical limit for span to slab depth ratio is considered to be 35 for single span slabs,or 40 for continuous slabs. Values above these limits have been listed in brackets "[ ]".
- The use of 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 strenght and long term deflection requirements.
- The temporary propping tables have been prepared for a span/240 deflection criteria. 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 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 lenght by more than 5%.
- A maximum sheet length of 12m has been considered.
- A minimum bearing width of the permanent support has been considered to be 50mm.
- Recommend a gauge of 1.00 mm BMT for exposed soffits in propped applications to avoid creasing of steel decking. Please contact your local RPFL representative for further information.

MAXIMUM SLABS SPANS (MM)

Formwork deflections limits L/240 (Visual appearance important)

Slab Depth D (mm)	0.60 BMT FlorDek® Number of props per span			0.75 BMT FlorDek® Number of props per span			0.90 BMT FlorDek® Number of props per span			1.0 BMT FlorDek® Number of props per span		
	0	1	2	0	1	2	0	1	2	0	1	2
100	2,350	[4,650]	[7,000]	2,700	[5,550]	[8,150]	2,850	5,850	8,600	2,950	[6,050]	[8,900]
110	2,350	[4,650]	[7,000]	2,650	[5,400]	[7,950]	2,800	5,700	8,400	2,900	[5,900]	[8,700]
120	2,350	4,650	[7,000]	2,550	[5,250]	[7,750]	2,700	5,550	8,170	2,800	[5,750]	[8,450]
130	2,250	4,650	[6,800]	2,500	5,150	[7,550]	2,650	5,420	7,970	2,750	[5,600]	[8,250]
140	2,200	4,500	[6,550]	2,450	5,000	[7,350]	2,600	5,300	7,800	2,700	[5,500]	[8,100]
150	2,100	4,350	[6,350]	2,350	4,900	[7,100]	2,500	5,200	7,580	2,600	[5,400]	[7,900]
160	2,050	4,200	6,100	2,300	4,750	[6,900]	2,450	5,080	7,410	2,550	[5,300]	[7,750]
170	2,000	4,000	6,050	2,200	4,600	6,650	2,380	4,960	7,220	2,500	5,200	[7,600]
180	1,900	3,850	5,750	2,150	4,450	6,450	2,360	4,840	7,080	2,500	5,100	[7,500]
190	1,800	3,650	5,500	2,100	4,350	6,300	2,310	4,740	6,900	2,450	5,000	[7,300]
200	1,750	3,500	5,300	2,050	4,200	6,150	2,230	4,620	6,720	2,350	4,900	[7,100]
210	1,650	3,400	5,100	2,000	4,100	5,950	2,180	4,520	6,550	2,300	4,800	6,950
220	1,500	3,250	4,900	1,950	4,000	5,950	2,130	4,390	6,460	2,250	4,650	6,800
230	1,450	2,900	4,400	1,900	3,900	5,900	2,080	4,290	6,320	2,200	4,550	6,600
240	1,400	2,850	4,250	1,850	3,850	5,750	2,030	4,210	6,200	2,150	4,450	6,500
250	1,350	2,750	4,150	1,800	3,750	5,650	1,980	4,110	6,070	2,100	4,350	6,350

FIGURE 2. FlorDek® sheets continuous over two (2) or more slab spans



Notes

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- When using the table for two or more spans the adjacent spans should not differ in lenght by more than 5%.
- A maximum sheet length of 12m has been considered.
- A minimum bearing width of the permanent support has been considered to be 50mm.
- RPFL recommend a gauge of 1.00 mm BMT for exposed soffits in propped applications to avoid creasing of steel decking. Please contact your local RPFL representative for further information.

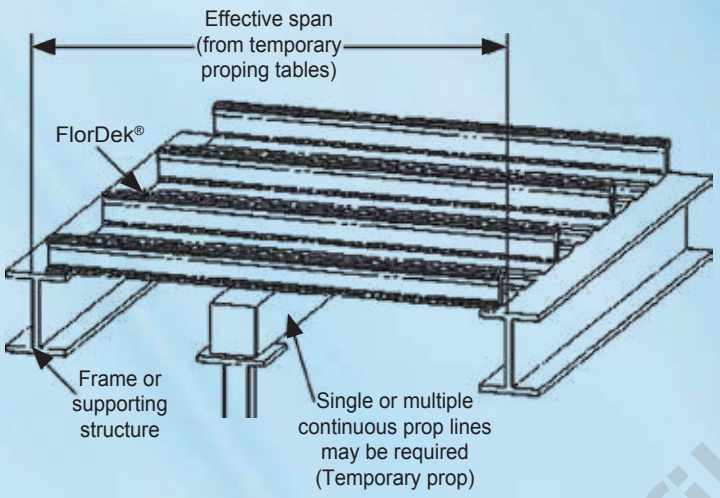
Installing FlorDek®

TEMPORARY PROPPING

If temporary propping is required (refer to the temporary propping tables), props should be placed at the correct centres prior to laying the 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.

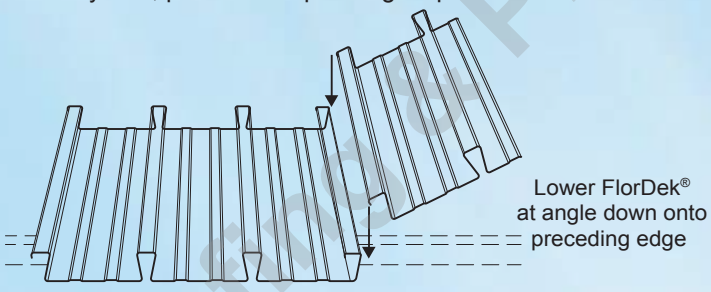
Wide ply strips, of 300mm wide, may be positioned above the header bearers to assist in dispersing the load and minimise any local deformation of the decking due to the headers.

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

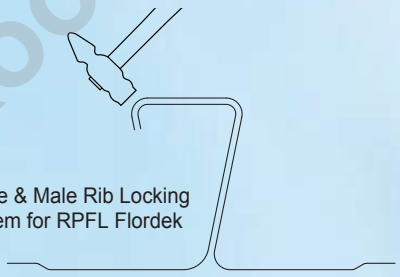


LAYING FlorDek®

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



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

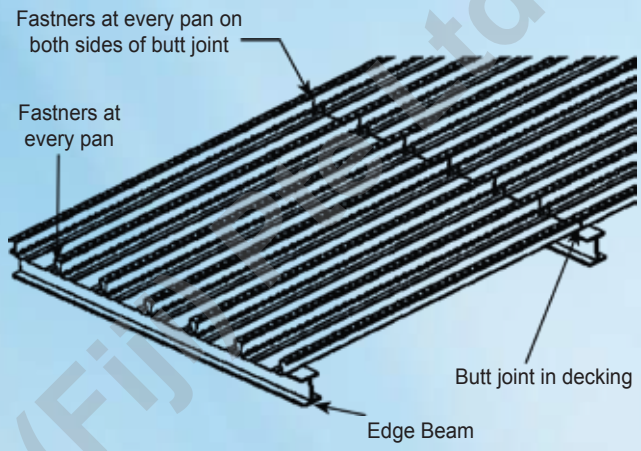


FASTERNERS AND LOCATIONS

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

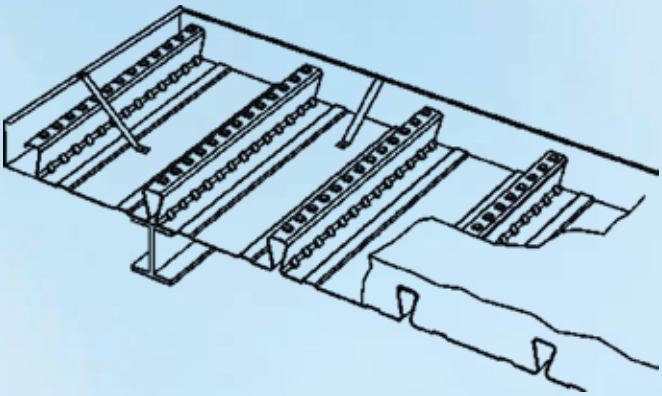
When fixing to a steel support structure, RPFL Shear Studs fastners should be used. Provide one fastner in each pan at every support.

In the case of the other support systems, such as brickwork, block work and concrete, the 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 usully shot-fired to the steel support structure or to the FlorDek® deckand 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, grese or debris as this inhibits bonding between the deck and 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 from RPFL are approximations only. They are intended by RPFL to be a general description for 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.

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This publication is intended to be an aid for all trades and professionals involved with specifying and installing RPFL products and not to a subsitute 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, negligece and/ or breach of statute), which you may suffer or incur in connection with this publication.

WORKMANSHIP TO GET BEST RESULTS

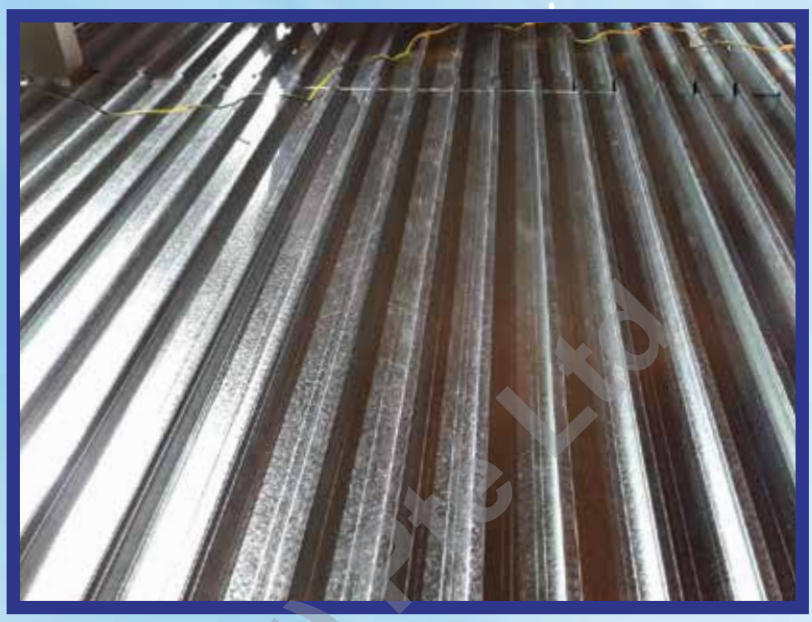
1. Keep the roofing sheets dry when closely stacked OR keep the sheets well ventilated if subjected to wet condition.

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

FlorDek® 7

FEATURES

1 TIME SAVING

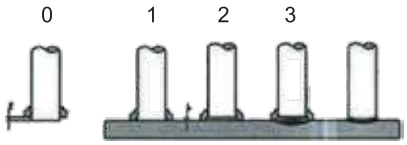
No need drilling, punching, threading, riveting, screwing. For mass production, can complete 6-20 pcs/ min (depends on the stud and welding power).

2 HIGH STRENGHT

For DA welding, the strenght is higher or similar, compare with traditional MIG/ MAG/ TIG welding.

CLASSIFICATIONS

DA Drawn ARC Studs



DRAW ARC STUD WELDING MACHINE

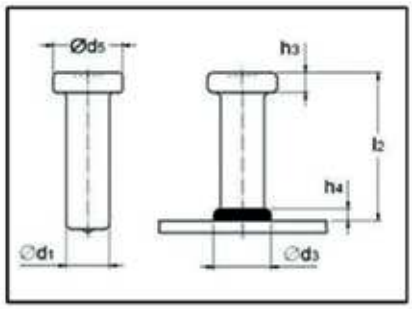
IGBT	Lastest IGBT tech
1/3	Just 1/3 weight of thyristor type
	Modular design, easy and fast to provide after service
190V ~ 260V 300V ~ 470V	Wide voltage range
-30%	Electricity saves 30%

CE

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

	KDA-2500i
Stud range	2-28mm
Welding current	200-2500A
Welding current	1-3000ms
Power supply	220/380/400/415/440V, 50/60Hz, 3Ph
Power supply cable for wire	3x16+1x10, 5 meter
Rated input power	110KVA
Rated input current	144A
Air switch	160A
Insulation	IP21
Dimension	750 x 450 x 810mm
Weight-Machine Accessories	95KG, 55KG

SHEAR CONNECTOR [TYPE SD]



Φd1	Φd5	h3	h4	Φd3	Ferrule	
D16	32	8	4.5	21	UF16/DS16	Available
D19	32	10	6	23	UF19/DS19	Available
D22	35	10	6	29	UF22/DS22	Upon Order
D25	40	12	7	31	UF25/DS25	Upon Order

TERMS AND CONDITIONS

HIRING OF SHEAR STUD WELDING MACHINE.

1) Stud welding Machine can be hired from RPFL on following terms and conditions.

2) 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.

3) 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, accommodations. Minimum 2 operators required per machine.

4) 2 weeks advance booking required for Shear Stud welding machine.

5) 3 phase power outlet to be provided on site by contractor or client.

6) If the welding machine is hired and operated by clients representative than any rdamages to the machine, all repair costs will be billed to Client or Contractor.

7) If any delay occurs in installation of FlorDek®, resulting in delays of Shear Stud installation, then additional charges to retain RPFL welders have to be paid by other's (Customer, Client or Contractor).

SHEAR STUD REQUIREMENTS.

1. Specific size of Shear Stud's to be recommended by project engineer.
2. RPFL only stocks 16 x 100mm and 19 x 100mm Shear Studs.
3. If the stock item is unavailable, it can be arrange within lead time of 6 to 8 weeks.
4. For other specific size required can be arrange within lead time of 6 to 8 weeks.
5. For terms and conditions of payment please refer to quotation.
6. Once Shear Studs delivered to site, it must be stored in dry place.

P O Box 9, Ba, Fiji. | Phone: (679) 667 4633 | Fax: (679) 667 0184
Mob: 999 7675/ 9341/ 9309/ 9346
Factory: Yalalevu, Ba. | Phone: (679) 667 3764 | Fax: (679) 667 3674
info@roofingandprofiles.com.fj www.roofingandprofiles.com.fj
find us on facebook