

**GENERAL NOTES:**

- 1- Concrete work shall comply with AS3600 and AC1440.1R
- 2- GFRP bars to be glass fibre reinforced polymer
- 3- Field handling and placement of GFRP bars shall be the same as for steel bars.
- 4- All due care to be exercised during the handling to avoid surface damage.
- 5- GFRP bars are provided with clear identification markings to indicate manufacturer, size, type and grade of GFRP bar.
- 6- GFRP bends and hooks shall not be bent on site and shall be fabricated in the factory during the fabrication process.
- 7- GFRP bars shall be protected against UV radiation during storage.
- 8- GFRP bars should not be stored directly on the ground nor in contact with oils, dust, chemicals or other contaminants which may affect the bar or its bond with the concrete.
- 9- GFRP bars shall not be stored in elevated temperature environments for extended periods.
- 10- Gloves are recommended to be worn when handling GFRP bars to avoid abrasions, cuts ect.
- 11- GFRP bars shall be cut with high speed grinding discs or fine blade saws, GFRP bars shall never be sheared.
- 12- Due to airborne fibre fragments, including the strict use of safety glasses and dust masks.
- 13- Sealing at the end of the bar is not required.
- 14- Care shall be exercised to adequately secure GFRP in the formwork to avoid GFRP bars 'floating' during vibration.
- 15- Care shall be taken when vibrating GFRP reinforced concrete to ensure the GFRP reinforcement is not damaged.

**CONCRETE :**

- 1- The quality of concrete shall be maintained in accordance with TABLE 'CQ'
- 2- Concrete above ground shall be moist cured for a minimum of 7 days, except where fully protected from direct sunlight, in which case, minimum of 3 days. Alternatively, curing may be by spraying with an approved curing compound to Manufacturer's recommendations within 1 hour of finishing.
- 3- Clear concrete cover to reinforcement shall be 30mm unless indicated otherwise on drawings.
- 4- Reinforcement shall be lapped in accordance with Table 'RL' for GFRP.

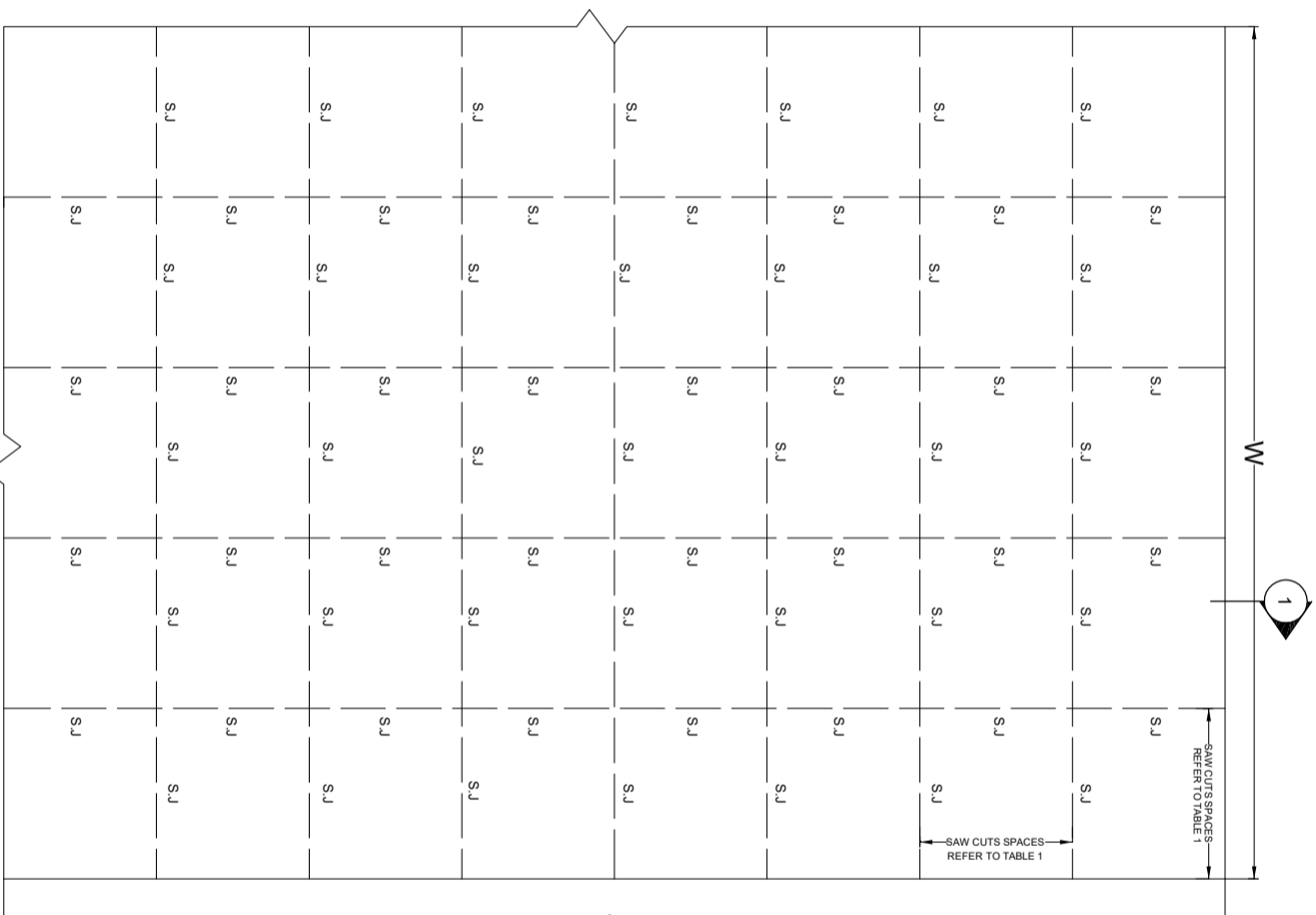
ELEMENT	SLUMP	MAX. AGG. SIZE	CEMENT TYPE	CONC. GRADE
SLAB ON GROUND	80	20	Blended	N32

REINFORCEMENT TYPE	HORIZONTAL LAP
10mm GFRP	400mm

**GFRP BARS MECHANICAL SPECIFICATIONS :**

1-The quality of GFRP bars must be in accordance with TABLE 'GFRPQ'

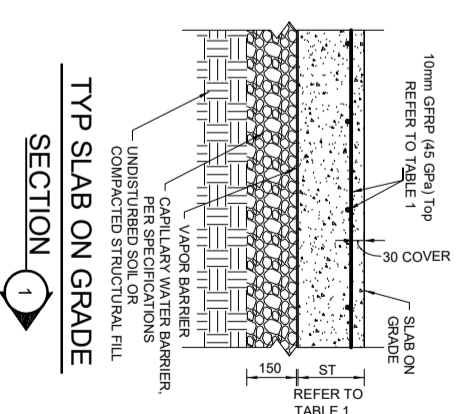
MODULUS OF ELASTICITY	TENSILE STRENGTH	TRANSVERSE SHEAR
45 GPa	>760 MPa	>124 MPa



**Note:** This proposed reinforcement design is just for controlling the plastic shrinkage cracks. For flexural slabs, the slab need be designed based on the flexural force.

**LEGEND**

— S,J — DENOTES SAW CUTS



SLAB THICKNESS 'ST'	REQUIRED SLAB REINFORCEMENT (TOP LAYER)	SAW CUTS SPACES (m)	LAP LENGTH
ST ≤ 100mm	10mm GFRP (45 GPa) @9500 C/C	4m (Max)	400mm
100mm < ST < 135mm	10mm GFRP(45 GPa) @450 C/C	3.5m (Max)	400mm
135mm ≤ ST < 180mm	10mm GFRP(45 GPa) @400 C/C	3m (Max)	400mm

**TABLE 1: SLAB REINFORCEMENT DETAILS**

ADDRESS : 18, Yazaki Way, Carrum Downs  
VIC 3201

TELEPHONE NO. : 03-97708491

WEBSITE : www.madewellproducts.com

PROJECT NAME:

CLIENT:

DRAWING TITLE:  
PROPOSED GFRP-REINFORCED  
SLAB ON GROUND DETAILS

GFRP (45 GPa)

AUSTRALIAN INNOVATION  
PATENT NO.

SHEET NO.

01

DRAWING SHEET SIZE

A3

REV.	DATE	DRN	CHK	APR	DESCRIPTION

