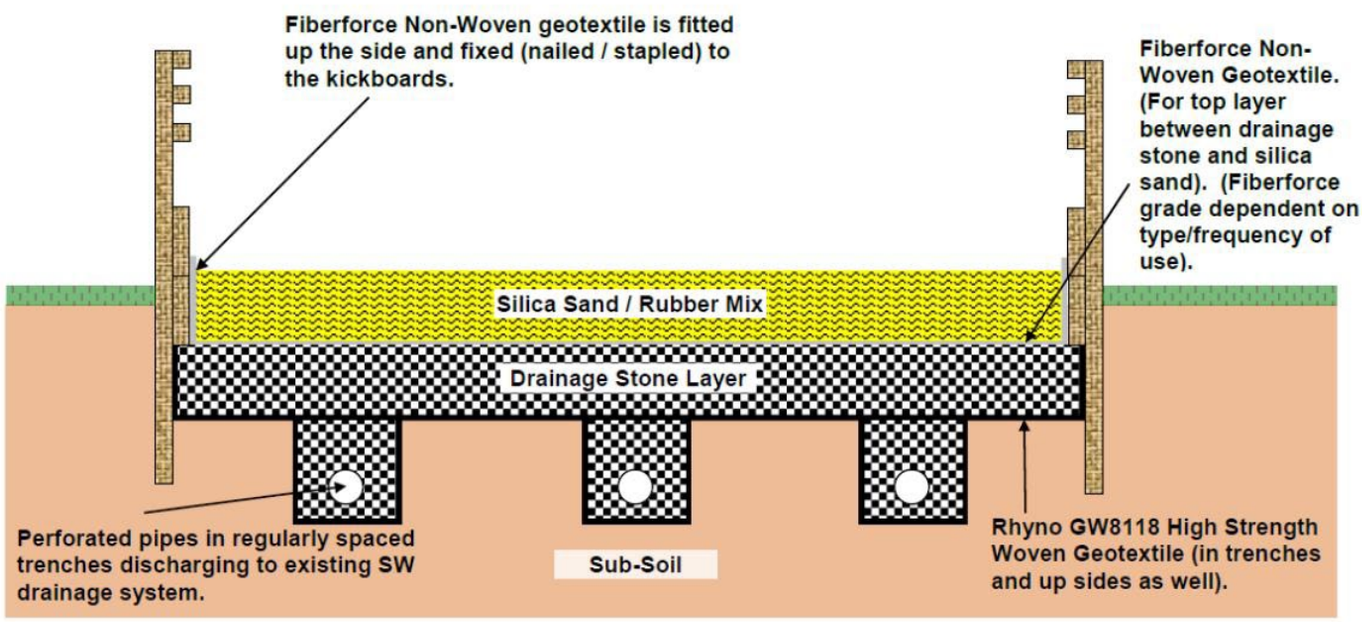
Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

Fiberforce® Installation Guide

The diagram below shows a typical cross section through an arena and illustrates the position of two separate layers of geotextile, i.e. at subsoil level and immediately beneath the riding surface.
Rhyno® GW8118 is required as a base layer to separate the drainage aggregate from the soil. Following this a 300mm minimum layer of clean hard aggregate is required for drainage purposes. Finally a layer of Fiberforce® is used as a separation and drainage layer between the stone and the Silica Sand based riding surface.



Guidance on purchasing materials:

- Allow for an additional 300mm of Rhyno® GW8118 to go up the kickboards
- Allow enough material to line any drainage trenches you have
- Aggregate should be clean and hard to avoid break down and blocking drainage systems. The overall depth of the drainage stone layer should be a minimum of 300mm. The depth of aggregate layer should not be less than 2 x the size of the largest stone being used.
- Fiberforce® Geotextiles are supplied in various grades depending on the intensity level of the arena (see below guidance)

PROPERTY	ARENA	EXTRA	PREMIUM
Suggested Intensity Level	Standard Intensity	Intermediate Intensity	High Intensity
Typical Application	Private Arena/Lunge	Public Arena/Gallop	Competition Arena/Gallop

- One 310ml cartridge of Fiberforce® Adhesive will generally produce 40m of bead which equates to around 20m of joint.
- An applicator for Fiberforce® Adhesive is required and can be sourced from most DIY stores
- Ensure that good quality silica sand is used in construction of the arena to provide long term drainage and avoid compaction. More information can be found through Mansfield Sand (www.mansfield-sand.co.uk) on 01623 622441.

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Fiberforce® Equestrian Geotextiles

Installing Rhyno® GW8118 Separator layer:

- Lay Rhyno® GW8118 up the side of the excavation/kickboards to prevent sidewards migration of the stone
- Line any trenches with Rhyno® GW8118
- Ensure an overlap dependant on ground conditions and the anticipated stress on the join (see below)

GROUND CONDITION	OVERLAP
Level and firm subsoil	500mm
Soft and uneven subsoil	1000mm

Note: For reinforcement applications, where load transfer is required across joints or if significant settlement is anticipated please seek further guidance from Geosynthetics Limited Technical Sales on 01455 617139.

Infilling:

- Infill a minimum of 300mm of clean graded hard stone. It must be a graded "drainage" stone and not a down to dust material.

Installing Fiberforce® Drainage Layer:

- Lay the Fiberforce® Geotextile over the clean hard aggregate as per Appendix 1 (see below)
- Allow 300mm overlap when joining geotextiles and 300mm return up the kickboards
- The method of joining materials is dependant on grade (see below for guidance)

PROPERTY	ARENA	EXTRA	PREMIUM
Suggested Jointing Method	Glue	Glue	Glue or Hot Air Weld

Overlapping:

To prevent the overlapping fabrics from becoming separated as aggregate is pushed forward; the 'continuation' roll must be tucked under the material already in place. (See Figure 1)

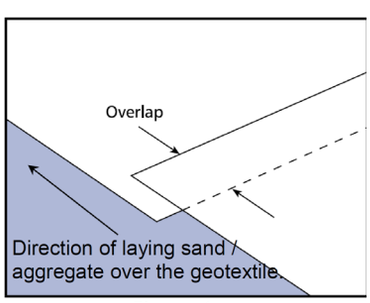

Figure 1

Joining with Glue:

- 3mm Glue Beads should be applied onto both sides of the overlap
- Each tube will do 43.85 metres of bead. The overlap should be double beaded i.e both sides of the lap should be glued (See Figure 2)
- Pressure must be applied after joining the two materials to enhance the join. This can be easily achieved using a laden wheelbarrow.

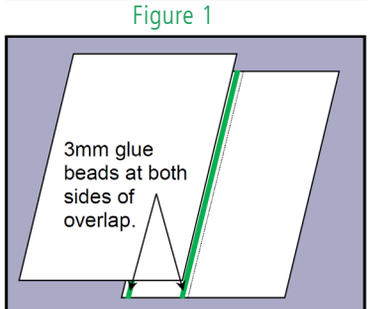

Figure 2

Joining using hot air welding:

- Fiberforce® must be clean, dry and have a firm base if this is not obtainable it is recommended that hot air welding is not used
- Hot Air Welding is suitable for applications using Fiberforce® Premium due to thickness of the material.
- Specialist machinery and operators are required for hot air welding to ensure there is no damage to the material during joining.
- Heat bonding can be adversely effected by windy conditions and care should be taken to control seam width and strength in these conditions.

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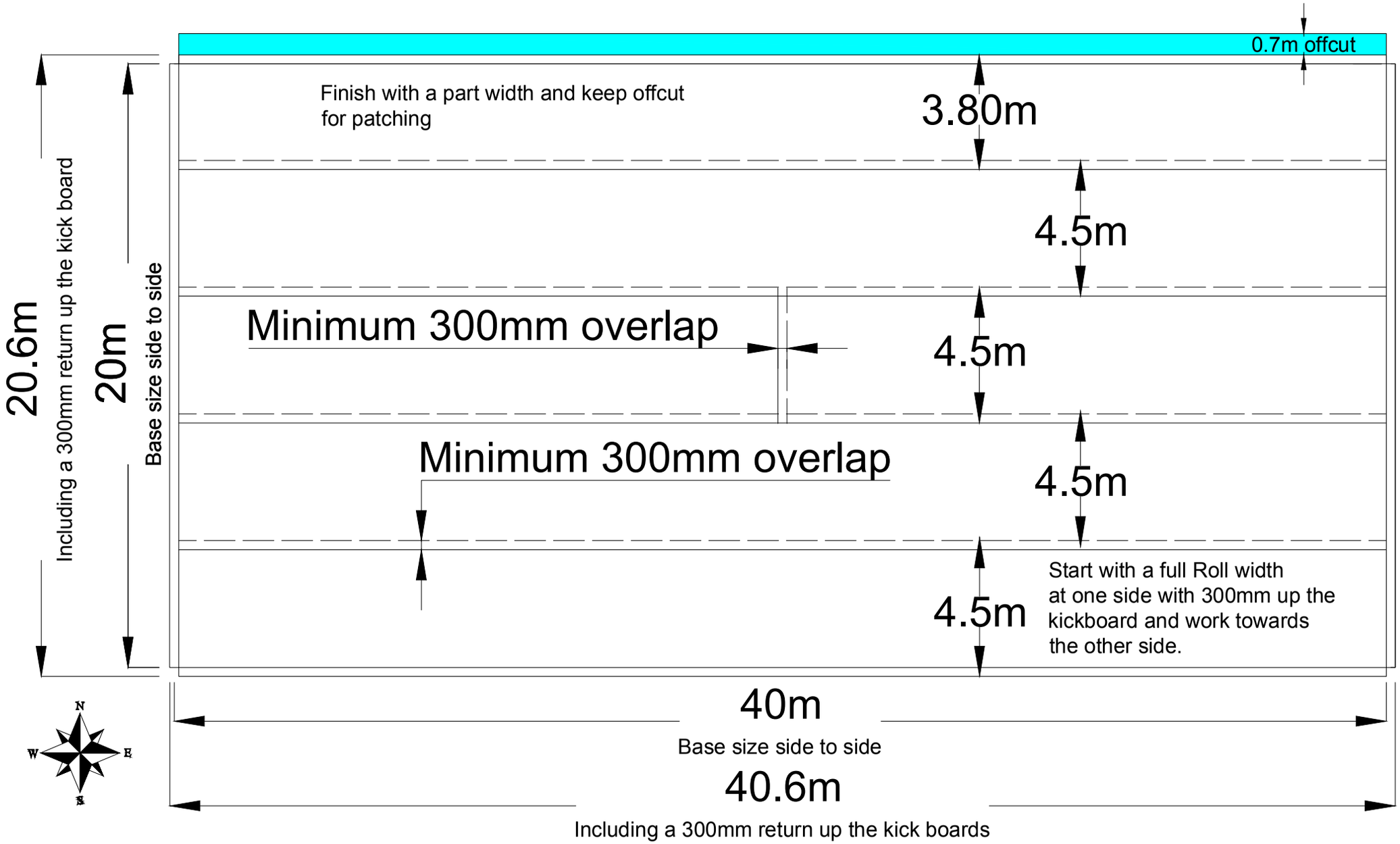
Appendix 1



Geosynthetics Ltd Fleming Road, Harrowbrook Industrial Estate, Hinckley, Leicestershire. LE10 3DU Tel: 01455 617139 Fax: 01455 617140 www.geosyn.co.uk	Project: FiberForce Arena, Equestrian Arena 40.6mx20.6m	Description: 40m x 20m Arena using Fiberforce Arena	*Drawn By:* ZS	*Scale:* NTS	*Date:* 23 February 2016	*Checked By:*
			Ref: Layout	*Version:* V1	*Sheet:* Arena Layout	DR:177/V1/07.03.2016 (Page 3 of 3)