



# **Firestone Pond Liner Field Seaming Guide**

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This guide contains information extracted from the Firestone Pond Liner “Installation Guidelines” Manual, and is intended for use as a quick reference guide by fully trained “approved” installers. It can be used in-conjunction with the above mentioned manual, which contains in-depth details of site design and installation requirements that must be fully adhered to, in order to ensure the Firestone Warranty applies.

## Seaming Firestone (EPDM) Pond Liner

The splicing of adjoining panels should be performed immediately after the relaxation of the Pond Liner membrane.

All panels must be installed without tension and without major wrinkles, overlapping by at least 150mm. All seams on slopes must be run up and down the slope with no horizontal seams allowed.

For soft subsoils, a wooden board, a piece of insulation, or a laminated panel must be used under the membrane, in the area of the splice. The panel is moved by means of a rope as the splicing process progresses.

Seams should not be made under the following conditions:

- *moisture*
- *soft subgrade soil*
- *condensation on the primer or on the membrane*
- *rainfall*
- *ponded water*
- *other contaminants*

*“Moisture in the seam will cause failure of the seam”.*

Use only Firestone approved products. Non-Firestone products cannot be approved to make seams.

## Seaming Procedure

Two overlapping Pond Liner membranes are assembled by means of a self-adhesive tape system. Below are details of the various steps required for proper splicing.

### Step 1 : Position the membrane

- Both membranes must be positioned with a minimum overlap of 150mm.
- The membranes must lay flat and without any tension.
- Use a marker to indicate on the lower sheet the exact location where the splice tape is to be installed.
- The mark must be situated at between 10mm and 20mm from the edge of overlapping sheets, and is repeated every 1m of seam length. (See fig.1)

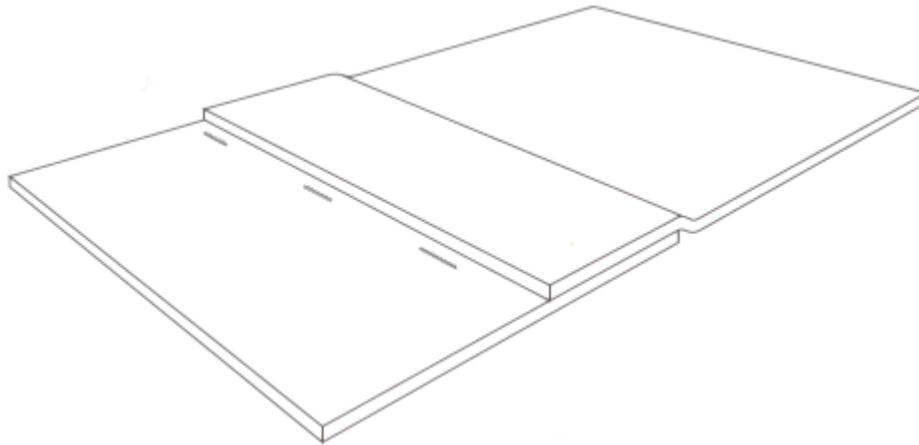


Fig.1

### Step 2 : Tack-back the overlap and prepare the seam

- The upper Pond Liner membrane edge is folded back on itself 250 mm, and the flap is tacked down every 1m with QuickPrime Plus.
- Thoroughly clean the overlap area using a clean cotton cloth soaked in Splice Wash. Remove ALL soil, dust, talc powder (found naturally on the surface of all Firestone Pond Liner membrane) and any other contaminants before proceeding.
- Do not prepare more seam area than will be completed during the same working day.

“Contamination in the seam area could cause failure of the seam”

### Step 3 : Apply the Quickprime Plus

- Stir the QuickPrime Plus before and during use and transfer a small working quantity, say 1.5L, to a bucket to reduce risk of spilling. The Primer is applied with a special scrubbing pad.
- Immerse the scrubbing pad in the QuickPrime Plus, keeping the pad horizontal and let excess of QuickPrime Plus drip off the pad.

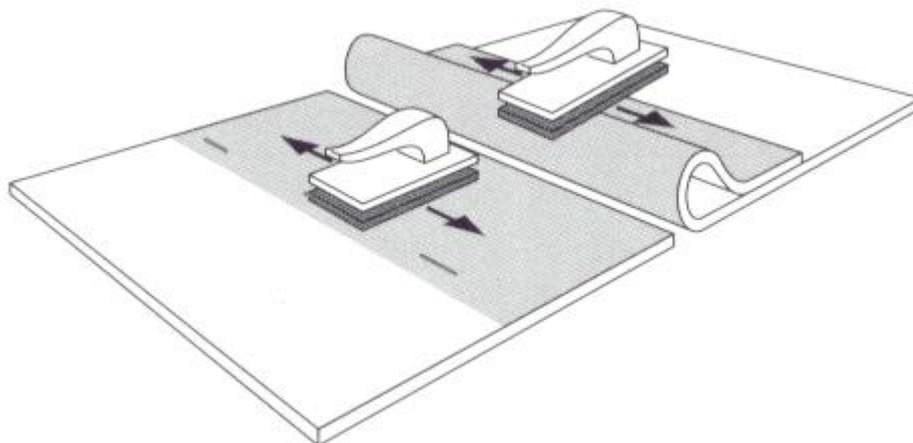


Fig.2

- Apply the QuickPrime Plus uniformly along the length of the splicing area, with long back and forth strokes, both to the lower face of the top sheet and the upper face of the lower sheet, until the surfaces become a dark grey in colour. Avoid traces

and wet spots. Each pad immersed in QuickPrime Plus will cover an area of about 1m length, over a width of 100 mm (one side).

- Change scrubbing pads every 60 m or when the primer has dried on the pad. Used pads are to be discarded at the end of the working day.
- Additional priming is required at factory seams, at the intersection of two splices and to areas covered with adhesive.
- Both sides to be spliced are treated simultaneously, so as to obtain an identical drying time.
- Test QuickPrime Plus for readiness. Allow the primer to flash-off. The primer needs to dry completely (approximately 10 minutes) before installing the tape. Check its dryness by touching the primed surface with a clean dry finger to be certain that the primer does not string. When touching the primer, push forward on the primed surface at an angle to ensure that the primer is dry throughout its thickness. If either motion exposes a stringy primer when the finger is lifted, then the splice is not ready for installing the tape. Flash-off time will vary depending on ambient air conditions (relative humidity, wind...).

#### **Step 4 : Install the tape**

- Apply the QuickSeam Splice Tape (with release paper intact) on the bottom sheet, aligning the edge of the release paper with the markings previously made. Ensure no wrinkles are formed between the tape and membrane.
- Immediately roll the splice with a 100 mm wide silicone sleeved hand roller to achieve 100% bond area.
- When it is necessary to start a new roll of tape to continue seaming, it is required to overlap the end of the installed tape with the start of the new tape by 25 mm.

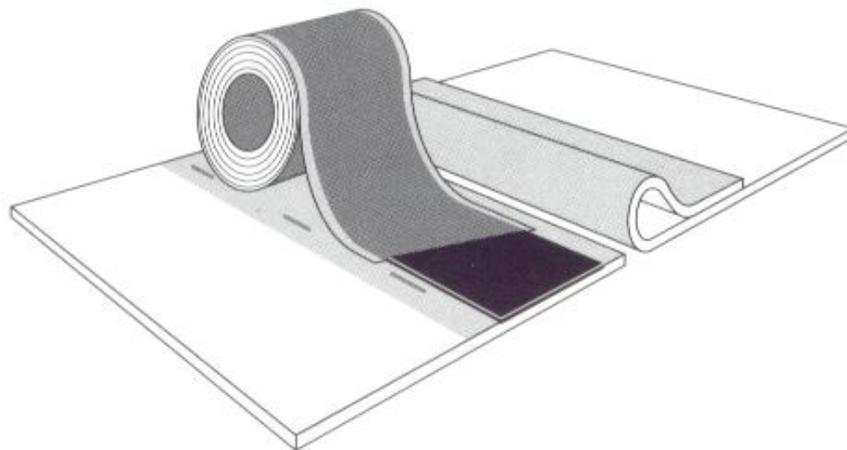


Fig.3

### Step 5 : Check the splice tape alignment

- The upper membrane is released and the splice is closed by hand. To avoid wrinkling, close the splice gently with a movement perpendicular to the splice. The upper sheet must fall without wrinkling or tension onto the lower sheet. Allow the top sheet to rest on top of the tape's paper backing.
- Trim the top sheet as necessary to assure that 10mm to 15 mm of the QuickSeam Splice Tape will be exposed on the finished splice.

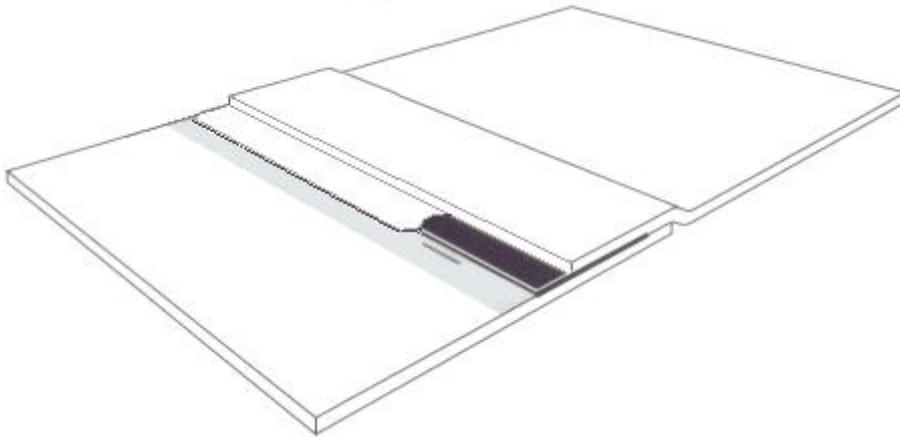


Fig.4

### Step 6 : Remove the paper backing

- To remove the paper backing from the tape, first roll back the upper membrane. Peel the paper backing off the QuickSeam Splice Tape by pulling against the weight of the bottom sheet at approximately a 45° angle to the tape.
- Allow the top sheet to fall freely onto the exposed QuickSeam Splice Tape. Mate the entire length of the splice as the release paper is being removed.

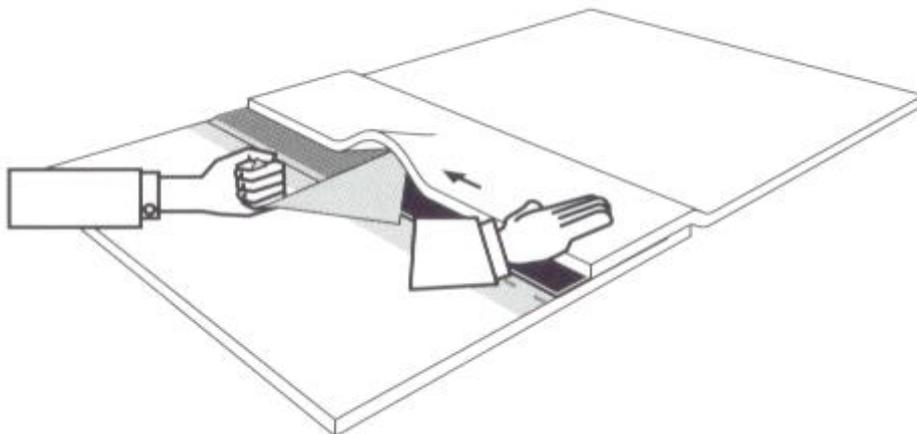


Fig.5

## Step 7 : Roll the splice

- Finally, roll the splice by means of a silicone rubber roller, first across the splice and then along the entire length of the splice.
- For uneven or soft subgrades, a seaming board is required directly under the seam area. The seaming board is moved as the seam is completed.

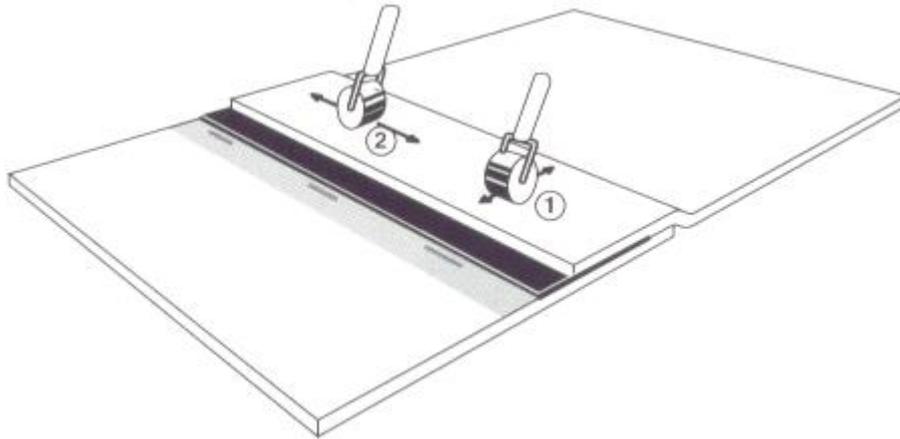


Fig.6

The completed splice will eventually look as follows:

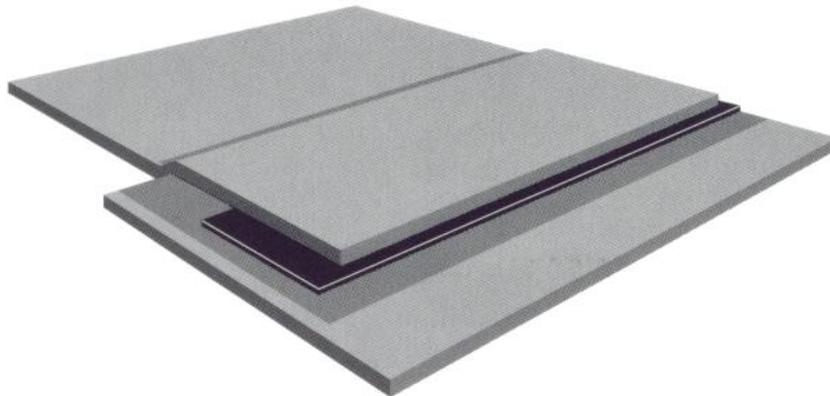


Fig.7

### Special considerations are required (end laps, T joints, etc....)

- Where an overlap has occurred in the splice tape (which should be at least 25mm), apply a Quickseam formflash patch that covers at least 100mm to either side of the overlap. (In some cases a protective Lap Sealant could be used). Quickseam Formflash is applied in a similar way to Quickseam Tape, by first priming the area with Quickprime Plus. Remember to round the corners of patches and roller down well as on a seam.
- When several membranes meet at a common, only three sheets may overlap each other. Apply a Quickseam formflash reinforcement (230x200mm) over this area.
- Where a field splice runs from the horizontal area into the slope of the embankment (i.e. up the side of the excavation) apply a Quickseam formflash reinforcement (230x200mm) over this area.