

Product:
Issue Date:

FTR-IW induction welded systems with SFS isoweld® induction welding technology
2-26-2021

FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Introduction

FiberTite induction welded roof systems use FTR-IW induction weld plates and SFS isoweld induction welding technology. The FTR-IW plates coatings are formulated for use with FiberTite membranes and engineered for SFS isoweld induction welding tools.

The following is a list of general tips and guidelines for successful installation of a FiberTite Induction Welded Roof System. Consult the operator's manual of your SFS isoweld induction welding tool for additional and more detailed instructions.

Use only SFS isoweld induction tools with FTR-IW plates. Use only approved fasteners to affix FTR-IW plates to substrates. Failure to follow parameters will result in nullification of Seaman Corporation Warranty Commitments for the project.

- FiberTite Induction Welded Roofing Systems can be installed in conventional low slope or metal building recover applications
- Configuration of FTR-IW plates must take building roof conditions into account
- Calibrate SFS isoweld induction tool as recommended by SFS
- Stable power is essential for problem-free operation of the SFS isoweld induction machine
- Membrane and induction magnets must be kept clean during operation

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FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Pre-installation/Preparation

Tools & Equipment:

- SFS isoweld 3000 Stand-up Tool **or**
 - SFS isoweld Backpack
 - optional SFS Hand-held Inductor
 - SFS isoweld Calibration Template
 - SFS FI Magnets
 - SFS isoweld 3000 Operating Instructions **or**
 - SFS isoweld Backpack Operating Instructions
- See SFS Literature & Documentation at sfsintecusa.com

Roof Conditions:

Prepared substrate shall be smooth, dry, and free of debris and /or any other irregularities which would interfere with the proper installation of the FiberTite Induction Welded Roofing System.

Materials Preparation:

FTR-IW induction weld plates must be stored dry, covered and protected from sunlight to prevent soiling and damage caused by UV radiation. Plates must not be exposed to the elements for more than 24 hours.

Ensure that the stress plates are dry and clean, both in storage and during and after installation.

Only set as many FTR-IW plates as can be welded on that day. Plate positions must be measured and marked in accordance with wind load calculations. [figs 1 & 2] Refer to [FiberTite Construction Details](#) and [FiberTite RoofNav Listings](#) for more information.

fig 1 - induction welding plates aligned on rooftop using chalklines

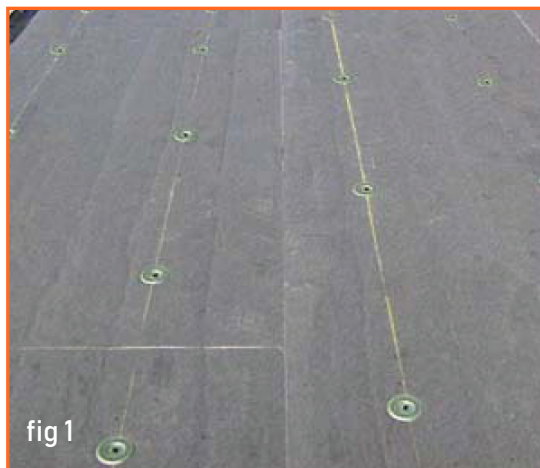
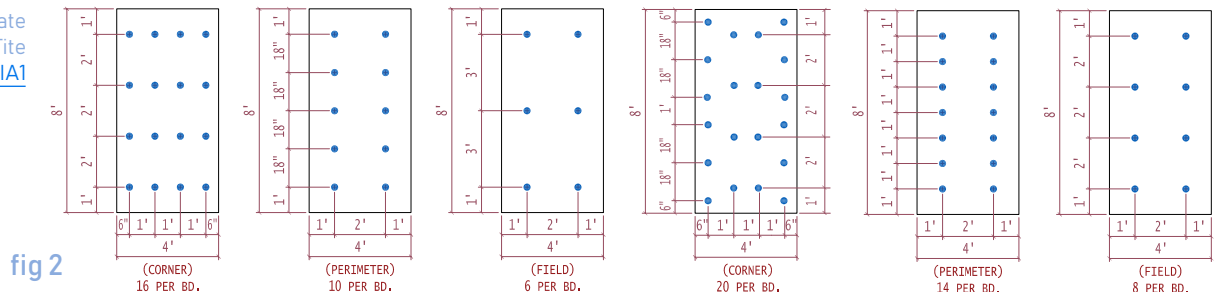


fig 2 - induction welding plate patterns as described in FiberTite Construction Detail [FTR-IWIA1](#)



FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Pre-installation/Preparation (continued)

Materials Preparation (continued):

FTR-IW Plates must be set parallel to the surface. Use only specified fasteners.

Check the setting depth of the stress plates. Over or under driving the fasteners that attach the FTR-IW plates can affect the overall quality of the weld. Do not over or under drive fasteners.

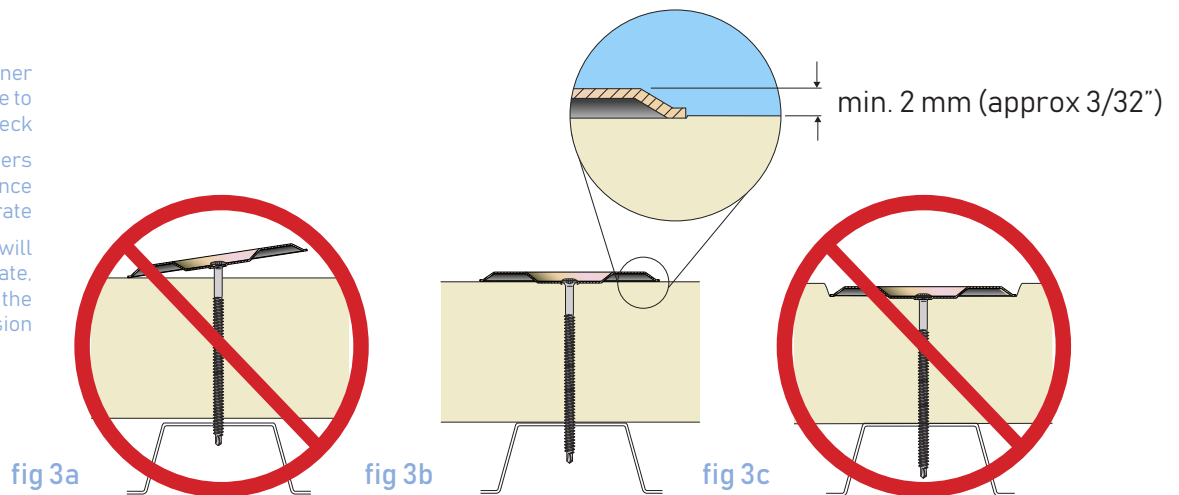
[fig 3 a&c]

Properly driven fasteners must allow a minimum of 2mm (approx. 3/32") clearance from surface of substrate. This secures the plates in place while allowing contact for proper adhesion. [fig 3b]

fig 3a - an under-driven fastener does not secure the FTR-IW plate to the substrate or deck

fig 3b - properly driven fasteners allow a minimum of 2mm clearance from surface of substrate

fig 3c - an over-driven fastener will embed the plate into the substrate, inhibiting the contact with the membrane necessary for adhesion



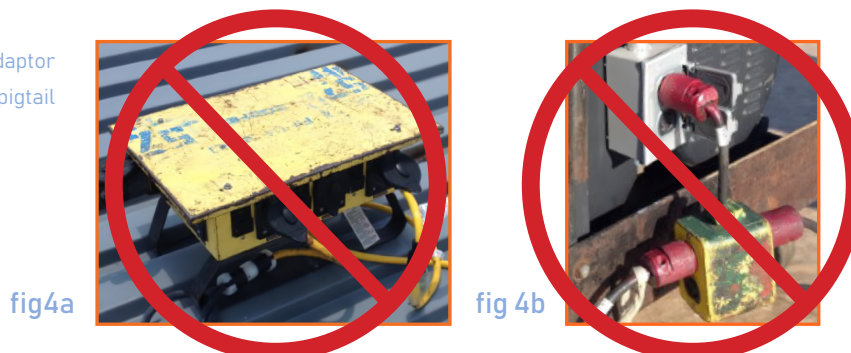
SFS Induction welding tools need to run on a dedicated 20A circuit with no more than 100 feet of quality (12 ga. min.) extension cord per tool.

Generator should be a minimum 5,000 watt with one 20A GFCI circuit per tool

- The SFS Induction welding tool requires its own dedicated power supply to avoid power surges from other equipment.
- DO NOT plug the tools into a 15A GFCI adapter [fig 4a]
- DO NOT plug the tools into a pigtail [fig 4b]

fig 4a- DO NOT use 15A GFCI adaptor

fig 4b - DO NOT connect using pigtail



FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Installation/Operation

Calibration and operation examples and illustrations are shown here using SFS isoweld 3000 stand-up tool. All guidelines and instruction listed here apply equally to the stand-up tool and the SFS isoweld Backpack, with or without optional handheld induction tool. Always review the SFS isoweld Operating Manual for complete and specific instruction.

Calibration Guidelines:

Prior to proceeding with membrane attachment to the installed FTR-IW isoweld stress plate, the SFS isoweld induction tool must be calibrated.

Always calibrate the SFS isoweld induction tool every morning before starting work, when moving to another building site, when working with thicker membrane or loss of power to the tool.

It is not necessary to use a fastener with the plate during calibration.

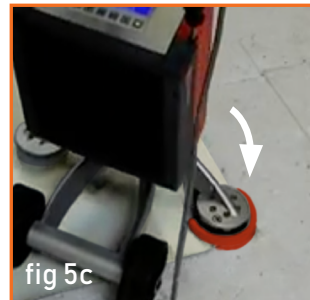
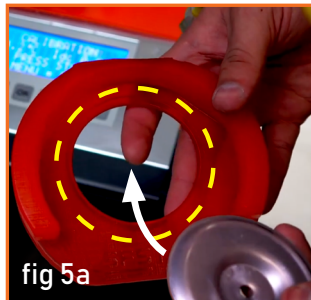
Calibration Instructions:

1. Set the SFS isoweld induction tool to its PVC membrane setting, and adjust material settings.
2. Use the calibration template and place an FTR-IW isoweld stress plate into the recess provided. [\[fig 5a\]](#)
3. Push the calibration template on to the corner of the FiberTite membrane. [\[fig 5b\]](#)
4. Place the inductor into the calibration device and ensure that it is positioned correctly. The arm of the inductor must be resting in the recess provided. [\[fig 5c\]](#)

fig 5a - place FTR-IW plate into calibration template

fig 5b - push template with IW plate on to corner of FiberTite membrane

fig 5c - seat inductor tool arm into recess of calibration tool



5. Press the "arrow up" or "arrow down" button on machine control panel [\[fig 6\]](#) to move to 'CALIBRATION'.

fig 6 - induction tool control panel



6. Start the calibration function by pressing the "OK" button.
7. You are now in the calibration program.
8. Press the start button.
9. The automatic calibration is completed when there is a beeping sound for 1 second and the display returns to standard view.

FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

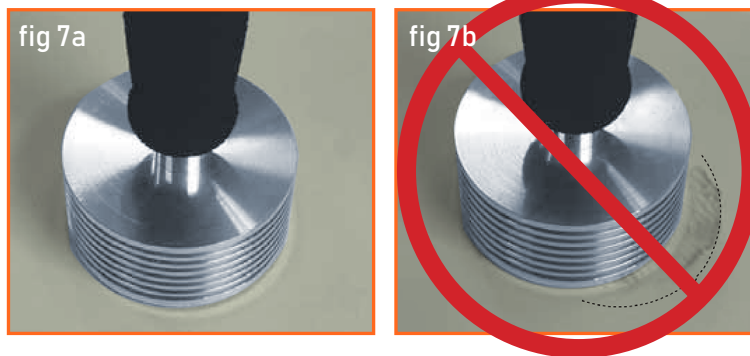
Installation/Operation (continued)

Operation Guidelines:

- Always perform a test weld after calibration and before starting installation.
- When making test welds make sure to test the FTR-IW isoweld stress plate in the same assembly as is being used for the roof system. For example, do not test the plate directly on concrete if they are being installed over insulation.
- The SFS isoweld magnet ensures bonding. The magnet must be placed within the first 3-seconds after terminating the weld.
- The operators is to make sure the SFS isoweld magnet completely covers the FTR-IW isoweld stress plate [fig 7a]. Misalignment [fig 7b] will impair weld consistency.

fig 7a - align magnet completely over FTR-IW induction plate

fig 7b - misalignment will impair weld consistency

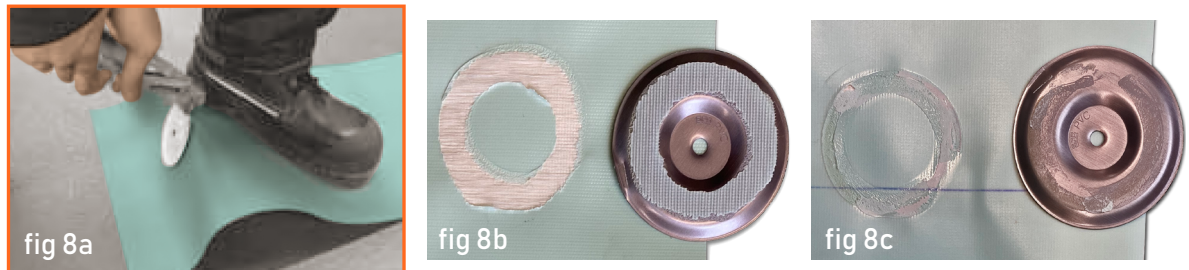


- Allow the magnet to remain for at least 1 minute. The magnet ensures the necessary pressure and cooling of the FTR-IW isoweld stress plate and is an essential part of achieving a good weld.
- Be sure to allow the test sample to cool completely before separating it to evaluate bond strength. Disengage the test plate from the membrane with the help of pliers. [fig 8a]

fig 8a - pulling plate off a test weld.

fig 8b - test weld should show full adhesion to plate

fig 8c - uneven/incomplete adhesion indicates a miscalibration



- A proper weld will show total and consistent adhesion of the membrane across the FTR-IW plate [fig 8b]. Uneven or incomplete adhesion indicate that the machine is miscalibrated for your specific conditions [fig 8c]. (See: [Calibration Guidelines](#))
- Keep the membrane clean. Any debris on the top of the membrane can be pushed into the surface by the magnet during the bonding process.
- Keep the magnets clean. Shards of metal or other debris can stick to the magnet and brand or otherwise mar the membrane at every weld. Dirty magnets must be cleaned before using.

****Follow [recommended welding procedure](#) for efficiency and best results****

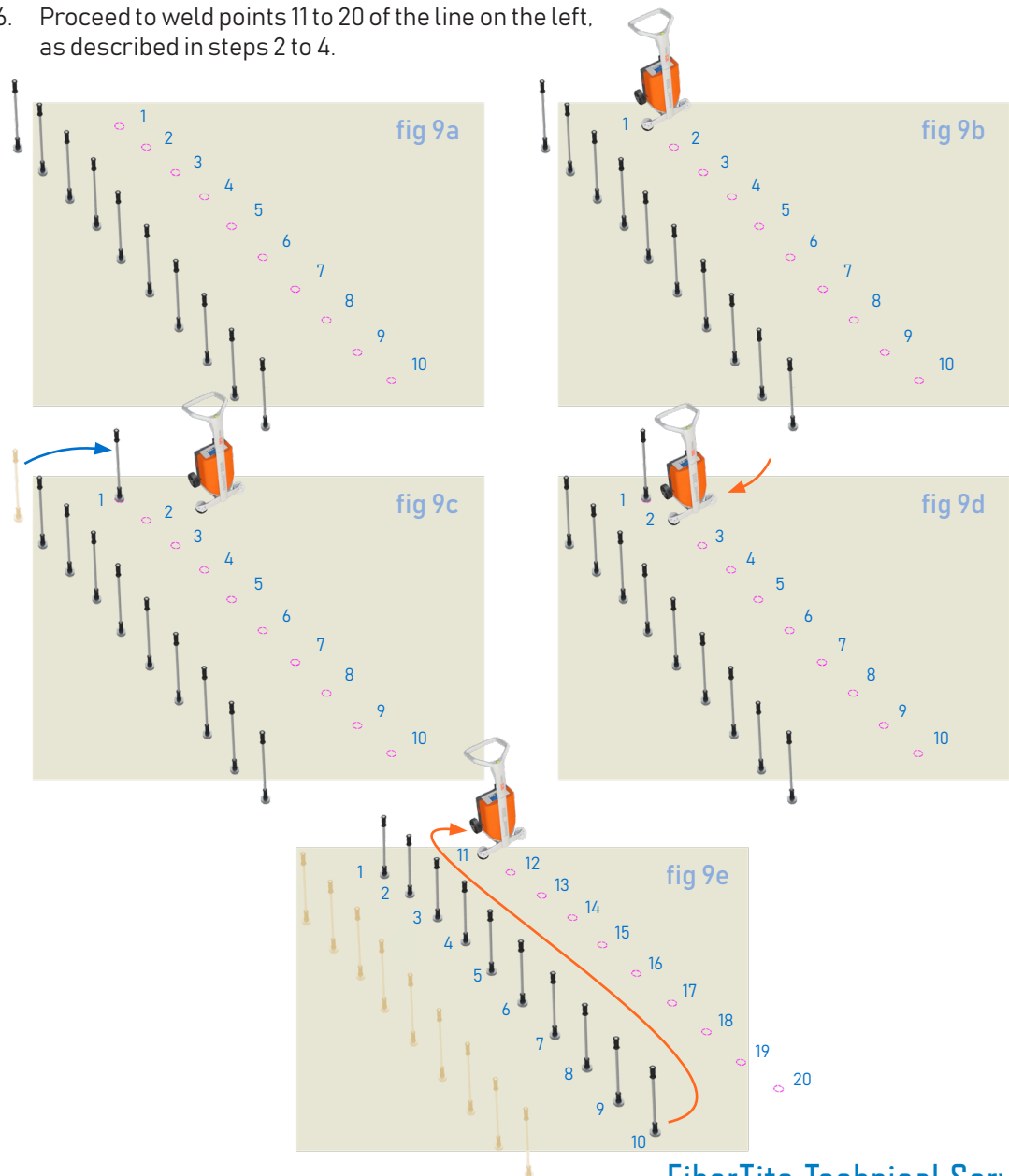
FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Installation/Operation (continued)

Recommended Welding Procedure:

1. Place at least 10 magnets to the right of the points to be welded. [fig 9a]
2. Weld the first of these points. [fig 9b]
3. Place the magnet on to this fastening point within 3 seconds of completing the welding. [fig 9c]
4. Proceed to weld the following points 2 to 10 as described in steps 2 and 3. [fig 9d]
5. Move the SFS isoweld induction tool to the starting point of the next line (point 11). [fig 9e]
6. Proceed to weld points 11 to 20 of the line on the left, as described in steps 2 to 4.

fig 9 - recommended welding procedure





Technical Services

FiberTite® Roof Systems

FiberTite Product Guidelines

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FiberTite Induction Welded (IW) Roof Systems Installation Guidelines

Installation/ Operation (continued)

Alternate Conditions:

Do not use FTR-IW plates for transitional securement / attachment at roof perimeters, walls, expansion joints, curbs and penetrations. (See [Current FiberTite Construction Details](#))

Clean Up:

Daily site cleanup is recommended to minimize debris and hazardous congestion.

Technical Support

For more information, or to contact a FiberTite Roofing specialist, visit www.FiberTite.com

References:

[FiberTite Induction Welded \(IW\) System Construction Details](#)

[FTR-IW isoweld plate Product Data Sheet](#)

[SFS isoweld Manufacturer's Website](#)



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