



What to Know Before Getting Started

Before installing a Krieger radio frequency (RF) door assembly, be sure to review the installation tips and common problems to avoid in this guide.



We're Here to Help

At Krieger, we understand every project is unique. If after reviewing this guide, you have any questions or concerns about installing, adjusting, or maintaining your Krieger product, our engineering department is here to help.

Please call us directly at **562-695-0645** or reach out to your regional sales representative.

Visit [kriegerproducts.com/contact/](https://www.kriegerproducts.com/contact/) for more information.



Made in the USA

All Krieger products are proudly designed and manufactured in the United States.

Installation Tips and Common Problems to Avoid

Paint

- **DO NOT** paint over sections of the assembly that were taped off; these must remain as raw steel.
- Paint or other non-conductive materials can inhibit RF shielding properties by preventing uniform contact between two conductive surfaces. This negatively impacts the overall performance of the RF assembly.
- It may be beneficial to remove the seals prior to painting the assembly to prevent the risk of overspray on the seal materials. However, the painter must be informed about which areas of the assembly must not be painted. Krieger recommends distributing and communicating the information in this guide to the painter for review prior to starting work.

Seal Adjustments

- Seal adjustments can be challenging when first working with RF shielding materials.
- To attain consistent, unbroken, uniform contact with the panel, refer to the following installation guides:



Installation Guide 306

Adjusting Radio Frequency and Acoustical Perimeter Seals

https://www.kriegerproducts.com/support/manuals/IG_306.pdf



Installation Guide 309

Mounting and Adjusting Radio Frequency and Acoustical Perimeter Seals

https://www.kriegerproducts.com/support/manuals/IG_309.pdf

- Common mistakes are caused by over adjustment on the hinge side of the seals, which can cause many performance and operational issues.
- One method to control this issue is to adjust the strike-side seal first, then move to the header, then finally the hinge-side seal.

Grouting the Frame

- Grouting the frame is not recommended for RF assemblies.
 - Grouting makes installing RF assemblies more difficult and is not required for non-acoustical and acoustical products that have an STC rating of 50 or below.
 - Frame preps and electrified hardware connections become practically impossible to access again after installation if the frame is grouted.
 - RF and RF/acoustical assemblies must use #8 density rockwool for the frame filler.
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RF Seals

- RF seals need to make full, consistent, uniform contact against the door panel around the perimeter of the opening, including the door bottom against the threshold, paying close attention to the corners.
 - Fabric-over-foam seal should extend $\frac{1}{32}$ " to $\frac{1}{16}$ " (as required) past the wire mesh seal.
 - The precise fitment of every door in a frame is unique.
 - The door bottom seal is designed to extend further out than the door panel to make contact with the jambs.
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RF Tape

- Junction boxes and other frame preps are sealed using a special RF tape.
- This material prevents radio frequencies from penetrating the frame preps.
- Refrain from removing RF tape around the electrical boxes in the frame. Removing or modifying the tape or these preps can negatively impact the performance of and RF assembly.

Electrified Hardware

- As stated above, frame preps are sealed using a special RF tape to prevent leaking at these points.
 - However, when electrified hardware is required, the wires will need to be pulled through the designated prepped opening.
 - Once the cables have been fully installed, the Krieger-supplied RF tape must be used to reseal any openings that were created for electrical wires.
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Drilling Through-Holes

- **DO NOT** drill through-holes in the door panel. Surface mounted fasteners are OK, untreated through-bolts are not.
 - Any holes that have been added to the assembly that puncture fully to the other side of the opening may cause degraded RF performance.
 - Any holes not prepped by Krieger, or without approval from Krieger, will void the warranty on the performance of the panel.
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Latching Hardware

- The Z bracket and #2 strike must be adjusted properly for solid, positive latching to occur between the door panel and the seals.
- Latching of the panel is critical for creating a consistent seal along the entire perimeter of the opening.
- Radio frequencies can leak through in the strike area if the latching mechanism is not adjusted properly.
- The connection between the hardware device's latch bolt and the roller strike needs to be solid, with no slack.
- Only brackets manufactured and supplied by Krieger can be used.

Additional Openings

- Additional openings such as conduit penetrations, ductwork, fire sprinkler, or other similar penetrations that are directly adjacent to door frame openings are extremely difficult to troubleshoot due to their close proximity to the door opening.
- The door and frame assembly's RF performance can only be as effective as the Faraday enclosure it is being installed into.
- Any weak points due to improperly shielded penetrations will result in degraded RF performance.
- If EMI filters are not on all metallic wires entering the RF-shielded enclosure, it is just like having a bidirectional antenna installed in the wall that will conduct signals in and out, leaving your RF shielding useless.
- You must have EMI filters installed to eliminate conducted emissions coming and going into the RF shielded area.
- RF foil manufacturers can provide detailed advice pertaining to the techniques required and best practices.

EMI Caulking

- EMI caulking can be used to seal the separation between the RF door bottom, door skin, or any metal-to-metal connection points between the frame interfacing with the partition.
- The material can be used for a variety of other purposes as well such as underneath the threshold or to seal off any opening/gapping between the frame interface with the RF-shielded enclosure.

Wall Foil

- It is imperative that the wall foil is integrated into the frame underneath the trim and the material is clean and smooth upon application.
 - Ensure all door frame interfaces with the enclosure via wall foil are clean and sufficiently overlap the RF-shielding material.
 - Any wrinkles or tears in the foil or tape can potentially cause performance problems.
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RF Shielding

- RF-shielded enclosures are constructed as cubes with continuous RF shielding on all 6 sides to form a true Faraday enclosure.
 - Ensure RF shielding is present in the floor and is integrated underneath the frame's threshold before installing the frame.
 - Krieger's RF frame must seamlessly integrate with the enclosure's shielding on all 4 sides, including the threshold.
 - A 5-sided Faraday shield will result in degraded field performance as compared to our IEEE-299 laboratory testing.
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RF Foil

- RF foils have precise instructions that must be followed.
- Ensure RF foil installation instructions are followed and the application of drywall does not cut or tear the foil.
- It is important that drywall and flooring contractors understand that they must not penetrate or cut into the RF foil material to preserve the integrity of the RF foil and the RF shielding.
- Follow all manufacturer instructions and suggestions.

End Instructions