

AmBuck™ Insulated Block-Out System Installation Manual

PROTECTIVE FOAM SOLUTIONS

INNOVATIVE INSULATION CONSTRUCTION
SOLUTIONS FOR ENERGY EFFICIENT AND
COMFORTABLE BUILDINGS

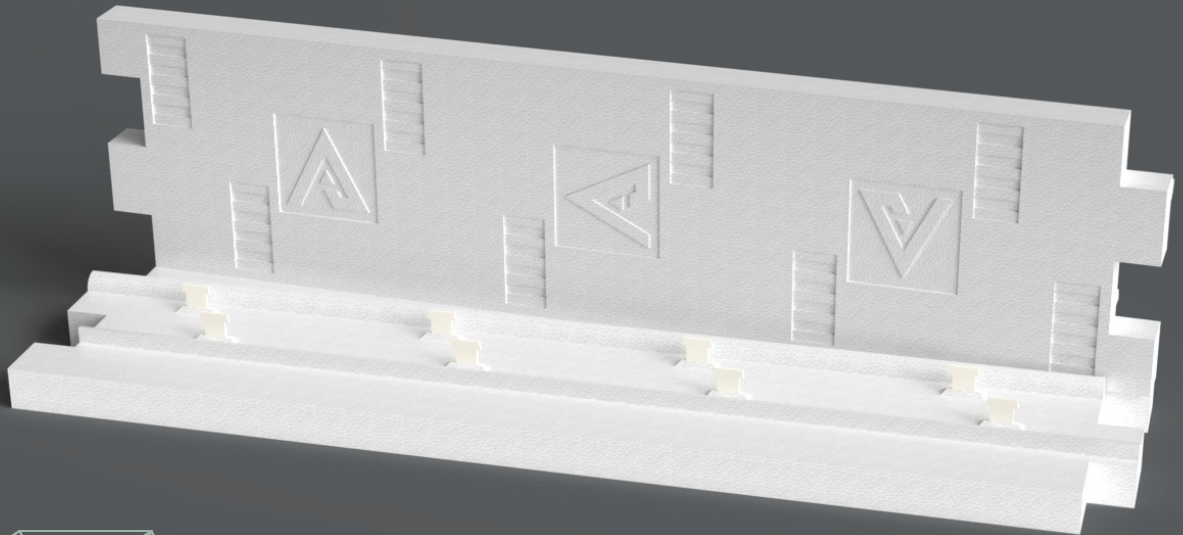


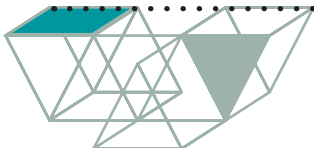
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PREFACE

The continuity of a thermal envelope is extremely crucial for the overall energy performance of any building. As energy standards become more stringent and energy efficiency becomes much more important, the need for thermal envelope continuity increases.

Window, door, and end-wall bucks are an integral part of a Insulated Concrete Form (ICF) construction process. Experienced ICF installers use a variety of methods to form and install bucks. Alleguard's AmBuck™ Insulated Block-Out System offers a highly versatile solution with great thermal characteristics and simplified installation. AmBuck™ Insulated Block-Out System prevents warping, checking, cupping, bowing, rotting, and splitting from occurring, that is seen in most conventional wood based block-out systems. AmBuck™ Insulated Block-Out System is backed up by Alleguard's renowned customer service and technical support and is available through Alleguard's extensive distributor network across North America.

If any of your questions or concerns are not completely addressed in this manual, feel free to contact us and our staff will be happy to answer your questions. At Alleguard, we pride ourselves in offering our customers an exceptional level of customer service.

Alleguard Website

The Alleguard website is updated regularly with the most updated information including, product data sheets, construction details and installation manuals. This technical and installation manual is posted on the website, see www.alleguard.com

Technical Support

Please contact us for any inquiries pertaining to information included in this manual or if you require other technical assistance.

Phone: 1 (877) 470-9991 (toll free)

E-mail: amvic.technical@alleguard.com



PREFACE

Disclaimer

This document is provided for informational purposes only. The information contained in this document represents the current views of Alleguard on the issues discussed as of the date of publication. These opinions, as expressed, should not be interpreted to be a commitment on the part of Alleguard and cannot guarantee the accuracy of any information presented after the date of publication. The user assumes the entire risk as to the accuracy and the use of this document.

This manual provides a basic guide for the installation of AmBuck™ Insulated Block-Out System and is intended to supplement, rather than replace, the basic construction knowledge of the construction professional. Follow the window/door manufacturer's guidelines when determining the rough opening size. All installations of AmBuck™ Insulated Block-Out System must be in accordance with all applicable building codes and/or under the guidance of a licensed professional engineer. In all cases, applicable building code regulations take precedence over this manual.

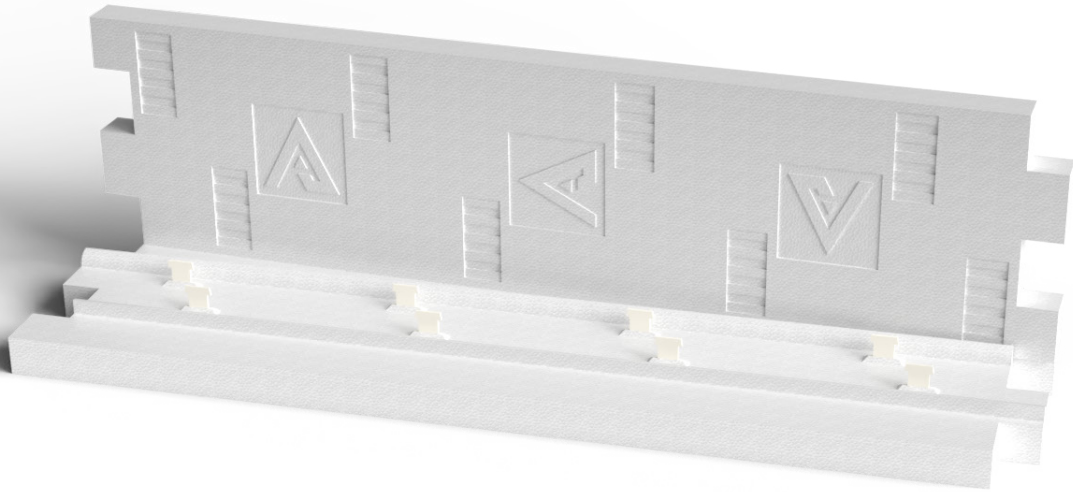
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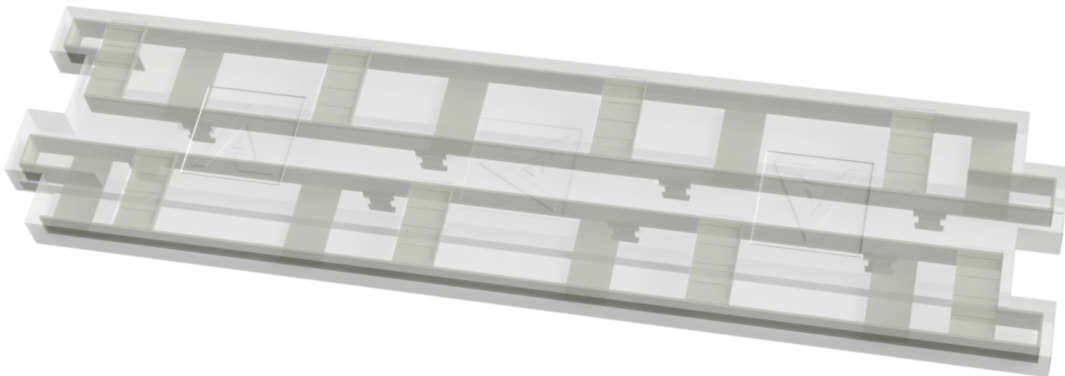
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AmBuck™ Insulated Block-Out System for windows, doors, and end-walls is a stay in place buck formwork manufactured using Type II/ Type 2 closed cell Expanded Polystyrene (EPS) panels, designed for use in ICF construction walls. This system eliminates the need for wood and vinyl block-outs by offering a cost effective and energy efficient solution. AmBuck™ Insulated Block-Out System provides a superior method for creating block-outs in ICF walls, enhancing any ICF project. AmBuck™ Insulated Block-Out System ensures exceptional quality, and reduces construction time. AmBuck™ Insulated Block-Out System allows for easy assembly and can accommodate 6" (152mm) and 8" (203mm) core Amvic™ R22 and R30 ICF systems, in addition to most other 6" (152mm) and 8" (203mm) core ICF systems. AmBuck™ Insulated Block-Out System panels are 2" (51mm) thick, with a nominal length of 48" (1.22m).



The AmBuck™ Insulated Block-Out System panels.



Skeletal view of the AmBuck™ Insulated Block-Out System panel. This image has been altered to highlight the embedded webs.

Panel Calculations

Window Openings

1. Take the perimeter of the rough opening,
2. Add 5% of the perimeter as an allowance,
3. Divide the perimeter with 5% allowance length by 48" (1.22m) to get the number of panels.

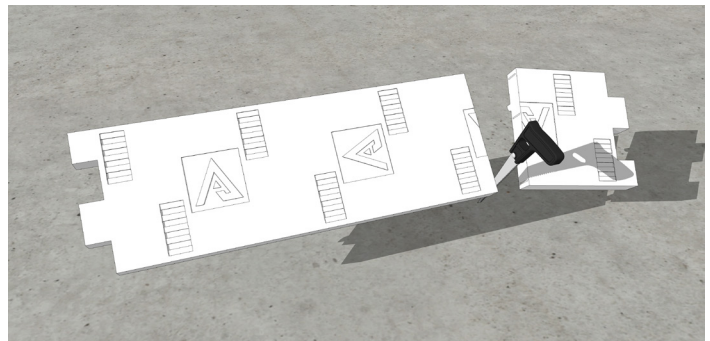
Door Openings

4. Take the rough opening perimeter (excluding the door sill length, if applicable),
5. Add 5% of the perimeter as an allowance,
6. Divide the perimeter with 5% allowance length by 48" (1.22m) to get the number of panels.

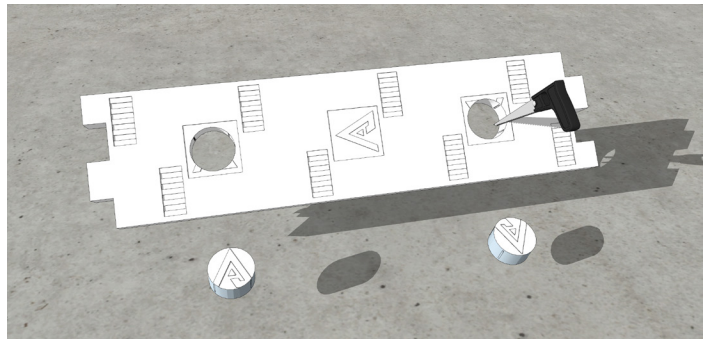


Step 1

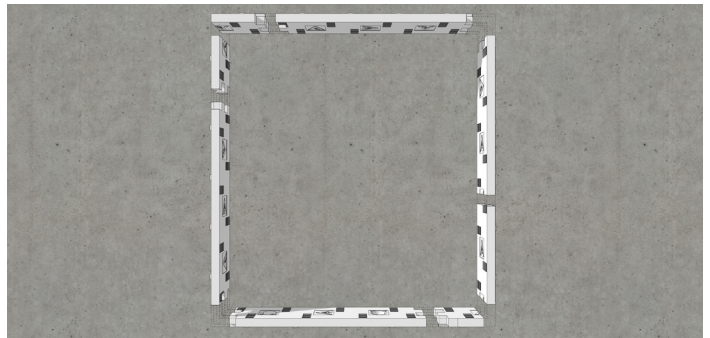
- When incorporating AmBuck™ Insulated Block-Out System panels in your project, aim to use full panels as much as possible.
- When an AmBuck™ Insulated Block-Out System panel needs to be shortened to fit an opening, aim to cut straight edges across the panel.

**Step 2**

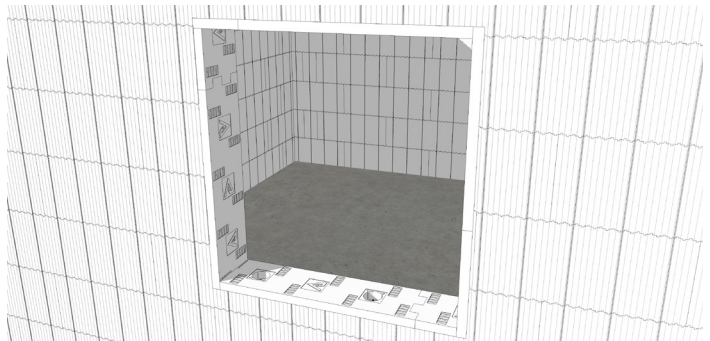
- Cut out openings in the AmBuck™ Insulated Block-Out System panel that will be installed at the rough opening sill, if applicable, based on site conditions.
- Cut-outs can be created at the location of the Alleguard logo's on the panel.
- Cut-outs will allow for easy access when carrying out concrete placement work, and concrete vibrations.

**Step 3**

- Ensure that the AmBuck™ Insulated Block-Out System is cut to size and is able to join together.

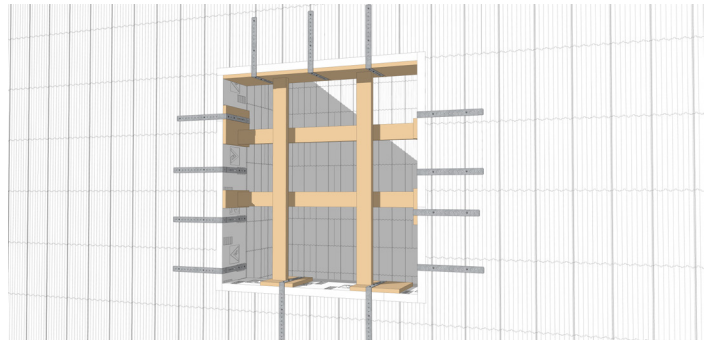
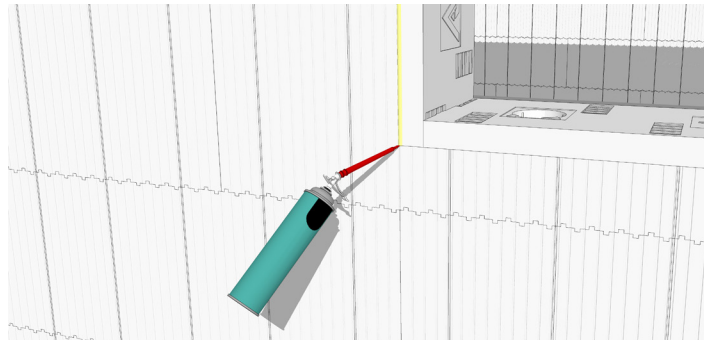
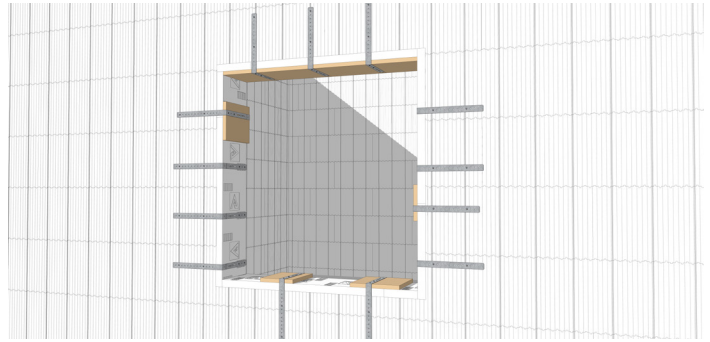
**Step 4**

- Install the AmBuck™ Insulated Block-Out System at the location of the rough opening.
- Ensure that the AmBuck™ Insulated Block-Out System is square, plumb, and check the diagonal, adjust as required.
- It is recommended to install the top AmBuck™ Insulated Block-Out System overlapping the top ends of the side forms, with the bottom sill panels positioned between the lower ends of the side panels, when applicable.

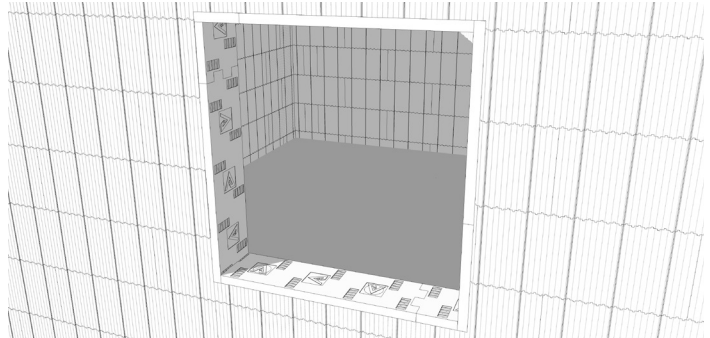


Step 5

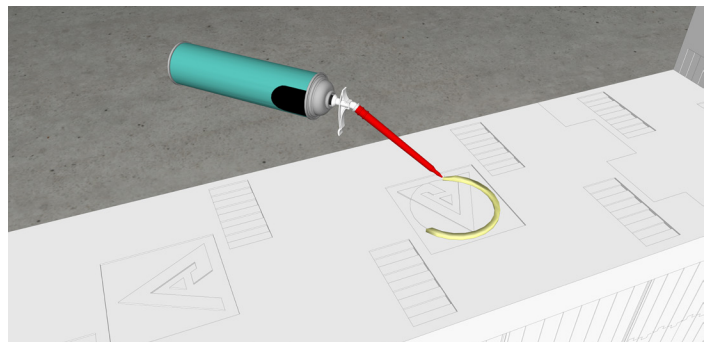
- Install Buck Braces, in addition to horizontal and vertical bracing for additional support, where necessary.
- Apply low expansion spray foam insulation in the cavities between the AmBuck™ Insulated Block-Out System and block ICF, if any, in accordance with the manufacturer's guidelines and installation instructions.

**Step 8**

- Place the concrete within the ICF assembly.
- Remove the bracing after the concrete has cured.
- Proceed with the installations of the frame, as per the manufacturer's guidelines and installation instructions.

**Step 9**

- Reattach the sill cut-out pieces to the AmBuck™ Insulated Block-Out System, when applicable, or fill the void with spray foam insulation.
- Use spray foam insulation around the perimeter, as per the manufacturer's guidelines and installation instructions.
- Trim the excess foam flush once cured and dry.

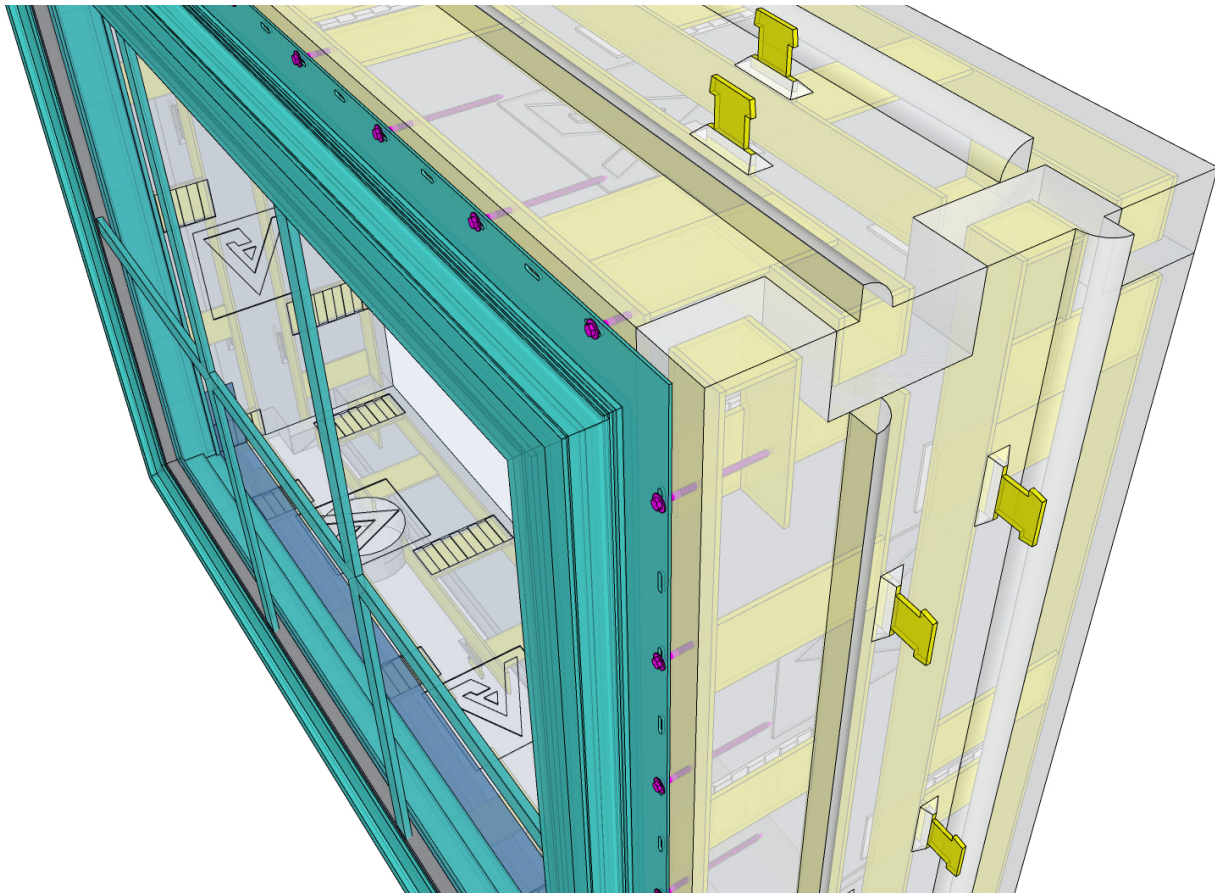


The AmBuck™ Insulated Block-Out System is equipped with webbing that can be utilized to fasten building components such as windows and door frames on both the edge and face of the panel. The embedded webs reduce the need for additional blocking or framing components, creating a more seamless, and efficient installation process.

On the edge of the AmBuck™ Insulated Block-Out panel, the embedded webs create a stable surface to fasten flanged window frames, or similar building components. The edge of the AmBuck™ Insulated Block-Out panel is 50" (1270mm) long and 2" (51mm) high. The webs are embedded ½" (13mm) from the surface of the panels edge, and extend 49" (1245mm) and 1-¼" (32mm) high on center.



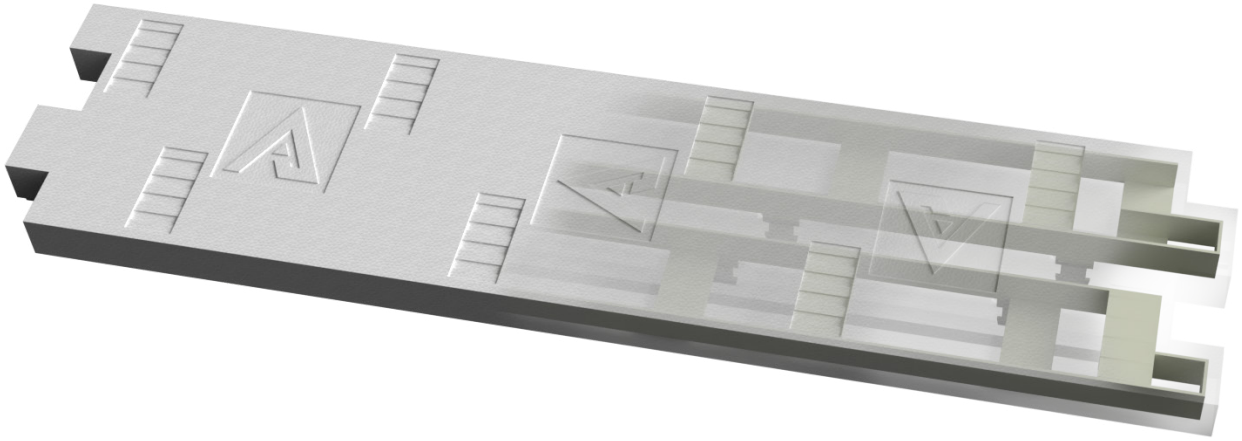
*The edge of the AmBuck™ Insulated Block-Out System panel featuring the embedded web.
This product image has been altered to highlight the product features.*



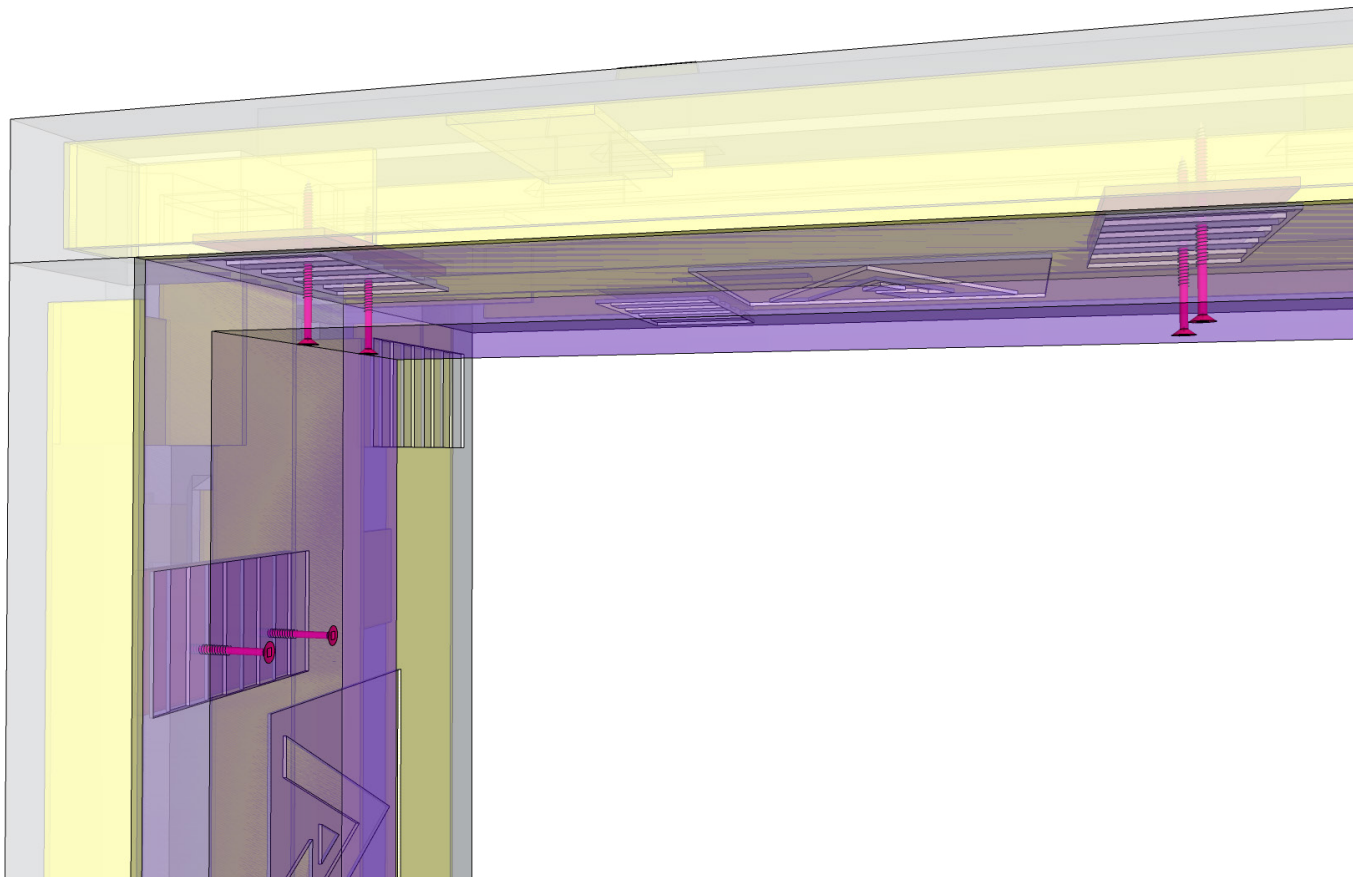
Skeletal view of a flanged window fastened to the embedded webs on the edge of the AmBuck™ Insulated Block-Out System. The colour of the fasteners and the AmBuck™ webs in this image has been changed to highlight the edge-fastening capabilities



On the face of a AmBuck™ Insulated Block-Out panel, the webs can be used as anchoring points. The location of the webs nearest to the face of the panel are identifiable by the recessed channels that are spaced 13-¾ inches apart on center. When installing window or door frames, fasteners can be driven directly into the webs at the location of the recessed channels.



The AmBuck™ Insulated Block-Out System panel featuring the recessed channels that locate the embedded webs nearest to the face of the panel. This product image has been altered to highlight the product features.



Skeletal view of a frame fastened to the embedded webs on the face of the AmBuck™ Insulated Block-Out System. The colour of the fasteners and the AmBuck™ webs in this image has been changed to highlight the face-fastening capabilities



Openings in ICF wall assemblies follow a similar methodology throughout most applications with emphasis on creating a water tight seal, with provisions to drain water away if needed while maintaining the continuity of the thermal, air and vapor planes. Depending on the thickness of the continuous insulation, the installation for some components could be vastly different (e.g. windows) or exactly the same (e.g. pipes).

When an ICF wall assembly, with AmBuck™ Insulated Block-Out System are installed correctly, a vapor barrier and air barrier are created, reducing the need for additional flashing. However, if air and vapor entry is a concern for a given wall opening, additional measures can be taken. The following instructions should be followed in accordance with the manufacturer's guidelines and installation instructions for the openings frame.

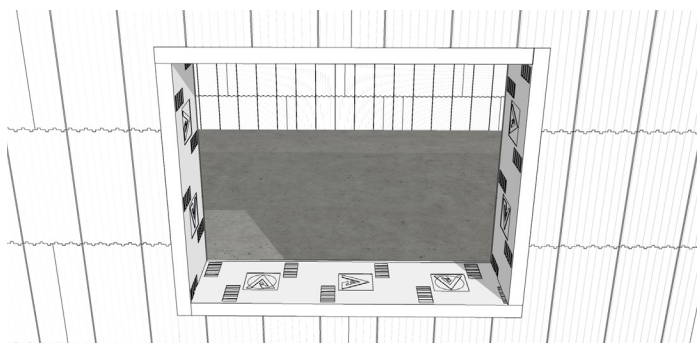
For applications which were not covered by this guide, contact Alleguard's technical services department for assistance.

Flanged Window

The following steps illustrate one type of installation for flanged window with siding. Variations to these steps exist and could be fully acceptable, refer to window manufacturer or window installation standards (CSA A440.4) for more information.

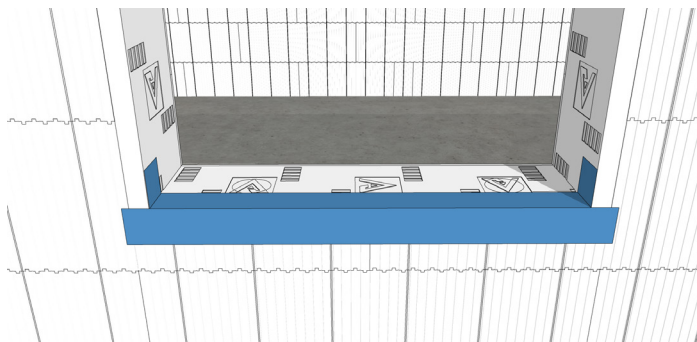
Step 1

- A back-dam or a sloped sill plate (not shown) can be installed, if required.
- Prime the sill area and allow to dry.



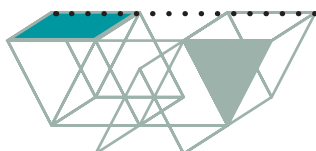
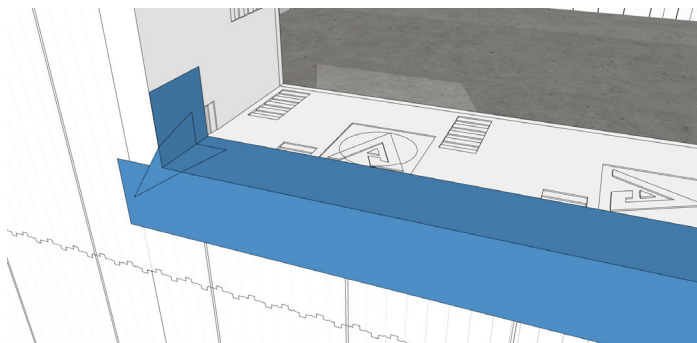
Step 2

- Use a self adhering flashing membrane to field fabricate a sill pan. Create end dam terminations by extending the self adhering flashing membrane up the vertical surface of the jambs at a minimum of 6" (152mm).
- Finish the self adhering flashing membrane with a minimum of 2" (51mm) into the cavity opening. The flashing membrane should extend a minimum of 4" (102mm) onto the face of the wall below the opening.



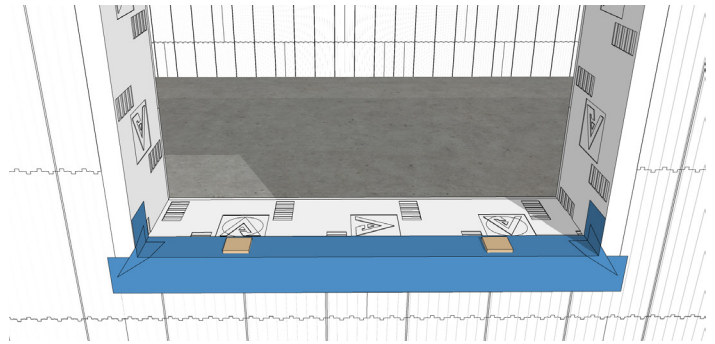
Step 3

- Install self adhering flashing membrane patches/gussets at lower corners.
- Triangular patch rough dimensions are 2x3" (51x76mm).
- Bow tie patch rough dimensions are 3x3" (76x76mm).



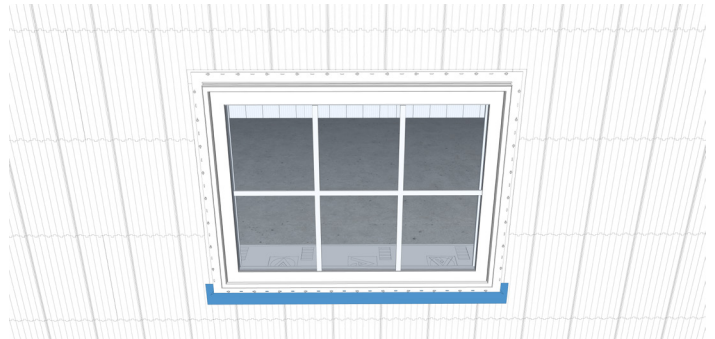
Step 4

- Apply sealant to secure wood blocking in place.
- A gap of $\frac{1}{4}$ – $\frac{5}{8}$ " (6-16mm) on all four sides is required.
- Apply sealant around the perimeter of the opening with notches/breaks under the sill to allow for drainage, as necessary.



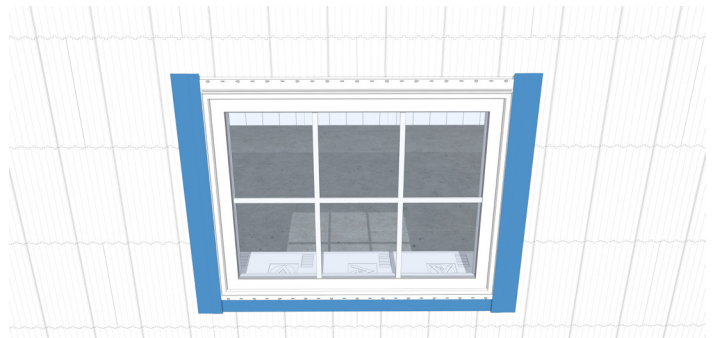
Step 5

- Install the window as per the manufacturer's guidelines and installation instructions.
- Fastener heads should be flush.



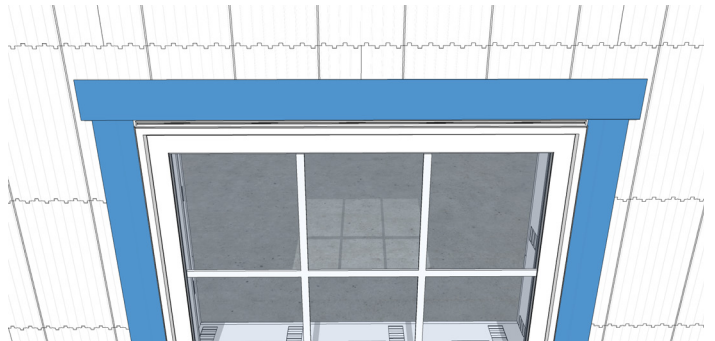
Step 6

- Apply self adhering flashing membrane along the sides of the window.
- Extend the membrane a minimum of 2" (51mm) above the edge of the nail fin/flange.
- Provide a minimum of 2" (51mm) overlap over the sill flashing.



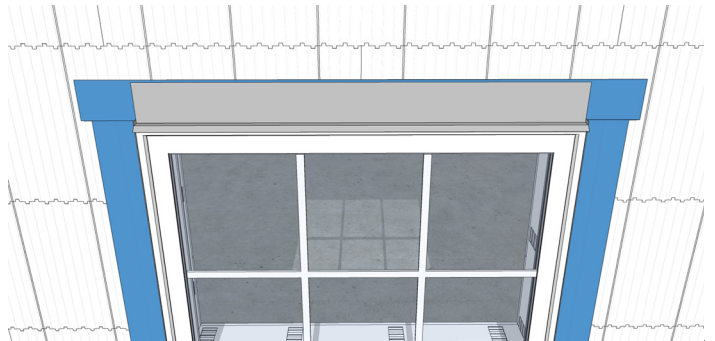
Step 7

- Apply self adhering flashing membrane along the top of the window overlapping the side strips by at least 2" (51mm).
- A roller can be used to make sure membrane strips are properly adhered by removing gaps and bubbles.



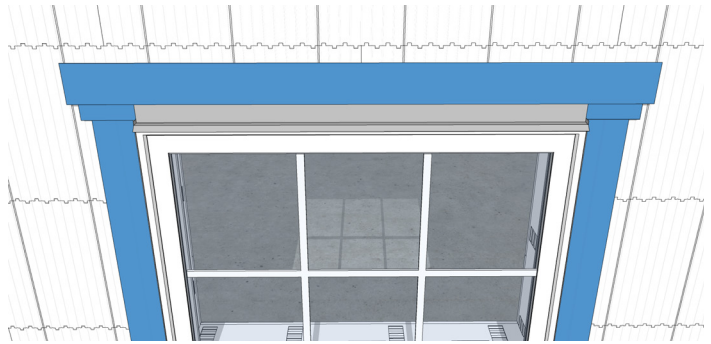
Step 8

- Install preformed metal flashing at the head of the window.
- Apply sealant between the window and the underside of the metal flashing.

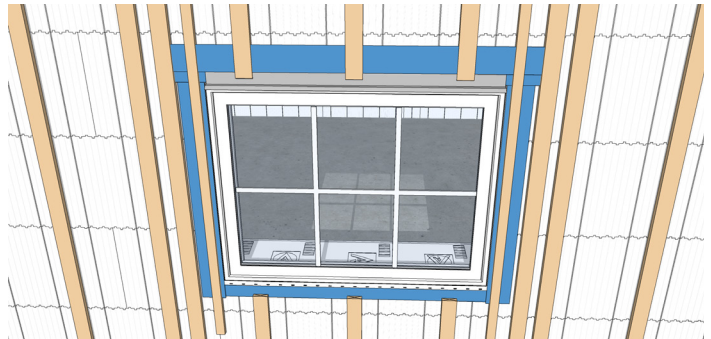


Step 9

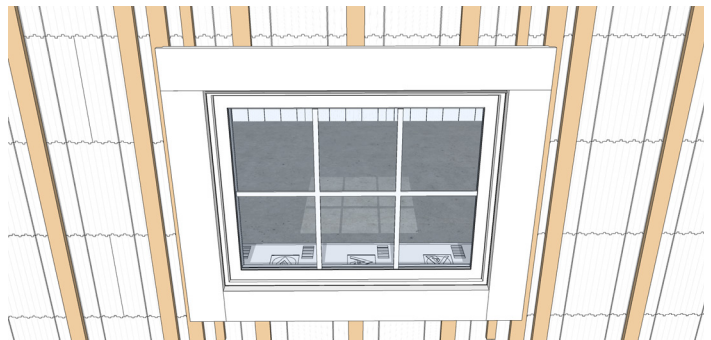
- Seal the leading edge of the preformed metal flashing with self adhering flashing membrane/tape.
- Provide a minimum of 2" (51mm) overlap with the metal flashing and the substrate.
- The flashing membrane should be installed in shingled-styled lapping.

**Step 10**

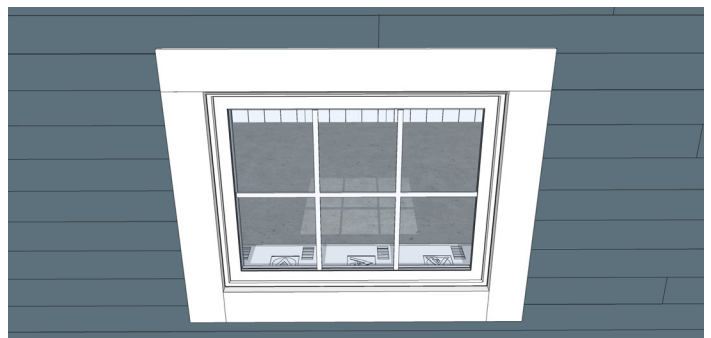
- Install strapping for the siding.
- Provide bug screens at the top and bottom of the strapping, as necessary.

**Step 11**

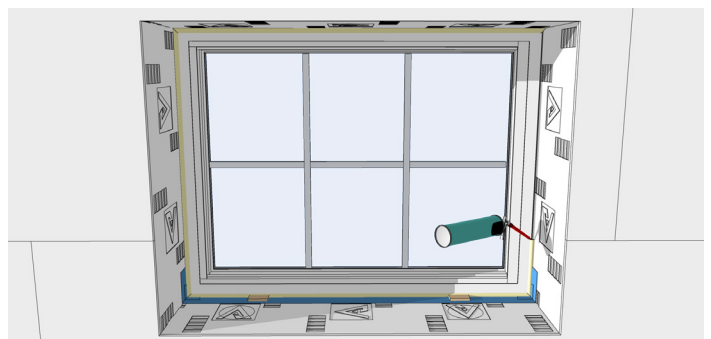
- Install the window trim boards.
- Apply sealant around the perimeter of the window between the frame and the window trim boards.
- Nail the window trim boards together either during or after the installation.

**Step 12**

- Install the exterior wall siding.

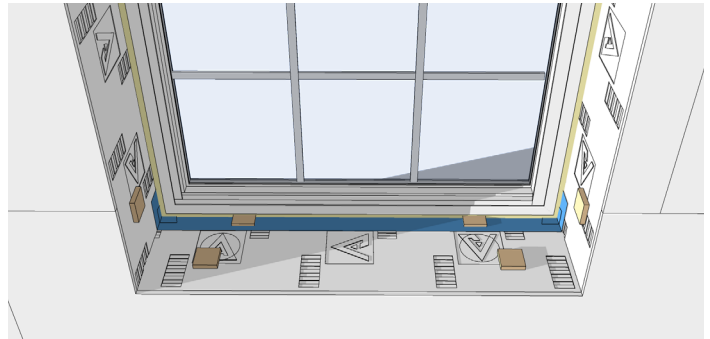
**Step 13**

- Apply a low expansion spray foam insulation in the cavities between the window and the rough opening.
- It is recommended to apply the foam between 40-100°F (4.4-37.8°C) for best results.
- Let the spray foam fully cure and trim it using a sharp knife to be flush with the window frame.

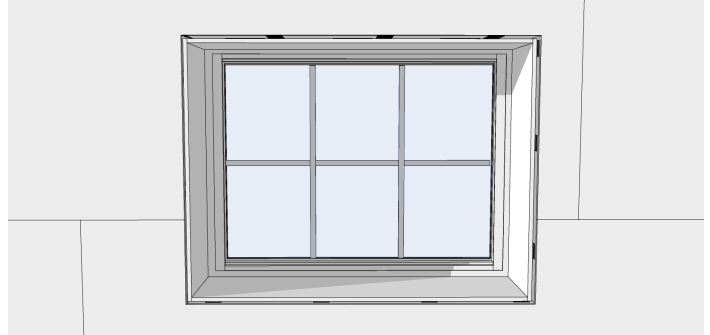


Step 14

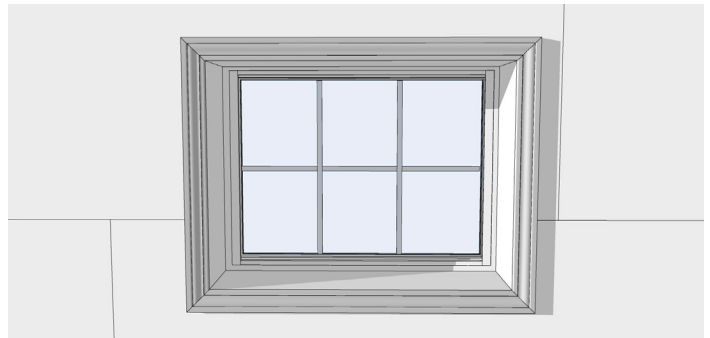
- Install wood blocking/shims around the perimeter to the rough opening.

**Step 15**

- Install the jamb extensions, securing them through the wood blocking to the rough opening.

**Step 16**

- Install the window casing/trim following the interior wall finishing.

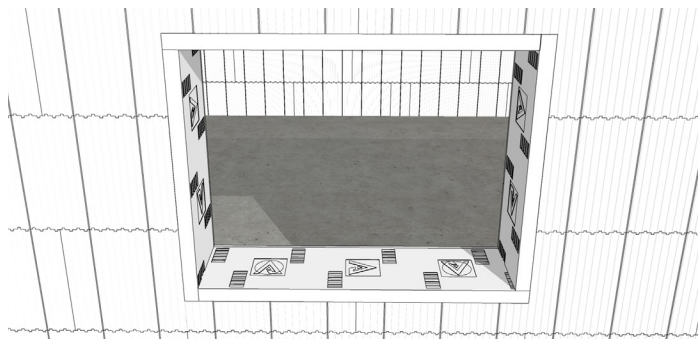


Non-flanged Window

The following steps illustrate a typical installation for non-flanged window with siding. Variations to these steps exist and could be fully acceptable, refer to window manufacturer or window installation standards (CSA A440.4) for more information.

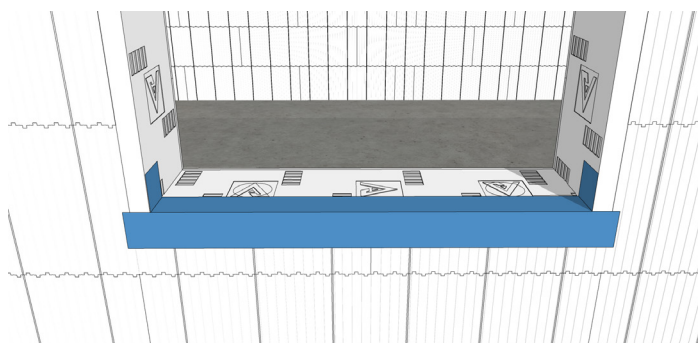
Step 1

- A back-dam or a sloped sill plate (not shown) can be installed, if required.
- Prime the sill area and allow to dry.



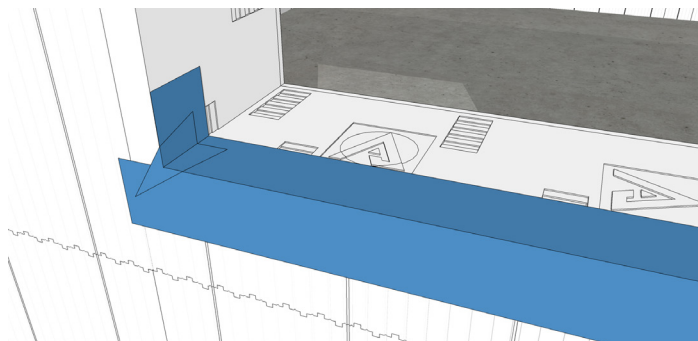
Step 2

- Use a self adhering flashing membrane to field fabricate a sill pan.
- Create end dam terminations by extending the self adhering flashing membrane up the vertical surface of the jambs at a minimum of 6" (152mm).
- Finish the self adhering flashing membrane with a minimum of 2" (51mm) into the cavity opening.
- The flashing membrane should extend a minimum of 4" (102mm) onto the face of the wall below the opening.



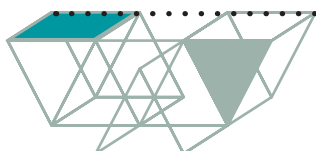
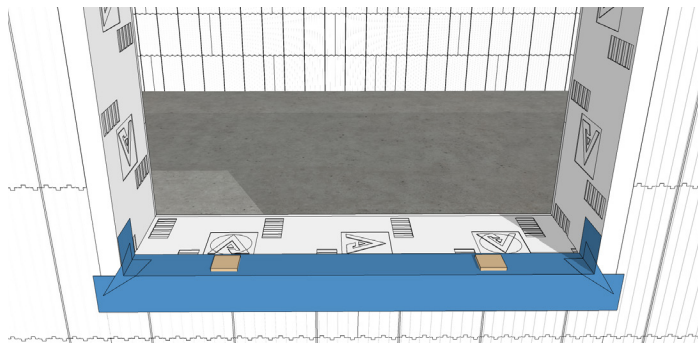
Step 3

- Install self adhering flashing membrane patches/gussets at lower corners.
- Triangular patch rough dimensions are 2x3" (51x76mm).
- Bow tie patch rough dimensions are 3x3" (76x76mm).



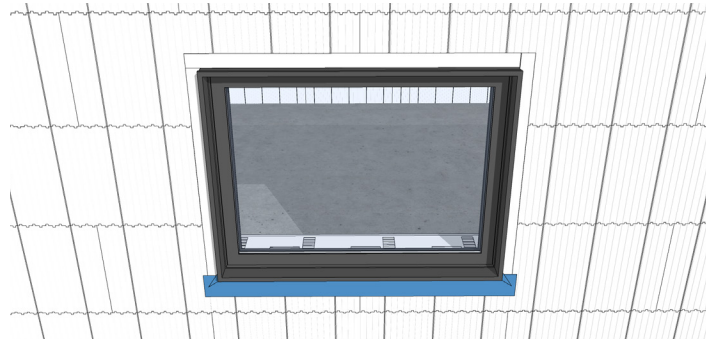
Step 4

- Apply sealant to secure wood blocking in place.
- A gap of $\frac{1}{4}$ - $\frac{5}{8}$ " (6-16mm) on all four sides is required.
- Apply sealant around the perimeter of the opening with notches/breaks under the sill to allow for drainage, as necessary.

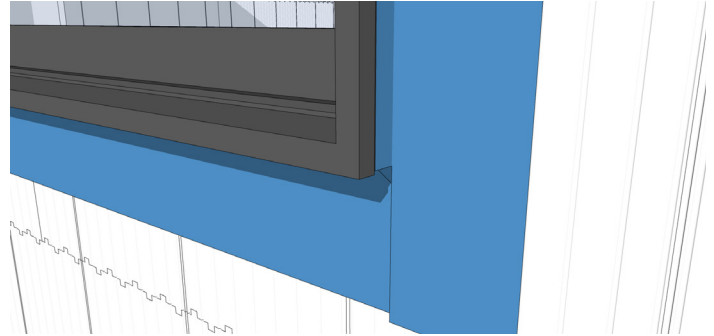


Step 5

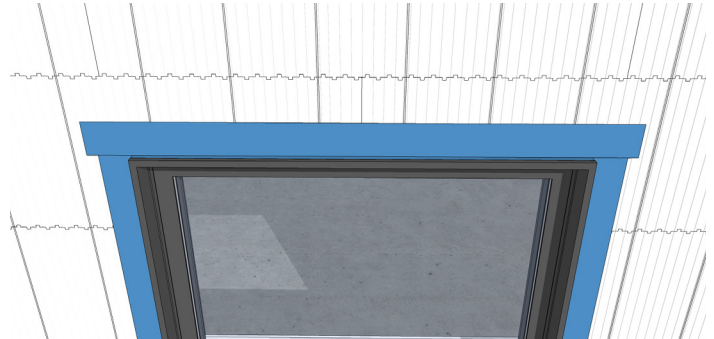
- Install the window as per the manufacturer's guidelines and installation instructions.
- Boxed style window will fasten directly into the rough opening through the frame or with metal clips/plates.
- Depending on the window frame type and depth of window installation, exterior jamb extensions may be required.

**Step 6**

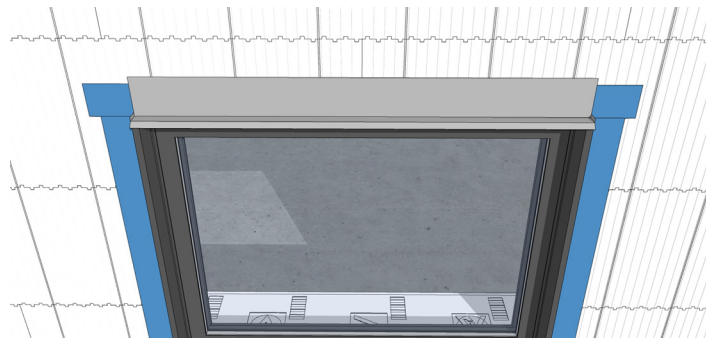
- Apply self adhering flashing membrane along the sides of the window.
- Use pre-folded/bent tape or fold the tape on site. Flashing membrane/tape should adhere a minimum of $\frac{5}{8}$ " (16mm) onto the window frame, spanning over the gap, with the rest of the tape width adhering to the substrate surface.
- Sufficient pressure must be used to ensure proper adhesion to both surfaces.
- Extend the membrane a minimum of 2" (51mm) above the edge of window frame.
- Provide a minimum 2" (51mm) overlap over the sill flashing.

**Step 7**

- Apply self adhering flashing membrane along the top of the window overlapping the side strips by at least 2" (51mm).
- Use pre-folded/bent tape or fold the tape on site. Flashing membrane/tape should adhere a minimum of $\frac{5}{8}$ " (16mm) onto the window frame, spanning over the gap, with the rest of the tape width adhering to the substrate surface.
- Sufficient pressure must be used to ensure proper adhesion to both surfaces.
- Ensure corners are properly sealed.

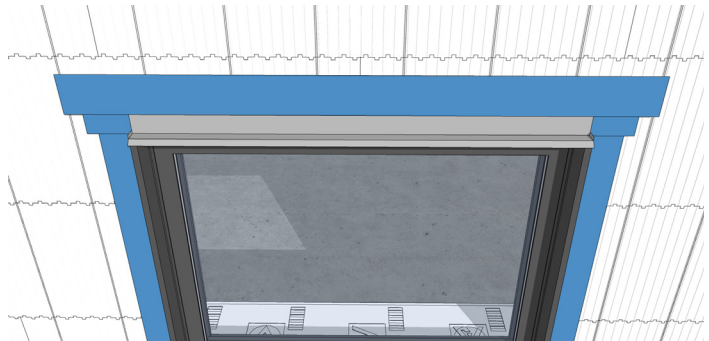
**Step 8**

- Install preformed metal flashing at the head of the window.
- Apply sealant between the window and the underside of the metal flashing.

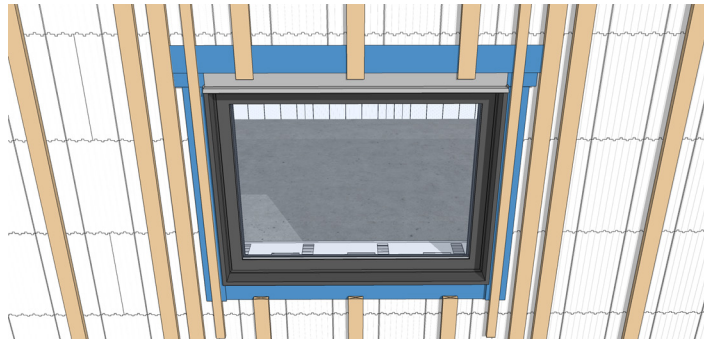


Step 9

- Seal the leading edge of the preformed metal flashing with self adhering flashing membrane/tape.
- Provide a minimum of 2" (51mm) overlap with the metal flashing and the substrate.
- The flashing membrane should be installed in shingled-styled lapping.

**Step 10**

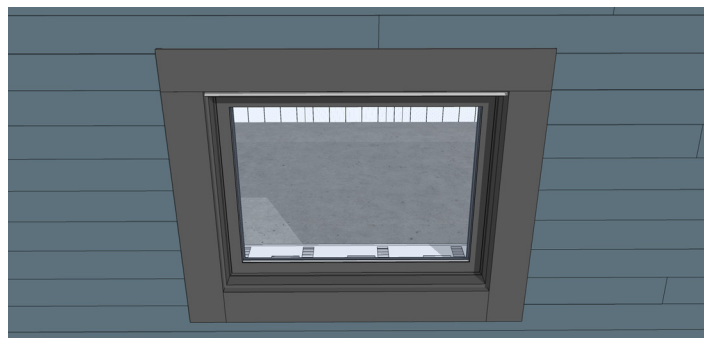
- Install strapping for the siding.
- Provide bug screens at the top and bottom of the strapping, as necessary.

**Step 11**

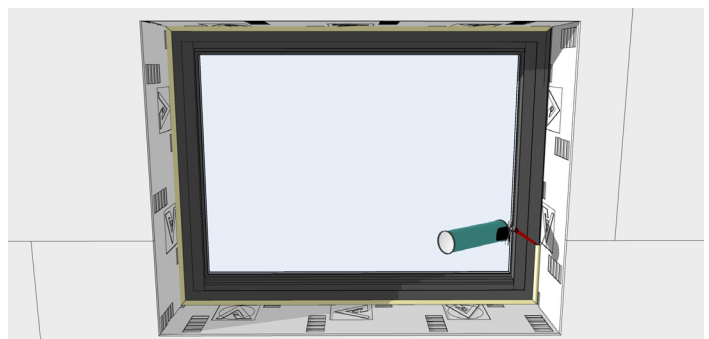
- Install the window trim boards.
- Apply sealant around the perimeter of the window between the frame and the window trim boards.
- Nail the window trim boards together either during or after the installation.

**Step 12**

- Install the exterior wall siding.

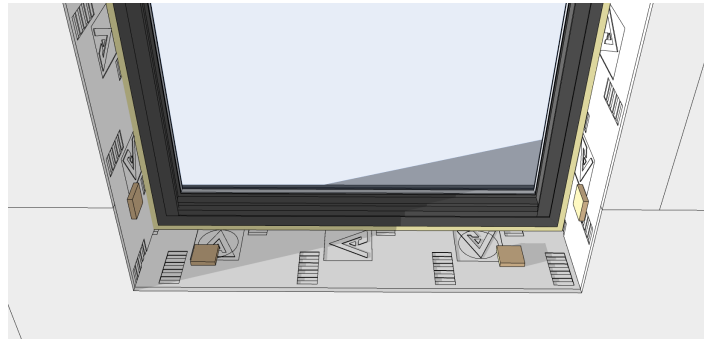
**Step 13**

- Apply a low expansion spray foam insulation in the cavities between the window and the rough opening.
- It is recommended to apply the foam between 40-100°F (4.4-37.8°C) for best results.
- Let the spray foam fully cure and trim it using a sharp knife to be flush with the window frame.

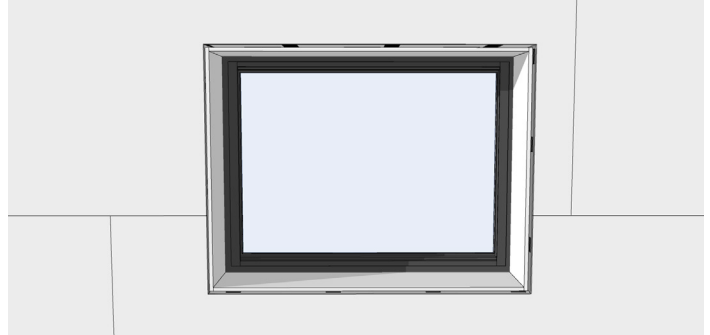


Step 14

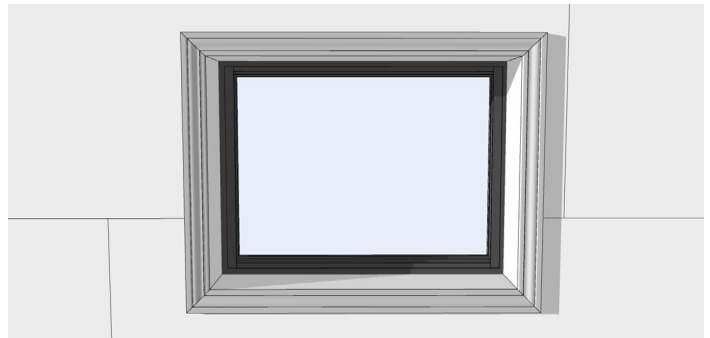
- Install wood blocking/shims around the perimeter to the rough opening.

**Step 15**

- Install jamb extensions, securing them through the wood blocking to the rough opening.

**Step 16**

- Install the window casing/trim following the interior wall finishing.

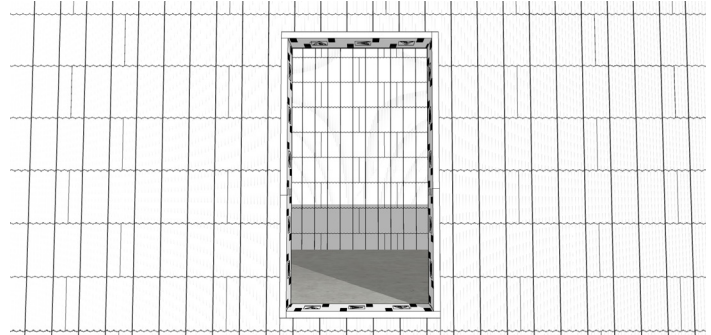


Swing and Sliding Doors

The following steps illustrate a typical installation for an exterior swing and sliding doors with siding. Variations to these steps exist and could be fully acceptable, refer to window & door manufacturer or door installation standards (CSA A440.4) for more information.

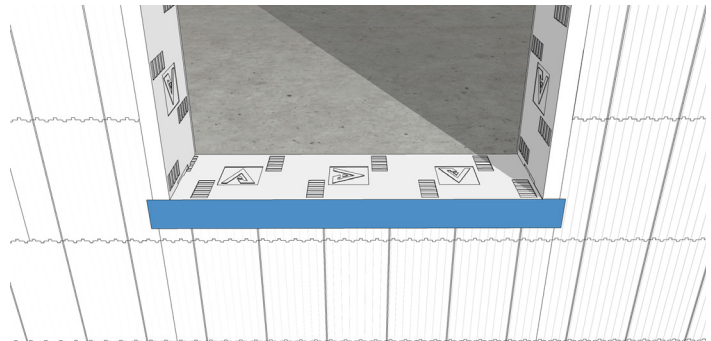
Step 1

- Prime the sill area and allow to dry.



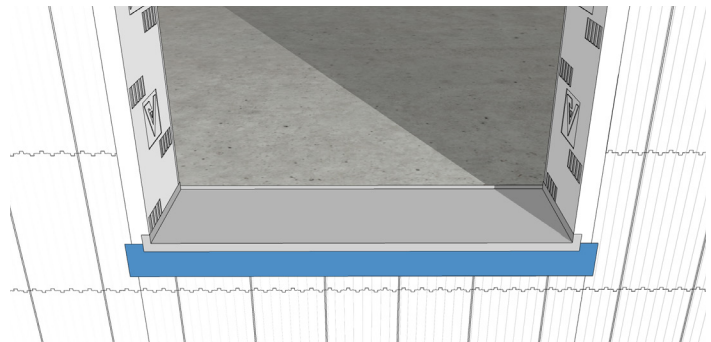
Step 2

- Apply self adhering flashing membrane along the bottom of the opening.
- Extend the membrane a minimum of 4" (102mm) on the face of the insulation.



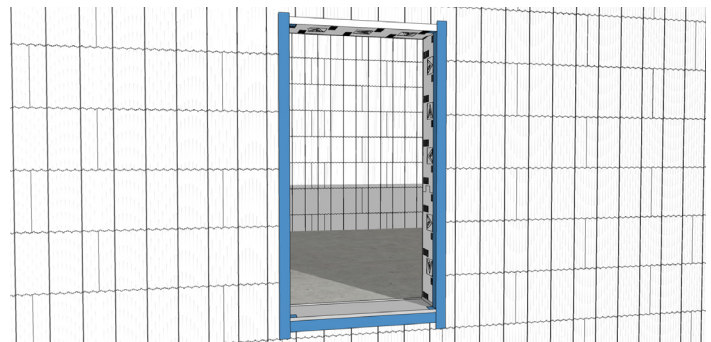
Step 3

- Install and seal pan flashing along the bottom of the opening.



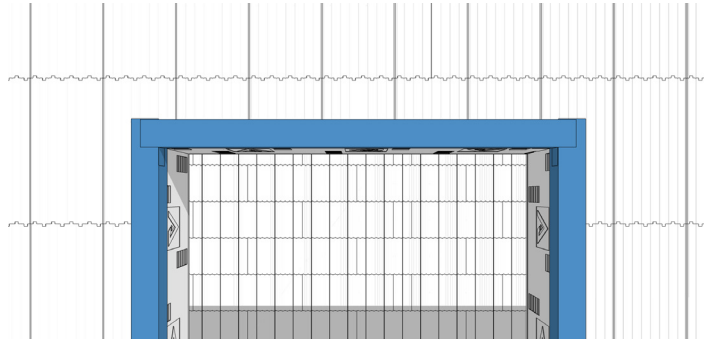
Step 4

- Apply self adhering flashing membrane along the sides of the opening.
- Extend the self adhering flashing membrane a minimum of 4" (102mm) on the face of the insulation and door opening jambs.
- Provide a minimum of 1" (51mm) overlap over the pan flashing.



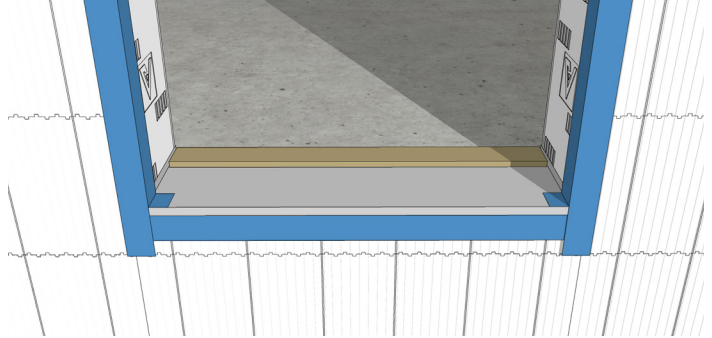
Step 5

- Apply self adhering flashing membrane along the top of the door opening.
- Extend membrane a minimum of 4" (102mm) on the face of the insulation and door opening jambs.
- Provide a minimum of 2" (51mm) overlap over the jamb flashing.



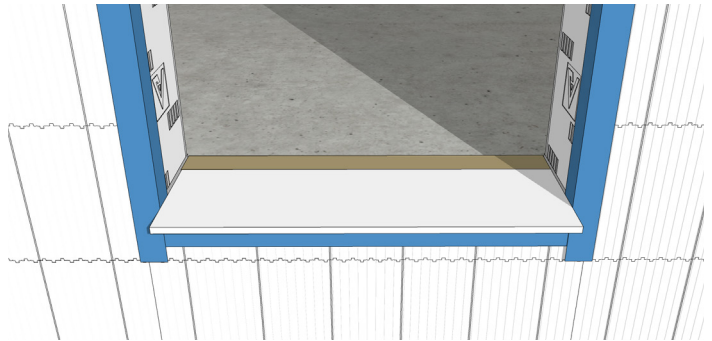
Step 6

- Install a pressure treated subsill.
- Apply sealant to secure the subsill to the pan flashing.



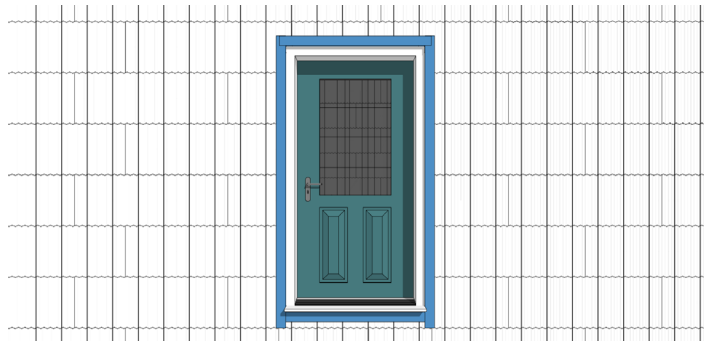
Step 7

- Install a pre-finished sill extension.
- Provide a minimum slope of 2% for drainage.



Step 8

- Install the door as per the manufacturer's guidelines and installation instructions.
- Apply two sets of sealant beads to the threshold.



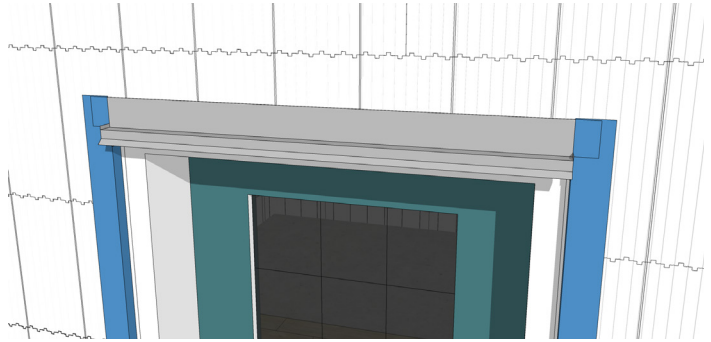
Step 9

- Install a backer rod and sealant around the exterior perimeter of the door frame.

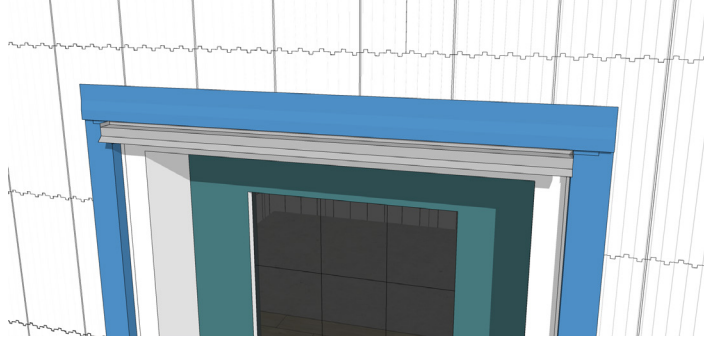


Step 10

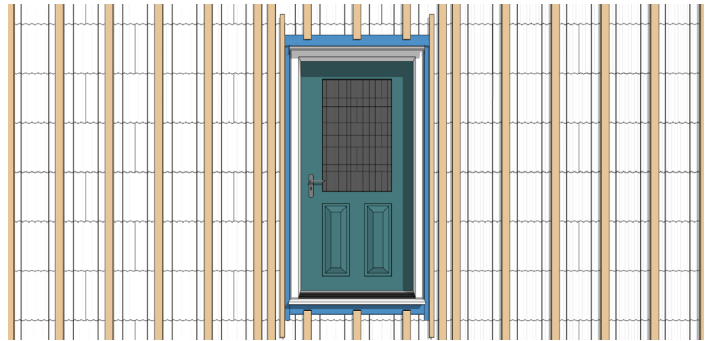
- Install a preformed metal flashing at the head of the door.

**Step 11**

- Apply a self adhering flashing membrane to seal the leading of the metal flashing.
- Provide a minimum of 2" (51mm) overlap with the metal flashing and the substrate.

**Step 12**

- Install strapping for the siding.
- Provide bug screens at the top and bottom of the strapping, as necessary.

**Step 13**

- Install the door trim boards and returns.
- Nail the door trim boards together either during or after the installation.
- Apply sealant between the door frame, trim boards and sill extension.

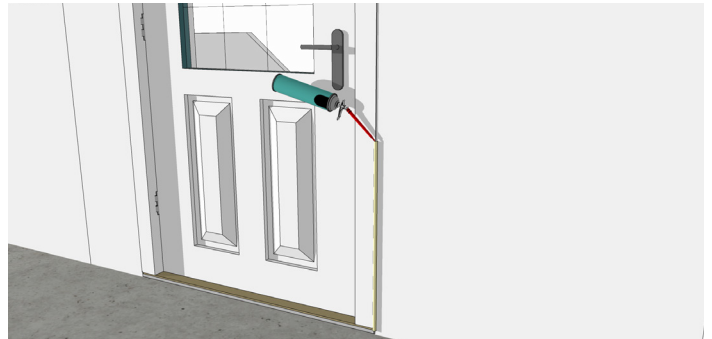
**Step 14**

- Install the exterior wall siding and finishes in accordance with the manufacturer's guidelines.



Step 15

- Apply low expansion spray foam insulation in the cavities between the door and the rough opening.
- It is recommended to apply the foam between 40-100°F (4.4-37.8°C) for best results, see manufacturer requirements.
- Let the spray foam fully cure and trim it using a sharp knife to be flush with the door frame.

**Step 16**

- Install the door casing/trim following the interior wall finishing.



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The AmBuck™ Insulated Block-Out System is a stay in place buck formwork that is an effective approach to creating block-outs in ICF walls. Competitive pricing, extensive product distribution and excellent technical support are combined to provide our clients with a simplified approach to a superior finished product. If any questions or concerns are not completely addressed in this manual, please contact us and our staff will be happy to answer any question. At Alleguard, we pride ourselves in offering our customers an exceptional level of customer service.

Disclaimer

Information contained in this document is provided as a guideline only, without any warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, and freedom of infringement.

This document provides a basic guide for installation of AmBuck™ Insulated Block-Out System and is intended to supplement, rather than replace, the basic construction knowledge of a construction professional. All installations of the AmBuck™ Insulated Block-Out System must be in accordance with all applicable building codes and/or under the guidance of a licensed professional engineer. In all cases, applicable building code regulations take precedence over this manual.

Technical Support

Please contact us for any inquiries pertaining to information included in this guide, or if you require any other technical assistance.

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