ROK-ON™
Insulated Building Systems

ROK-ON™ Structural Insulated Sheathing (SIS)

Installation Guide

ROK-ON™ SIS Installation Document



System Description:

The building codes for fire and energy performance have become more demanding, which is adding additional cost and complexity to the external building envelope. ROK-ON™ is designed to reduce or eliminate steps to create a code compliant wall, with far superior performance and installed faster compared to traditional solutions.

ROK-ON™ Structural Insulated Sheathing (SIS) consists of one layer of ROK-ON™ FRCC 12mm structural sheathing and a layer of 6mm FRCC bonded to an insulating EPS foam core. The sheathing panel is R-10.5, exceeding the requirements for continuous insulation in the building code across North America.

ROK-ON™ SIS is non-combustible, will not rot, will not support mold or mildew, is water resistant, impact resistant and bug-proof. The sheathing panel is easy to install and requires no special tools or trades. It is designed to attach directly to steel or wood framing like other sheathings, (OSB or gypsum.)

The system allows for tremendous architectural flexibility. It can accept and hold fasteners for cladding attachment and accept direct applications of stuccos and brick/stone veneers.

ROK-ON™ has been installed on residential towers, hospitals, apartments, hotels, commercial building and housing, on buildings up to 14-stories. The constructability and installation are well understood. Please contact a ROK-ON™ representative with any questions regarding installation or this document.

General Requirements:

The installation guidelines herein are only informational in nature and may not be appropriate for use in all applications. It is the sole responsibility of the architect, or specifier to identify risks associated with any particular building design and to make any appropriate adjustments, or modifications to the installation guidelines below. ROK-ON™ installation and any modifications should always be done according to appropriate building codes. ROK-ON™ requires that the SIS be covered with finishing coats within 180 days of its installation.

Quality Assurance:

Each panel of ROK-ON™ SIS is stamped with its quality assurance mark. This certifies that ROK-ON™ has passed its stringent quality control program.

The stamp also certifies that ROK-ON™ has been tested as non-combustible (ASTM E136) and has a 0 Flame / 0 Smoke rating (ASTM E84).

Delivery Storage and Handling

- Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- Off-load products from truck and handle using forklift or other means to prevent damage.
- All ROK-ON™ products should be stored horizontally and shall be fully supported in storage and prevented from contact with the ground. Stack on pallets or on supports at a maximum of four feet on-center.
- All products shall be fully protected from weather. Protect against exposure to rain, water, dirt, mud, and other residue that may affect performance. Cover with breathable protective wraps. Products shall be stored in a protected area.

ROK-ON Building Systems is not responsible for the improper use, design, or materials in construction.

INSTALLATION

Step 1: Cutting ROK-ON™ SIS / FRCC

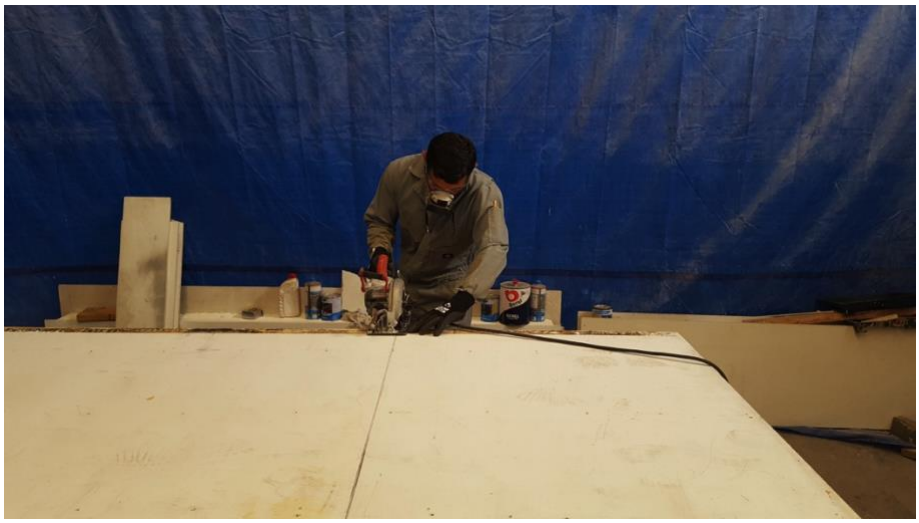
Panels or boards can be cut using normal tools to include circular saws, table saws, or miter saws. There are no special requirements.

- Ensure any debris is removed (dirt, etc.) from the panel before cutting if necessary. It can simply be washed off.

- While there are no harmful ingredients in the materials, cutting the panels does create dust. Always cut the panels in a well-ventilated area.

- ***Always use a dusk mask and eye protection when cutting. Dust collection systems are recommended when cutting indoors.***

- As the panel is 2.75 inches thick, most straight perpendicular cuts can be made with most saws, including 8 ¼" circular saws. 45-degree cuts for corners are most easily accomplished with 10" blades. A 40-tooth blade is recommended. (Diablo)



Drilling ROK-ON™ SIS

- Openings can be made with most common tools, including power drills, jig saws, Roto Zips, routers, and key-hole saws. There are no special requirements. Use carbide-tipped blades when possible.

- ***Always wear a proper dust mask when cutting or drilling ROK-ON™. While there are no harmful ingredients in the product, dust can be harmful. Dust collection systems are recommended when cutting indoors.***

- Eye protection and gloves are recommended to prevent injuries.

- All penetrations should be protected to prevent air and water infiltration. Follow building code, door/window manufacturer or design authority's recommendations for flashing around openings, abutments to dissimilar materials and wall terminations.

Step 2: Panel Placement:

ROK-ON™ Structural Insulated Sheathing can be attached to the frame on the job site or in a prefabricated environment. ROK-ON™ SIS can be installed on any conventional framing system, wood or steel. For installations on concrete or CMU contact ROK-ON™.



Positioning

- ROK-ON™ has a ½" (12mm) front face and a ¼" (6mm) back face. The panel should ***always*** be installed so that the 6mm face is next to the studded frame and the 12mm face is towards the exterior of the wall. This is to ensure maximum fire protection while providing the best wind load characteristics
- The panel should be leveled and screwed to the supporting studs with approved fasteners. (see below)
- Work from the perimeter to the inside of the wall when possible during installation.
- The panels must be "butted" against one another during installation, so any gap between panels is minimized. Any gap should be less than 3mm. If a larger gap exists, remove panel and cut to straight edge again before reinstalling.
- The sheathing can be attached to the frame both horizontally or vertically.
- Apply a galvanized starter strip at the bottom of the wall assembly, or as code requires. (Use architectural drawings for specifications and placement details)
- Fit sheathing snuggly around window and door openings.
- Sheathing shall be flashed at all openings (head, sill, etc.) and all roof/wall intersections (step, kick out, etc.) so water intrusion will not contact the sheathing.
- The location and design of control joints are the responsibility of the design professional of record according to the building codes.

End Caps

It is recommended that where the foam core of the panel is ***permanently*** exposed to the elements, it is protected. This can be with metal flashings, direct applied stucco or veneers, or with a protective layer of our ROK-ON™ FRCC board, which is available with the system.

This is not required in the "field" of the assembly, where panels should be butted together as tightly as possible. Follow the manufacturers recommended installation instruction. If using a layer of ROK-ON™ FRCC board, please follow the steps below.

The ROK-ON™ end caps come precut to the panel width and are easily installed using a metal inset, (also supplied).

- The metal inserts are tapped into place between the face sheets of the panel. Inserts need to be applied approximately every 2 feet. Make sure to position them at least 2" away from corners.

- The metal insert is then attached to the panel by fasteners screwed through the ½" face sheet of the board into the metal insert (#8 1" SDS galvanized screw).

- The end cap is attached to the metal inserts using the same fastener. Where two end caps come together, the joint can be placed over one metal insert, if possible.

- The end cap needs to be attached on both ends.

The ROK-ON™ FRCC board can also be used for window bucks and openings. Here the board covers not only the foam core but can go all the way back to framing if necessary. (This depends on the window style and details for the building.) This can simply be screwed onto the frame again using a #8 1" galvanized SDS screw.

Please contact ROK-ON™ representative with any questions regarding the requirements for foam protection, or the installation of end caps.

Corners

Corners can be attached to the frame in 3 different ways, depending on the building design, or preference of the installer.

- Panels can be simply butted together, creating the corner. This leave one edge of the panel's foam exposed that can be covered with finishes, or an FRCC end cap, which leaves no issues with regards to the performance or finishing of the panel. This is the preferred method. If an end cap is needed, please refer to the ROK-ON™ end cap installation guide. Contact ROK-ON™ for more information.

- As the panels are easily cut, both edges of the corners can be cut at a 45-degree angle. Be sure when attaching to the framing that the fasteners are no closer than 3/8" from the edge of the panel.

- The back edge of one of the panels can be trimmed the width of a panel, leaving only the ½" FRCC face, which when butted together with another panel, will go over the foam and create the corner. This is done by setting the saw blade depth so that it will cut the back of the panel, but not the face. Once cut, the excess material (foam and ¼" board) is easily removed using a scraper or putty knife.

Fastening Details

- ROK-ON™ SIS can be installed on both conventional wood and steel framing. Contact ROK-ON™ for fastening details on concrete or CMU.

- Fastener dimensions are dependent on the thickness of the ROK-ON™ SIS to be installed and the substrate (wood or steel framing). Always ensure adequate penetration to the framing material. Use fastener manufacturers' recommendation for penetration details.

- Use only ROK-ON™ approved fasteners. (see below)

Typical Fastener Schedule for ROK-ON™ Structural Insulated Sheathing

Location	Structure	Fastener Type	Spacing
Exterior Wall	Wood Framing	4 ½" #10 Galvanized self-tapping, course thread, wood screw with nibs	8" Perimeter 12" Field or as engineered for wind loads.
Exterior Wall	Steel Framing	3 ½" # 12 Galvanized Self-Drilling Counter-sinking Screw w/ Nibs.	8" Perimeter 12" Field or as engineered for wind loads.

Steel Studs - #12 3 ½" SDS counter-sinking galvanized screw with nibs.

Wood Studs - #10 4 ½" counter-sinking galvanized or coated wood screw with nibs.

- Position Fasteners no closer than 3/8" from the edge of the panel.
- The use of power drills is preferred in fastening.
- **IMPORTANT!** Set the torque so that the fastener is driven just past flush with the panel surface but not allowed to penetrate entirely through the FRCC face. ***Do not allow screws to pass through the initial 12mm board on the panel.***

Project Conditions:

- While the panel can be installed in any temperature, air and surface temperatures for joint sealing, waterproofing, and finishing applications must meet the manufacturers specifications.
- All sheathing or panel substrates should be handled and installed in accordance with code requirements and manufacturer recommendations.
- Ensure that all roof-to-wall flashings, wall to deck flashings, run-off diverters (i.e. kick-outs), or other penetration flashings, are installed where required. Particular attention must be paid to the eaves/chimney intersections, sloped roof/wall intersections, decks and windows.
- Protect surrounding areas and surfaces during installation.
- The materials shall be fully dry prior to installation of sealant materials (typically 24 hours). Humid or cool conditions may require longer drying times.

Step 3: Protecting the Sheathing from Moisture:

The ROK-ON™ SIS system, allows for multiple layers of moisture protection at the face of the envelope. This ensures redundancy in the prevention of water through the joint or penetrations.

While the ROK-ON™ SIS sheathing is water resistant, it does need to be protected over the long term with some sort of air/water barrier. This can be in the form of a fluid applied AWB, a house wrap (like Tyvek®) or a peel and stick membrane (Vaprosheild®, Tyvek® Soprema®, Henry's Blueskin™ or similar). In the case where stucco or direct applied brick or stone veneers are used, the cementious base coat can act as the moisture protection.

Before applying any moisture protection, ensure the face of the panel is free of dust or debris. While many types of air/water barriers have been used, test for adhesion before any widespread application.

All joints and through-panel penetrations in the ROK-ON™ system must be protected as describe below. This can be accomplished in several different ways and depending on the product used and the final architectural finish desired.

Finishing the joint between sheets of ROK-ON® SIS:

1. If the wall panel has a peel and stick air/water barrier or wrap over the entire face of the wall assembly (Vaprosheild®, Tyvek® Soprema®, Henry's Blueskin™ or similar), it can be used to protect the joints and penetrations, without extra steps. Follow all manufacturers installations instructions.

2. Where the wall assembly does not have a peel and stick membrane or wrap, a caulking gun can be used to fill the joint with an outdoor approved exterior polyurethane caulk. Scrape off any excess to ensure a flat surface.

3. An alternative method to water-protect the joint is to apply a 4" strip of a code approved adhesive tape followed by an application of a fluid applied air/water barrier over the tape using a 4" roller. Must meet criteria and standards of the ICC ES AC212. (BASF® Enersheild®, Parex® WeatherSeal, or equivalent.)

   a. Simply apply a layer of the air/water barrier down the joint using a 4" medium roller.

   b. Ensure that there is an adequate amount applied to the joint to fully fill any gap between panels.

   c. Ensure that the material is applied to the full 4". Roll flat so there are no excessive blobs on panel.

   d. Follow the manufacturer's instructions.

4. Liquid applied products like Dryvit® AquaFlash and FastFlash® (or similar) also work well for joints and penetrations. Follow all manufacturers installation guidelines.

5. A code approved “peel and stick” air/water barrier tape is also acceptable in lieu of a fluid applied product. Follow manufacturer’s instructions.

6. Corners joints are finished in a similar fashion.

7. ***For a stucco finish***, a two-part elastomeric stucco system is recommended. The joint can be finished by applying a 4 oz. per yard, adhesively backed, 6” fiberglass mesh to the corner and finishing it with a layer of the “basecoat” in the two-part stucco system. Use the manufacturers specifications and installation details.

8. All warranties for joint protection or air/water barriers are the responsibility of the manufacturer.

ROK-ON™ Exterior FINISHING Instructions:

ROK-ON™ has ½” FRCC skin that can also accept fasteners for cladding attachment. (See ROK-ON™ specification document for tested fastener pull-out and pull-through values). The panel can also accept direct applications of stucco or brick/stone veneers.

Prior to finishing great care must be taken to make sure all joints, penetrations, and the field are properly sealed as noted above. Once this has been accomplished, the final architectural finish can be applied.

- Follow the manufacturers installation instructions and requirements.

- Make sure a registered architect or engineer approves the finish, according to building codes. (ROK-ON™ assumes no risk or liability in the finishing of the panel.)

- Warranty of the finish materials is supplied by its manufacturer. ROK-ON™ assumes no risk or liability.

Always follow manufacturer’s specification and installation instructions. Finish warranty supplied by manufacturer.

For any questions, please contact ROK-ON™ at www.rok-on.com

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