**ROK-ON™ Building Systems**

**600 Lake St.**

**Silver Springs, NV. 89429**

Specifier Note: The purpose of this performance guide specification is to assist the specifier in correctly specifying ROK-ON™. The specifier needs to edit these guide specifications to fit the needs of each specific project. Contact a ROK-ON™ REPRESENTATIVE to assist in appropriate product selections.

**SECTION 06 16 13 – STRUCTURAL INSULATED SHEATHING (SIS)**

1. GENERAL
	1. SECTION INCLUDES
		1. Structural Insulated Sheathing exterior wall panels, manufacturer, components, and accessories
	2. RELATED SECTIONS
		1. Section 03 30 00 – Cast-In-Place Concrete
		2. Section 03 40 00 – Pre-Cast Concrete
		3. Section 04 21 00 – Clay Masonry
		4. Section 04 80 00 – Masonry Assemblies
		5. Section 05 40 00 – Cold Formed Metal Framing
		6. Section 07 21 00 – Thermal Insulation
	3. REFERENCE STANDARDS
		1. ASTM E84-12/UL723/NFPA 255, “Standard Test Method for Surface Burning Characteristics of Building Materials”.
		2. ASTM E 136-09, “Standard Test Method for Combustibility of Building Materials”.
		3. ASTM E119-07/UL263, “Standard Test Methods for Fire Tests of Building Construction and Materials”.
		4. NFPA 285 (2012), “Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components”.
		5. CAN/ULC S124, “Standard Test Method for Surface Burning Over Foam Plastics”.
		6. NFPA 259, “Standard Test Method of Potential Heat of Building Materials”.
		7. ASHRAE 90.1-2013, “Energy Standard for Buildings Except Low-Rise Residential Buildings”.
		8. ASTM E331-00 (2016), “Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference”.
		9. ASTM E72-15, “Standard Test Method of Conducting Strength Tests of Panels for Building Construction”.
		10. ASTM E 2126-11, “Standard Test Method for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings”.
		11. ASTM E 564-06, “Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Buildings”.
		12. ASTM C 666-09, “Standard Test Method for Freeze Thaw of Building Materials”’
		13. ASTM C 1186-08, “Standard Test Method for Moisture Absorption in Building Materials”.
		14. ASTM C 1185-08, “Standard Test Method for Moisture Movement in Building Materials”.
		15. ASTM C 1185-08, “Standard Test Method for Flexural Strength of Building Materials”.
		16. ASTM E 96-13, “Test Standard for Vapor Transmission in Materials”.
		17. ASTM G 2196-08, “Standard Practice Method for Determining the Resistance of Materials to Fungi.
		18. ASTM D 3273-10, Standard Tests Method for Resistance for Growth of Mold”.
		19. ASTM D 1037-99, “Test Standard for the Fastener Pull-Through, Pull-Out and Lateral Resistance of Building Materials”
		20. ASTM D 2394-99, “Test Standard for Compression of building Materials”.
		21. ASTM D 1037-99, Test Standard for Impact Resistance of Building Materials”.
		22. ASTM D 473-07, “Test Standard for Humidified Deflection of Building Materials.
		23. ASTM D 2559-08, “Standard Specification for Adhesives for Structural Wood Products for Use Under Exterior (wet use) Exposure Conditions
		24. ASTM C 272, “Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions”.
		25. ASTM C 271, “Standard Test Method of Density of Sandwich Core Materials”.
	4. SUBMITTALS
		1. See Section 10 30 00 – Administrative Requirements for submittal procedures.
		2. Manufacturer’s Specification Document for structural insulating sheathing and accessories. Include instructions for handling, storage, installation, and protection.
		3. Manufacturer’s Installation Instructions.
		4. Materials Safely Data Sheet. (MSDS)
		5. Test Results Overview.
		6. Product Warranty.
		7. Product Liability Insurance Certificate (supplied upon request).
		8. SIS samples (supplied upon request).
	5. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Manufacturer shall be a company that manufactures and assembles structural insulated sheathing in its own fabrication and owned facilities.
		2. Manufacturer shall have a quality control program in place.
		3. Installer Qualifications: Company specializing in performing the work of this Section with minimum 3 years construction experience installing exterior sheathing.
	6. DELIVERY, STORAGE, AND HANDLING
		1. Ordering: Comply with manufacturer’s ordering instructions and lead-time requirements to avoid construction delays.
		2. Off-load products from truck and handle using forklift or other means to prevent damage.
		3. 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 4” supports with a minimum of 4 supports per stack. Stack no more than 2 pallets vertically.
		4. 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 and protected from direct contact with the ground.
		5. Wear approved eye protection and dust mask when cutting. Use approved eye protection when installing the panels.
		6. Transport and handle items in accordance with manufacturer’s instructions.
		7. Coordinate deliveries in order to avoid delay in, or impediment of, progress of the Work.
		8. Long term panel storage shall be kept in a warehouse condition.
	7. SEQUENCING
		1. Coordinate with the installation of thermal insulation and steel framing as specified in Section 07 21 00 and Section 05 40 00.
		2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	8. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
		2. The SIS panels may be installed at any temperature.
		3. Ensure product is cut in a well-ventilated area. Always wear eye protection and dust mask when cutting panels.
		4. Make sure panels are free from dirt or debris before installation.
		5. Ensure panels are dry and free from dirt and debris before installation of any finish material.
		6. Do not proceed with application of finish materials prior to, or immediately after inclement weather conditions, nor if adverse weather is forecast within the next 24 hours.
	9. WARRANTY
		1. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
		2. Provide manufacturer’s Limited Twenty-year product liability warranty.
2. PRODUCTS
	1. MANUFACTURERS
		1. ROK-ON™ Building Systems 600 Lake St, Silver Springs, NV. 89429. info@rok-on.com [www.rok-on.com](http://www.rok-on.com)
		2. Substitutions: Not permitted.
		3. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
	2. STRUCTURAL INSULATED SHEATHING
		1. ROK-ON Structural Insulated Sheathing. (SIS)
			1. Sheathing – Inside and outside face of SIS panel. Tested in accordance with the ICC-AC386 criteria.
				1. Magnesium Oxide (MgO) Board Facer; ½ inch (12 mm) thickness.
				2. Magnesium Oxide (MgO) Board Backer; ¼ inch (6 mm) thickness for 1-hour assembly or ½” (12mm) for 2-hour rated assembly.
			2. Certified phenolic core complying with ASTM C 578 standard. (Third party foam mfg.to supply testing documents).
			3. Adhesives shall be in conformance with ICC ES A05 – Acceptance criteria for sandwich panel.
			4. Panel Size: 4 feet by 8 feet (1220 mm by 2440 mm).
			5. Thickness / R-Value per ASTM C518:
				1. 3 ¾ Inches (95.25mm) composite thickness with R-Value of R-21. (Phenolic Core)
	3. PANEL FASTENERS
		1. Fasteners for attachment to framing shall be approved ROK-ON fasteners. Fasteners are flat head countersinking galvanized or coated with nibs.
		2. Length of fasteners shall be as determined by ROK-ON™ depending on the thickness of the panel to be installed and framing (steel or wood)
		3. Galvanized or coated fasteners are required.
			1. For use in 20-gauge or higher steel
				1. Minimum fastener penetration of through the steel with a minimum of three (3) threads showing on the opposite face.
				2. Ensure screw countersinks into top face of panel.
				3. Ensure screw does not fully penetrate top sheet of panel.
				4. Fasteners should be no closer than 3/8” from the edge of the panel
			2. For use in wood frame members:
				1. Minimum of one-inch embedment into wood substrate.
				2. Ensure screw countersinks into the top face of the panel.
				3. Ensure screw does not fully penetrate the top face of the panel.
				4. Fasteners should be no closer than 3/8” from the edge of the panel
			3. For use in concrete substrates:
				1. Contact ROK-ON for approved fastener for concrete or CMU applications. (Tapcon or similar)
				2. Pre-drill panel and concrete substrate using a 3/16” (0.187”) masonry drill bit.
				3. Install pre-approved concrete fastener using a 2,000 RPM hammer drill.
				4. Minimum embedment depth into substrate of one inch.
				5. Ensure screw does not fully penetrate the top face of the panel.
	4. ACCESSORIES
		1. End-caps - ROK-ON FRCC board used to protect foam insulation where foam core is permanently exposed to the elements. Pre-cut to the width of the panel.
		2. Window and Door Bucks – ROK-ON FRCC Board. Can be used in lieu of wood jams and bucks if specified.
		3. End-cap metal insert – Used to attach end-caps to panel – See installation instructions.
		4. ROK-ON fasteners. Use only ROK-ON approved fasteners for attachment to framing.
3. EXECUTION
	1. EXAMINATION
		1. Verify that building conditions are ready to accept the work of this section.
		2. Do not begin installation until exterior walls have been properly prepared.
		3. Verify that all exterior wall assembly construction has been completed to the point where the panel may correctly be installed.
		4. Verify built-in items, penetrations and rough openings are correct and properly located and flashed.
	2. PREPARATION
		1. Protect surrounding area from possible damage during installation of structural insulated sheathing.
		2. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
		3. If deficiencies exist, consult Architect. Correct deficiencies in accordance with manufacturer’s recommendations.
		4. Beginning installation constitutes Contractor’s acceptance of existing conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer’s instructions.
		2. Fasten SIS to structural framing with approved fasteners.
		3. Cut and install SIS panel with joints tightly butted together.
		4. Screws should be flush with top face of panel.
		5. Gaps greater than ¼” must be caulked or insulated before the application of an WRB or AWB. -Follow the AWB manufactures installation guidelines.
		6. Exposed insulation must always be protected from open flame and kept dry.
		7. The SIS panel is not intended to be left exposed to the elements indefinitely. Application of an AWB/WRB and final architectural finish needs to be as soon as possible, but not less than 180 days of exposure.
		8. If extended exposure is anticipated, all exposed foam surfaces including corners, window and door openings, should be covered with end-cap or FRCC buck, or flashed or waterproofed. Contact ROK-ON representative for guidance on exposure.
	4. FIELD QUALITY CONTROL AND TOLERANCES
		1. See Section 01 40 00 – Quality Requirements, for additional requirements.
		2. Perform field quality control inspection as specified in Part 1, Quality Assurance.
		3. Joint thickness: No gaps greater than ¼ inch allowed without installation of supplemental waterproofing materials. Contact ROK-ON representative for guidance.
	5. PROTECTION
		1. Protect installed products until completion of project.
		2. Cover the top and edges of unfinished wall panel work to protect it from the weather and to prevent accumulation of water in the cores of the panels.
		3. Wet panels shall be allowed to completely dry prior to application of WRB/AWB and final architectural finish.
		4. Do not leave SIS panel to weather longer than one hundred eighty (180) days without approval from manufacturer.
		5. Repair or replace damaged products before Substantial Completion.

END OF SECTION 06 16 13