SECTION 07 42 43

STONE FACED COMPOSITE WALL PANELS

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\*\* NOTE TO SPECIFIER \*\* Stone Panels, International; Stone faced composite wall panel products.
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This section is based on the products of Stone Panels, International, which is located at:
2400 FM Rd. 1431
Marble Falls, TX 78654
Toll Free Tel: 800-328-6275
Tel: 469-635-5000
Fax: 800-752-0783
Email: [request info (vormand@stonepanels.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Stone+Panels,+International&coid=39917&rep=&fax=800-752-0783&message=RE:%20Spec%20Question%20(07430sto):%20%20&mf=)
Web: <http://www.stonepanels.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos39/arc39917.html) ] for additional information.
Stone Panels, Inc. originated, developed, pioneered and expanded a unique manufacturing process that established the company as the global leader in lightweight natural stone panels.
The Stonelite brand is internationally recognized as the state-of-the-art wall cladding system incorporating the natural beauty of granite, marble, travertine, slate and limestone with aircraft quality aluminum reinforcing. StoneLite® panel systems provide enhanced durability, unparalleled impact resistance, water impenetrability, significant weight reduction and lower project costs. As such, over the past 36 years, StoneLite® has become the wall cladding product of choice by many discriminating architects, engineers, interior designers and end users throughout the world.
Headquartered in Coppell, Texas, Stone Panels, Inc. occupies a 167,000 square foot state-of-the-art manufacturing facility. Sales, technical consulting, engineering and project management for North, Central and South America are executed from SPI Headquarters while key distributors located throughout the world perform international sales and support.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Stone faced composite exterior wall panels.
		2. Stone faced composite interior wall panels.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
		2. Section 04 05 19.29 - Stone Anchors.
		3. Section 05 12 16 - Fabricated Fireproofed Steel Columns.
		4. Section 05 40 00 - Cold-Formed Metal Framing.
		5. Section 07 25 00 - WeatherBarriers.
		6. Section 07 60 00 - Flashing and Sheet Metal.
		7. Section 07 84 53 - Building Perimeter Firestopping .
		8. Section 07 90 00 - Joint Protection.
		9. Section 09 29 00 - Gypsum Board
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
		2. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
		3. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
		4. ASTM E-108 - Standard Test Methods for Fire Tests of Roof Coverings.
		5. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
		6. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
		7. AAMA 501.1 - Standard Test Method for. Exterior Windows, Curtain Walls, and Doors for Water Penetration Using Dynamic Pressure.
		8. Miami-Dade TAS 201-94 - Dade County Protocols for High Velocity Hurricane Zone - Test Protocol, Impact Test Procedures.
		9. Miami-Dade TAS 202-94 - Dade County Protocols for Uniform Static Wind Pressure Hurricane Zone - Test Protocol, Impact Test Procedures.
		10. Miami-Dade TAS 203-94 - Dade County Protocols for High Velocity Hurricane Zone - Test Protocol, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
		11. UFC 4-010-01 Unified Facilities Criteria (UFC) - DoD Minimum Antiterrorism Standard for Buildings
	1. DESIGN / PERFORMANCE REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required.

* + 1. Building Code Compliance: Panels shall be accepted and tested as follows:
			1. International Code Council Evaluation Service (ICC-ES) Report ESR-1500
			2. Metro-Dade County, Florida NOA No. 08-0625.03
			3. City of Los Angeles Report RR 24922
			4. City of San Francisco Code Ruling BC-105-3
			5. City of New York MEA 373-87-M
			6. British Board of Agreement (BBA) Certificate No. 07/4466
			7. French Building Code Approval & CSTB Tests. REF: Avis Technique # 2/06-1210
		2. Performance Requirements: Panels must meet the following requirements:
			1. Flexure and bond testing following accelerated aging by Acid Freeze Thaw by Wiss, Janney, Elstner Assoc. Test Method: Flexure and bond strength loss not to exceed 22 percent following 100 cycles plus 170 degrees F to minus 10 degrees F while immersed in a 4-pH sulfuric acid solution.
			2. Large Missile Impact in accordance with Miami-Dade County Protocols for High Velocity Hurricane Zone Protocol TAS 201-94: Resists large missile impact when fired at 50 foot per second.
			3. Uniform Static Wind Pressure Loading in accordance with Miami-Dade County Protocols for High Velocity Hurricane Zone Protocol TAS 202-94.
			4. Cyclic Wind Pressure Loading in accordance with Miami-Dade County Protocols for High Velocity Hurricane Zone Protocol TAS 203-94: Resist 1342 repetitions of positive or negative 90 psf design wind pressure.
			5. Full Scale Arena Blast Test in accordance with UFC 4-010-01 Unified Facilities Criteria: Meet acceptance criteria and withstand 8 psi peak blast pressure and 49 psi-millisecond positive phase impulse.
			6. UBC 17- 6 Multi-Story Fire Evaluation: Meet all acceptance criteria without flame propagation vertically and horizontally.
			7. ASTM E 84 Fire Test: Flame Spread Index = 5 maximum, Smoke Developed = 5 maximum, Fuel contributed = 0. Class A (NFPA Std.): Class I (UBC Std.).
			8. ASTM E 108 Fire Evaluation: Resist 30 minute fire exposure.
			9. Toxicity Evaluation according to University of Pittsburgh Test Method: No more toxic than Douglas fir wood.
			10. Flat wise tension bond tests following ASTM C 67, section 8 freeze/thaw: 290 psi flat wise tension bond following 100 cycles freeze thaw consisting of 20 hours freezing at 0 degrees F and 4 hours thawing in water at 75 degrees F.
			11. ASTM E 72 Transverse load test: Average 215 lbs. per sq. ft. uniform load on 35.5 inch simple span causing 0.49 inch deflection average.
			12. Racking shear load tests: No disengagement or major damage following application of 4,000 lb. load and 0.05 inch to 1.5 inch deflection on an 8 foot by 8 foot specimen.
			13. Air Infiltration in accordance with ASTM E 283: Air infiltration rate shall not exceed 0.06 cfm/ft2 at a static air pressure differential of 6.24 psf.
			14. Water Resistance in accordance with ASTM E 331: No leakage at a minimum static air pressure differential of 10 psf as defined in AAMA 501.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Show elevations and sections with details showing panel thickness, attachment methods, location and type of fasteners.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color samples representing manufacturer's full range of available stone colors and finishes.
		2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, stone color, and finish.
		3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
		4. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic cleaning and maintenance of panels.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum of 10 years documented experience in the production of reinforced stone faced composite panels of the quality and scope provided for projects of similar size and complexity.
		2. Installer Qualifications: Minimum of 5 years documented experience installing stone faced composite wall panels or similar wall cladding on projects of similar size and complexity

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship, panel color, and finish are approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
		2. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, co-ordinate with installers of other related work, manufacturer's installation instructions, and manufacturer's warranty requirement
	1. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging with identification labels intact until ready for installation.
		2. Store materials protected from exposure to harmful weather conditions. Handle material and components to avoid damage. Protect material against damage from elements, construction activities, and other hazards before, during and after installation.
	2. SEQUENCING
		1. Ensure that proper backup support and information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
		2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	3. PROJECT CONDITIONS
		1. Field Measurements: Field measurements should be taken prior to the completion of shop manufacturing and assembly.
	4. WARRANTY
		1. Provide manufacturer's ten year warranty that the panel will be free from defects in lamination or separation of panel components.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Stone Panels, International, which is located at: 2400 FM Rd. 1431; Marble Falls, TX 78654; Toll Free Tel: 800-328-6275; Tel: 469-635-5000; Fax: 800-752-0783; Email: [request info (vormand@stonepanels.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Stone+Panels,+International&coid=39917&rep=&fax=800-752-0783&message=RE:%20Spec%20Question%20(07430sto):%20%20&mf=); Web: <http://www.stonepanels.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required. Contact the manufacturer for additional recommendations as required for facing thicknesses, panel thickness, panel sizes, trim, and anchorage to suit your project.

* 1. MATERIALS
		1. Stone Faced Composite Wall Panels: StoneLite composite wall panels fabricated of a natural stone veneer bonded to an aluminum honeycomb backing.
			1. Description: Natural stone bonded to lightweight, aircraft quality, aluminum honeycomb with epoxy impregnated glass cloth skins.
				1. Stone Facing: 3/16 inch (4.8 mm) plus or minus 1/16 inch (1.6 mm) natural stone.
				2. Reinforcing: 3/4 inch (19 mm) aluminum honeycomb bonded by high strength epoxy impregnated reinforced glass cloth.
			2. Product Data:
				1. Average Weight: 3.3 pounds/sf (16 kg/sq. M).
				2. Standard panel dimensions: 4 foot by 8 foot (1219 mm by 2438 mm).
				3. Maximum panel dimensions: 5 foot by 10 foot (1524 mm by 2845mm) Ltd. Availability
				4. Overall panel thickness:

15/16 inch plus or minus 1/16 inch (24 mm plus or minus 1.6 mm).

* + - * 1. Tolerances for Length, Width and Squareness: Plus 1/16 inch (1.6 mm)
				2. Aluminum honeycomb thickness:

3/4 inch (19 mm).

\*\* NOTE TO SPECIFIER \*\* Most veneer stone can be utilized as wall panel facings. Select Standard or Premium marble, granite, limestone or sandstone as required from the following paragraphs and delete those not required.

* + - 1. Marble Stone:

\*\* NOTE TO SPECIFIER \*\* Select the marble required from the following paragraphs and delete the one not required..

* + - * 1. Standard Marble as selected by the Architect.
				2. Premium Marble as selected by the Architect.
			1. Granite Stones:

\*\* NOTE TO SPECIFIER \*\* Select the granite required from the following paragraphs and delete the one not required..

* + - * 1. Standard Granite as selected by the Architect.
				2. Premium Granite as selected by the Architect.
			1. Limestone Stones:

\*\* NOTE TO SPECIFIER \*\* Select limestone as required from the following paragraphs and delete the one not required..

* + - * 1. Standard Limestone as selected by the Architect.
				2. Premium Limestone as selected by the Architect.
			1. Sandstone:

\*\* NOTE TO SPECIFIER \*\* Select sandstone as required from the following paragraphs and delete the one not required.

* + - * 1. Standard Sandstone selected by the Architect.
				2. Premium Sandstone selected by the Architect.
			1. Finish:

\*\* NOTE TO SPECIFIER \*\* Select stone finish required from the following paragraphs and delete those not required.

* + - * 1. Polished.
				2. Honed.
				3. Flamed (Thermal).
				4. Sandblasted.
				5. Bush-Hammered.
				6. Antiqued (Brushed).
		1. Miscellaneous Accessories: Provide non-corrosive connection and anchorage hardware required, including interlocking channels, anchor plates, Z-sections, angle clips and threaded inserts.
		2. Sealants: Provide sealant materials as specified in section 07 90 00 - Joint Protection. Test sealant for compatibility with the natural stone facings specified.
	1. FABRICATION
		1. Shop fabricate components to the maximum extent possible including cutting to size, factory bonded and finished returns at outside corners, and concealed installation system.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. Verify the proper alignment of panel support or backing substrates before installation of panels.
		3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions.
		2. Install natural stone honeycomb reinforced wall panel system plumb, level, and true to line with manufacturer's prescribed tolerances and installation instructions.
		3. Provide supports and anchor in place.
		4. Anchor panels securely per engineering recommendations and in accordance with approved shop drawings to allow for necessary thermal movement and structural support.
		5. Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
		6. Refer to installation instructions and consult sealant manufacture for project specific application. Coordinate installation with wall flashings and other components of construction.
		7. Sealants: Provide perimeter and intermediate joint sealants in accordance with Section 07 90 00 - Joint Protection.
		8. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.
	4. PROTECTION
		1. Protect installed products until completion of project. Protect stone facing from damage from harmful contaminants.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION