

047300 MANUFACTURED MASONRY VENEER

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes: Portland cement based manufactured stone veneer and trim.

1.02 SUBMITTALS

A. Reference Section 01 33 00-Submittal Procedures; submit following items:
1. Product Data.
2. Samples:
a. Standard sample board consisting of small-scale pieces of veneer units showing full range of textures and colors.
b. Full range of mortar colors.

1.03 QUALITY ASSURANCE

A. Certifications:
1. ICC Evaluation Service - Evaluation Report ESR-1215
2. ASTM C1670
3. UL - Classification listing in Building Materials Directory: UL 546T (F8002)

1.04 DELIVERY, STORAGE, AND HANDLING

A. Follow manufacturer's instructions

1.05 PROJECT/SITE CONDITIONS

A. Environmental Requirements: When air temperature is 40 degrees F (4.5 degrees C) or below, consult local building code for Cold-Weather Construction requirements.

1.06 WARRANTY

A. Special Warranty: Manufacturer's standard warranty coverage against defects in materials when installed in accordance with manufacturer's installation instructions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Eldorado Stone, LLC
1370 Grand Ave., Bldg. B
San Marcos, CA 92069
B. Product: Eldorado Stacked Stone Veneer
C. Substitutions: None Allowed

2.02 MATERIALS

A. Stone Veneer
1. Profile: As Scheduled. Include matching corner pieces.
2. Stone Accents
a. Color: As Scheduled
b. Texture: As Scheduled
B. Veneer Unit Properties: Precast veneer units consisting of portland cement, lightweight aggregates, and mineral oxide pigments.
1. Compressive Strength: ASTM C 192 and ASTM C 39, 5 sample average: greater than 1,800 psi.
2. Shear Bond: ASTM C 482: 50 psi, min.
3. Freeze-Thaw Test: ASTM C 67: Less than 3% weight loss and no disintegration.
4. Thermal Resistance: ASTM C 177: .0473 at 1.387 inches thick
5. Weight per Square Foot: 2012 IBC and 2012 IRC, ASTM C1670, 15 pounds, saturated.
D. Weather Barrier: ICC AC-308, synthetic house wrap
E. Reinforcing: ASTM C 847, 2.5lb/yd2 (1.4kg/m2) galvanized expanded metal lath complying with code agency requirements for the type of substrate over which stone veneer is installed. Provide with integrated asphalt impregnated paper backing.
F. Mortar:
1. Cement: Portland cement complying with ASTM C 150.
2. Lime: ASTM C 207.
3. Sand: ASTM C 144, natural or manufactured sand.
4. Color Pigment: ASTM C 979, mineral oxide pigments.
5. Water: Potable.
6. Pre-Packaged Latex-Portland Cement Mortar: ANSI A 118.4.

G. Bonding Agent: Exterior integral bonding agent meeting ASTM C 1059 Type II

2.03 MORTAR MIXES

A. Standard Installation (Grouted Joints):
1. Mix mortar in accordance with ASTM C 270.
2. Polymer modified mortar complying with ANSI A 118.4
a. Add color pigment in grout joint mortar in accordance with pigment manufacturer's instructions not to exceed 10% by weight of cement.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates upon which work will be installed.
B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
C. Commencement of work by installer is acceptance of substrate.

3.02 PREPARATION

A. Protection: Protect adjacent work from contact with mortar.
B. Surface Preparation: Prepare substrate in accordance with manufacturer's installation instructions for the type of substrate being covered.

3.03 INSTALLATION

A. Install and clean stone in accordance with manufacturer's installation instructions for Standard Installation (Grouted Joint) or Jointless/Dry-Stacked installation as specified above.

3.04 CLEANING

A. Remove protective coverings from adjacent work.
B. Cleaning Veneer Units:
1. Wash with soft bristle brush and water/granulated detergent solution
2. Rinse immediately with clean water
C. Removing Efflorescence:
1. Allow veneer to dry thoroughly
2. Scrub with soft bristle brush and clean water
3. Rinse immediately with clean water; allow to dry
4. If efflorescence is still visible, contact ES Customer Service for assistance

DIVISION 5 - METALS

05100 STRUCTURAL METALS - See Structural Drawings 05300 METAL ROOF DECK - See Structural Drawings

05500 METAL FABRICATIONS

A. Submittals: Minimum of three (3) 3 1/2" x 1 1/2" samples of metals indicated in the finish schedule.
B. All cold rolled steel shall match Architects sample and be prepared in the following manner (this metal is highly reactive and must be carefully cleaned and sealed. All work is to be performed while wearing rubber gloves or white cotton gloves to keep oils from hands away from metal):
1. Prepare surface with a light brushing to remove loose surface scale (leave most of scale on metal).
2. Clean carefully with an automotive metal conditioner (a degreasing agent). A clean rag must be used and changed frequently to avoid accumulation of oil and grease on rag.
3. The metal is to be pickled.
4. Seal the metal with one mm thick of matte finish automotive clear coat acrylic lacquer enamel.
5. All materials used must be approved by Architect prior to construction.

055213 Pipe and Tube Railings

A. All pipe for railings, guards, etc. to be 1-1/2" diameter standard pipe (1.66" O.D.), with all joints and connections welded and ground smooth. Exterior materials are to be galvanized; all interior materials are to be prime painted and finish painted.

DIVISION 6 WOODS AND PLASTICS

061000 ROUGH CARPENTRY

A. Furnish all labor, materials, equipment, tools and services necessary to complete the carpentry and related work in addition to layout of this work and installation of listed items of other sections of the specifications. Examine the drawings to determine the extent of the work and review the following criteria:

B. General Requirements:

- 1. Furnish and install all rough woodwork, rough bucks, grounds, screeds, nailing strips, etc.
2. Furnish and install all required rough hardware, such as nails, bolts, washers, anchors, etc., except as otherwise specified.
3. Erect temporary protection for all completed or partially completed work where required to protect materials, surfaces, finishes and equipment; this includes temporary doors until hollow metal doors are delivered.
4. Items of work included but are not limited to the following list:
a. Examine the drawings and this specification section for the extent of work.
b. Wood grounds, blocking and other carpentry items as shown, for supporting and fastening millwork, carpentry, toilet partitions, grab bars and the work of the various other Sections.
c. All rough hardware including bolts, nails, screws, spikes, hangers, etc., required in connection with the installation of all materials under this Section.
d. Framing including metal studs, headers, etc.; plywood, rough wood blocking, blocking for roof curbs and other roof wood members.
e. All miscellaneous work shown on drawings but not furnished or installed by other trades.

C. Temporary protection

- 1. Construct temporary doors, ladders, runways, barricades and railings required in and about the building
2. The building shall be closed with temporary doors and windows as the work progresses, and during periods of inclement weather. All unglazed windows shall be closed with 4 mil polyethylene film in rough frames, plywood, or other suitable means. Temporary doors shall be storm tight with locks; do not fasten to finished frame of permanent door.
3. Comply with OSHA regulations and standards.

D. Products

- 1. Lumber, General
a. Standard: For each use, comply with the "American Softwood Lumber Standard" PS 20 by the U.S. Department of Commerce. Nominal sizes are shown or specified; provide actual sizes complying with the minimum size requirements of PS 20 for the moisture content specified for each use.
2. Framing lumber
a. General: Where wood framing from 2" to 5" (but not including 5") in nominal thickness, and 2" or more in nominal width is shown or scheduled; provide lumber complying with grading rules which conform to the requirements of the "National Grading Rule for Dimension Lumber" of the American Lumber Standards Committee established under PS 20.
b. For light framing (2" to 4" thick and 2" to 4" wide), provide construction grade.
3. Plywood
a. Standard: For each use, comply with the requirements for "Softwood Plywood/Construction and Industrial" PS1 by the U.S. Department of Commerce.
b. Sheathing: Provide standard grade, with exterior glue.
4. Anchorage and fastening materials
a. For each use, select proper type, size, material and finish complying with the applicable Federal Specification. Use galvanized bolts, nuts and washers when fastening treated lumber
5. Wood preservative treatment
a. The following items of rough framing or finish woodwork shall be treated with "Woodlife" or equal wood preservative process:
b. Where shown on drawings
c. Roofing grounds and nailers

E. Installation:

- 1. Attachment and anchorage
a. Use common wire nails, except as otherwise shown or specified. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
2. Wood grounds, nailers, blocking and sleepers
a. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Set true to line and level, plumb, with intersections true as required angle. Coordinate location with other work involved.
b. Attach to substrates securely with anchor bolts and other attachment devices as shown and as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise shown. Build into masonry; anchor to form work before concrete placement.

061053 MISCELLANEOUS ROUGH CARPENTRY

A. Furnish Wood blocking and other materials as require. Where wood will be exposed, or where used in exterior rated assemblies, provide fire-resistant treated lumber.
B. Fire Rated Blocking - provide fire-resistant treated, wood preservative treated lumber

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

072726 FLUID APPLIED MEMBRANE AIR BARRIERS

Part 1: General

- 1.01 Summary
B. Section includes materials and installation methods supplementing primary air barrier materials and assemblies.
1.02 References
A. The following standards are applicable to this section:
1. ASTM E283-9: Standard Test Method of Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
2. ATSM E330-90: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
1.03 Submittals
A. Prior to commencing the Work, submit manufacturers product data, samples and complete set of standards details for the air/vapor barrier membrane systems showing a continuous plane of air tightness throughout the building envelope.
1.04 Quality Assurance
A. Installer: Submit in writing a document stating that the applicator of the primary air barrier membranes specified in this section is recognized by the manufacturer as suitable for the execution of the Work.
B. Perform Work in accordance with the manufacturer written instructions of the air/vapor barrier membrane and this specification.

1.05 Deliver, Storage and Handling

A. Deliver Materials to the job site in undamaged and original packaging indicating the name of the manufacturer and the product.
B. Store role materials on end in original packaging.

1.06 Project Conditions

A. Perform Work only when conditions are acceptable to the manufacturer of the materials being installed.
B. Ensure all preparation work is complete prior to installing air/vapor barrier membrane

Part 2: Products

2.01 Manufacturer

A. Acceptable Manufacturer: Henry Company.
B. Primary Fluid Applied Air/Vapor - Barrier Membrane:
1. ExoAir 230 as manufactured by Tremco Sealants applied to a wet film thickness of 120 mils and rubber based adhesive type, having the following characteristics:
a. Compatibility: With transition membrane, substrate and insulation.
b. Vapor permeance: 0.034 perms to ASTM E96.
c. Chemical resistance: Mild acids, alkalis and salt.

Part 3 Execution

3.01 Examination

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify contractor in writing of any discrepancies. Commencement of the work or any parts thereof shall mean acceptance of the prepared substrate.

3.02 Preparation

A. All surfaces must be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants. Fill spalled areas in substrate to provide an even plane.
B. New concrete masonry units should be in place for a minimum of 14 days and must be dry before air/vapor barrier membranes are applied.

3.03 Installation

A. Install in strict accordance with manufacturer's written instructions.

3.04 Protection of Finished Work

A. Air-Bloc 215 and Blueskin 5A are not designed for permanent exposure. Product designed to withstand Job site exposure for up to six weeks (less in summer applications), however good practice calls for covering as soon as possible. Wherever possible, begin covering membrane on south exposures, followed by remainder of surface.

074243 COMPOSITE WALL PANEL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Exterior panelized fiber cement cladding system and accessories to complete a drained and back ventilated rain screen.

1.02 SUBMITTALS

A. Submit under provisions of Section 01 3300
B. Product Data: Submit manufacturer's product description, storage and handling requirements, and installation instructions.
C. Manufacturer's Details: Submit drawings (.dwg, .rvt and/or .pdf) including plans, sections, showing installation details that demonstrate product dimensions, edge/termination conditions/treatments, compression and control joints, corners, openings, and penetrations.
D. Samples: Submit samples of each product type proposed for use.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Panels must be stored flat and kept dry before installation. A waterproof cover over panels and accessories should be used at all times prior to installation.
B. If panels are exposed to water or water vapor prior to installation, allow to completely dry before installing. Failure to do so may result in panel shrinkage at ship lap joints, and such action may void warranty.
C. Panels MUST be carried on edge. Do not carry or lift panels flat. Improper handling may cause cracking or panel damage.
D. Direct contact between the panels and the ground should be avoided at all times. It is necessary to keep panels clean during installation process.

1.04 WARRANTY

A. Provide manufacturer's 50-year warranty against manufactured defects in fiber cement panels.
B. Provide manufacturer's 15-year warranty against manufactured defects in panel finish.
C. Warranty provides for the original purchaser. See warranty for detailed information on terms, conditions and limitations.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Nichiha Corporation, 18-19 Nshiki 2-chome Naka-ku, Nagoya, Aichi 460-8610, Japan.
B. Acceptable Manufacturer's Representative: Nichiha USA, Inc., 6465 E. Johns Crossing, Suite 250, Johns Creek, GA 30097. Toll free: 1.866.424.4421, Office: 770.805.9466, Fax: 770.805.9467, www.nichiha.com.

- 1. Basis of Design Product: Nichiha VintageWood
a. Profile colors: As Scheduled
b. Profile: 3/8" grooves running lengthwise, spaced 5-5/8" apart.
c. Dimensions: Nominal - 18" (h) x 10" (l)
d. Panel Thickness: 5/8 inch (16 mm actual)
e. Finish: Matte, wood grain textured
f. Weight: 57.32 lbs. per panel
g. Coverage: 15 sq. ft. per panel
h. Factory sealed on six (6) sides

C. Substitutions: Not Permitted
D. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.02 MATERIALS

A. Fiber cement panels manufactured from a pressed, stamped, and autoclaved mix of Portland cement, fly ash, silica, recycled rejects, and wood fiber bundles.
B. Panel surface pre-finished and machine applied.
C. Panels profiled along all four edges, such that both horizontal and vertical joints between the installed panels are ship-lapped.
D. Factory-applied sealant gasket added to top and right panel edges; all joints contain a factory sealant.

2.03 PERFORMANCE REQUIREMENTS

A. Fiber Cement Cladding - Must comply with ASTM C 1186, Type A requirements:
1. Linear Variation with Change in Moisture Content: 0.17% linear change.
2. Wet Flexural Strength, lower limit: 580 psi.
3. Water Tightness: No water droplets observed on any specimen.
4. Freeze-thaw: No damage or defects observed.
5. Warm Water: No evidence of cracking, delamination, swelling, or other defects observed.
6. Heat-Rain: No crazing, cracking, or other deleterious effects, surface or joint changes observed in any specimen.
B. Drained and Back Ventilated Rainscreen (AAMA 509-09): System must pass all component tests.

2.04 INSTALLATION COMPONENTS

A. Ultimate Clip System:

1. Starter Track:

- a. Horizontal Panel Installations - FA 700 - 10" (l) galvalume.
a. Joint Tab Attachments (included) are not needed with 10" AWP.
3. Single Flange Sealant Backer - FFK 1017 (10mm) - 6-5/8 (l) fluorine coated galvalume.
4. Double Flange Sealant Backer - FH 1020 (10mm) - 10" (l) fluorine coated galvalume.
5. Corrugated Spacer - FS 1005 (5mm), FS 1010 (10mm) - 4" (l).
6. Finish Clip (optional) - JE310 (5mm)
B. Fasteners: Corrosion resistant fasteners, such as hot-dipped galvanized screws appropriate to local building codes and practices must be used. Use Stainless Steel fasteners in high humidity and high-moisture regions. Panel manufacturer is not liable for corrosion resistance of fasteners. Do not use aluminum fasteners, staples or fasteners that are not rated or designed for intended use. See manufacturer's instructions for appropriate fasteners for construction method used.
C. Flashing: Flash all areas specified in manufacturer's instructions. Do not use raw aluminum flashing. Flashing must be galvanized, anodized, or PVC coated.
D. Sealant: Sealant shall be polyurethane, or hybrid, and comply with ASTM C920.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:

1. Fiber cement panels can be installed over braced wood, steel studs and sheathing including plywood, OSB, plastic foam or fiberboard sheathing. Fiber cement panels can also be installed over Structural Insulated Panels (SIPs), Concrete Masonry Units (CMUs) and Concrete Block Structures (CBS) with furring strips, and Pre-Engineered Metal Construction.
2. Appropriate metal flashing should be used to prevent moisture penetration around all doors, windows, wall bottoms, material transitions and penetrations. Refer to local building codes for best practices.
B. Examine site to ensure substrate conditions are within specification for proper installation.
C. Do not begin installation until unacceptable conditions have been corrected.
D. Do not install panels or components that appear to be damaged or defective. Do not install wet panels.

3.02 INSTALLATION

A. General: Install products in accordance with the latest installation guidelines of the manufacturer and all applicable building codes and other laws, rules, regulations and ordinances. Review all manufacturer installation, maintenance instructions, and other applicable documents before installation.
B. Panel Cutting

- 1. Always cut fiber cement panels outside or in a well ventilated area. Do not cut the products in an enclosed area.
2. Always wear safety glasses and NIOSH/OSHA approved respirator whenever cutting, drilling, sawing, sanding or abrading the products. Refer to manufacturer SDS for more information.
3. Use a dust-reducing circular saw with a diamond-tipped or carbide-tipped blade.
a. Recommended circular saw: Makita 7-1/4" Circular Saw with Dust Collector (#5057KB).
b. Recommended blade: Tenryu Board-Pro Plus FCD Blade (#BP-18505).
c. Shears (electric or pneumatic) or jig saw can be used for complicated cuttings, such as service openings, curves, radii and scrollwork.
4. Silica Dust Warning: Fiber cement products may contain some amounts of crystalline silica, a naturally occurring, potentially hazardous mineral when airborne in dust form. Consult product SDS or visit www.osha.gov/SLTC/silicacystalline/index.html.

3.03 CLEANING AND MAINTENANCE

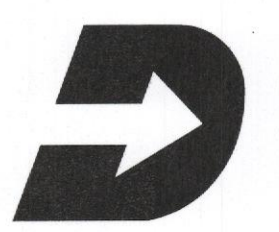
A. Review manufacturer guidelines for detailed care instructions.



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L2M ARCHITECTS

I certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the laws of the state of Maryland Lic. #839 Exp. 07 December 2017.



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