1. Section 09 7819   
   FIBER CEMENT INTERIOR WALL PANELING
   1. Part I - General
      1. SECTION INCLUDES:
         1. Interior, panelized fiber cement wall paneling system.
         2. Accessories.
      2. RELATED SECTIONS
         1. Section 06 10 00 - Rough Carpentry
         2. Section 07 90 00 - Joint Protection
         3. Section 09 21 16 - Gypsum Board Assemblies
         4. Section 09 22 16 - Non-Structural Metal Framing
      3. REFERENCES
         1. ASTM International (ASTM):
            1. ASTM C1186 – Standard Specification for Flat Fiber-Cement Sheets.

ASTM C1186 - Standard Test Methods for Sampling and Testing Non-Asbestos Fiber Cement.

* + - * 1. ASTM E84 - Standard Test for Surface Burning Characteristics of Building Materials.
        2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
      1. Florida Building Code - Test Protocol HVHZ
         1. Testing Application Standard (TAS) 202, 203 – HVHZ Test Procedures
      2. National Fire Protection Association (NFPA):
         1. NFPA 285 - Fire Test Method for Exterior Wall Assemblies Containing Combustible Material.
         2. NFPA 268 – Ignition Resistance of Exterior Wall Assemblies.
      3. Standards Council of Canada & Underwriters Laboratories Canada (ULC):
         1. CAN/ULC S102 – Standard Method of Test for Surface Burning Characteristics.
    1. SUBMITTALS
       1. Submit under provisions of Section 01 33 00.
       2. Product Data: Submit manufacturer’s product description, storage and handling requirements, and installation instructions.
       3. Product Test Reports and Code Compliance: Documents demonstrating product compliance with local building code, such as test reports or Evaluation Reports from qualified, independent testing agencies.
       4. LEED Credits: Provide documentation of LEED Credits for project certification under USGBC LEED.
       5. Manufacturer’s Details: Submit drawings (.dwg, .rvt, and/or .pdf formats), including plans, sections, showing installation details that demonstrate product dimensions, edge/termination conditions/treatments, compression and control joints, corners, openings, and penetrations.
       6. Samples: Submit samples of each product type proposed for use.
    2. QUALITY ASSURANCE
       1. Manufacturer Qualifications:
          1. All fiber cement panels specified in this section must be supplied by a manufacturer with a minimum of 10 years of experience in fabricating and supplying fiber cement cladding systems.
          2. Provide technical and design support as needed regarding installation requirements and warranty compliance provisions.
       2. Installer Qualifications: All products listed in this section are to be installed by a single installer trained by manufacturer or representative.
       3. Pre-Installation Meetings: Prior to beginning installation, conduct conference to verify and discuss substrate conditions, manufacturer’s installation instructions and warranty requirements, and project requirements.
    3. Mock-Ups
       1. See Section 01 4000-Quality Requirements for additional requirements.
       2. Construct [\_\_\_\_] mock-up, [\_\_\_\_] feet ([\_\_\_\_] m) long by [\_\_\_\_] feet ([\_\_\_\_] m) wide of wall paneling of each type, illustrating joints and trim.
       3. Locate where directed.
       4. Mock-ups may remain as part of the work.
    4. DELIVERY, STORAGE, AND HANDLING
       1. Deliver products to project site in manufacturer's original packaging, marked with manufacturer's product identification. Do not stack pallets more than two high. Refer to the information included on each pallet.
       2. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.
       3. 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.
       4. Panels MUST be carried on edge. Do not carry or lift panels flat. Improper handling may cause cracking or panel damage.
       5. Direct contact between the panels and the ground should be avoided at all times. It is necessary to keep panels clean during installation process.
       6. Packaging Waste Management: See Section 01 7419.
    5. WARRANTY
       1. Provide manufacturer’s 15-year warranty against manufactured defects in fiber cement panels. Additional 5-year extension available when refinished in year 14-15.
       2. Provide manufacturer’s 15-year warranty against manufactured defects in panel finish.
       3. Warranty provides for the original purchaser. See warranty for detailed information on terms, conditions and limitations.
  1. PART II: PRODUCTS
     1. MANUFACTURERS
        1. Acceptable Manufacturer:
           1. Nichiha USA, Inc., 3150 Avondale Mill Rd, Macon, GA 301216, USA
           2. Nichiha Corporation, 18-19 Nishiki 2-chome Naka-ku, Nagoya, Aichi 460-8610, Japan.
        2. 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 Architectural Wall Panels

Accessory/Component Options:

Manufactured Corners with 3-1/2” returns for each profile color.

Aluminum trim options: Corner Key, Open Outside Corner, H-Mold,J-Mold, Compression Joint, Inside Corner

Finish: Clear Anodized or Primed

Color Matched to Panel

Dimensions

AWP-1818: 455mm (17-7/8”) (h) x 1,818 mm (71-9/16”)

Products

Illumination – Custom Color

Miraia

Natura

Architectural Block

TuffBlock

Plymouth Brick

Canyon Brick

ModernBrick

Corbosa

Sandstone

VintageBrick

Riftsawn

Latura V-Groove

Panel Thickness

16 mm (5/8")

Weight: 42.5 lbs. per panel

18 mm (3/4”)

Weight: 41.6 lbs. per panel

21 mm (7/8”)

Weight: 47.8 lbs. per panel

Finish

Matte

High Gloss

Factory sealed on six [6] sides

Coverage: 8.88 sq. ft. per panel

AWP-3030: 455mm (17-7/8”) (h) x 3,030 mm (119-5/16””)

Products

Illumination – Custom Color

Ribbed

VintageWood

RoughSawn

EmpireBlock

IndustrialBlock

Latura V-Groove

Panel Thickness: 16 mm (5/8")

Weight: 67 lbs. per panel

Finish: Matte

Factory sealed on two [2] sides

Coverage: 14.81 sq. ft. per panel

* + - * 1. Substitutions: Not permitted.
        2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
    1. MATERIALS
       1. Fiber cement panels manufactured from a pressed, stamped, and autoclaved mix of Portland cement, fly ash, silica, recycled rejects, and wood fiber bundles.
       2. Panel surface pre-finished and machine applied.
       3. Panels profiled along all four edges, such that both horizontal and vertical joints between the installed panels are ship-lapped.
       4. Factory-applied sealant gasket added to top and right panel edges; all joints contain a factory sealant.
    2. PERFORMANCE REQUIREMENTS:
       1. Fiber Cement Wall Panels – Must comply with ASTM C1186, Type A, Grade II requirements:
          1. ASTM C1185 - Standard Test Methods for Sampling and Testing Non-Asbestos Fiber Cement:

Warm Water: No evidence of cracking, delamination, swelling, or other defects observed.

* + - 1. Surface Burning (CAN-ULC S102/ (ASTM E84)): Flame Spread: 0, Smoke Developed: 0 or 5.
      2. Fire Resistant (ASTM E119): The wall assembly must successfully endure 60-minute fire exposure without developing excessive unexposed surface temperature or allowing flaming on the unexposed side of the assembly.
      3. Ignition Resistance (NFPA 268): No sustained flaming of panels, assembly when subjected to a minimum radiant heat flux of 12.5 kW/m2 ± 5% in the presence of a pilot ignition source for a 20-minute period.
      4. Fire Propagation (NFPA 285): Wall assembly of Nichiha AWP, Ultimate Clips and Starter Track, Tyvek Commercial Wrap, ½” Densglass Gold Sheathing, 16” o.c. 18 gauge steel studs, mineral wool in-cavity insulation, and interior 5/8” Type X gypsum met the acceptance criteria of NFPA 285.
      5. Fire Propagation (CAN/ULC S134): Wall assembly of Nichiha AWP, Ultimate Clips and Starter Track, Tyvek Housewrap, 5/8” FRT plywood, 16” o.c. 2x wood studs, fiberglass in-cavity insulation, and interior 5/8” Type X gypsum met the acceptance criteria of CAN/ULC S134.
      6. Florida Building Code - Test Protocol HVHZ (TAS 202, 203): Design Pressure: 95 psf.
    1. INSTALLATION COMPONENTS
       1. Option 1: Ultimate Clip System:
          1. Starter Track: FA 700 (10mm rainscreen) – 10’ (3030mm) (l) galvalume coated steel.
          2. Panel Clips: JEL 778 “Ultimate Clip II” (10mm rainscreen for 5/8” AWP) – Zinc-Aluminum-Magnesium alloy coated steel.

Joint Tab Attachments (included) – used at all AWP-1818 panel to panel vertical joints.

* + - * 1. Corner Clips: JE 777C (10mm rainscreen for 5/8” AWP Manufactured Corners) -- Zinc-Aluminum-Magnesium alloy coated steel.
        2. Single Flange Sealant Backer – FHK 1015 R (10mm) – 6.5’ (l) fluorine coated galvalume.
        3. Double Flange Sealant Backer – FH 1015 R (10mm) – 10’ (l) fluorine coated galvalume.
        4. Corrugated Spacer – FS 1005 (5mm), FS 1010 (10mm) – 4’ (l).
      1. Option 2: Direct fastened to Gypsom Board walls or Ceiling.
         1. Shim flush and level to adjacent panels, as required.
      2. Aluminum Trim (optional): Paint primed trim as specified in finish schedule.
      3. 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.
      4. Sealant: Sealant shall comply with ASTM C920, Class 35.
  1. PART III: EXECUTION
     1. EXAMINATION
        1. Verification of Conditions:
           1. Fiber cement panels can be installed over braced wood, steel studs, gypsum board and sheathing including plywood, OSB, plastic foam (1” or less) or fiberboard sheathing. Fiber cement panels can also be installed over Structural Insulated Panels (SIP’s), Concrete Masonry Units (CMU’s) and Concrete Block Structures (CBS’s) with furring strips, and Pre-Engineered Metal Construction. Insulated Concrete Forms (ICFs) require added measures. Consult with Nichiha Technical Services.
           2. Allowable stud spacing: 16” o.c. maximum.
        2. Examine site to ensure substrate conditions are within alignment tolerances for proper installation.
        3. Do not begin installation until unacceptable conditions have been corrected.
        4. Do not install panels or components that appear to be damaged or defective. Do not install wet panels.
     2. TOLERANCE
        1. Wall surface plane must be plumb and level within +/- ¼ inch in 20 feet in any direction.
           1. One layer of Nichiha 5mm (~3/16”) Spacer may be used as shim.
           2. Wood or plastic shims may be used.
     3. INSTALLATION
        1. 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.
        2. 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.

Recommended circular saw: Makita 7-1/4” Circular Saw with Dust Collector (#5057KB).

Recommended blade: Tenryu Board-Pro Plus PCD Blade (#BP-18505).

Shears (electric or pneumatic) or jig saw can be used for complicated cuttings, such as service openings, curves, radii and scrollwork.

* + - * 1. 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 https://www.osha.gov/silica-crystalline.
        2. Immediately clean dust from cut panels as it may bind to the finish.
    1. CLEANING AND MAINTENANCE
       1. A. Review manufacturer guidelines for detailed care instructions.

1. END OF SECTION  09 7819