

SECTION 07 46 00 – FIBER CEMENT SIDING and TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes but is not limited to:
 - 1. Fiber-cement siding.
 - 2. Fiber-cement siding panels
 - 3. Fiber-cement exterior trim.
 - 4. Rainscreen furring and venting
 - 5. Soffit vents
 - 6. Fasteners
- B. Related Sections:
 - 1. Section 06 10 00 "Rough Carpentry" for wood furring, grounds, nailers, and blocking.
 - 2. Section 06 16 00 "Sheathing" for wall sheathing.
 - 3. Section 06 20 13 "Exterior Finish Carpentry" for exterior wood trim.
 - 4. Section 07 25 00 "Weather Barriers" for water resistive barriers and opening flashings.
 - 5. Section 07 62 00 "Sheet Metal Flashing and Trim" for formed metal flashings at siding, windows, doors and where indicated.
 - 6. Section 07 92 00 "Joint Sealants" for field-applied sealants.
 - 7. Section 09 91 20 "Painting" for finish painting of factory primed siding.

1.3 SUBMITTALS

- A. Product Data:
 - 1. For each type of product indicated.
 - 2. Fastener schedule for each product and substrate condition.
 - 3. Confirmation letter from manufacturer approving fastening schedule.
- B. Warranty: Sample of special warranty.

1.4 CLOSE OUT SUBMITTALS

- A. Maintenance Data: For each type of siding, soffit and rainscreen and related accessories to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with a protective covering for storage and identified with labels describing contents.
 - 1. Furnish full lengths of siding and soffit including related accessories, in a quantity equal to 2 percent of amount installed.

1.6 QUALITY ASSURANCE

- A. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- B. Source Limitations: Obtain each type, color, texture, and pattern of siding and soffit, including related accessories, from single source from single manufacturer.
- C. Mockups: Coordinate requirements for siding mockups with requirements for wall assembly mockup described in Section 07 25 00 "Weather Barriers".
- D. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials in a dry, well-ventilated, weathertight place.

1.8 WARRANTY

- A. Product Warranty: Standard form in which manufacturer agrees to repair or replace siding, soffit and trim products that fail(s) in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following: Structural failures including cracking, deforming.
 - 2. Lap and Vertical Siding and Soffit Product Warranty Period: 30 years from date of Substantial Completion.
 - 3. Trim Product Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SIDING AND TRIM

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.
 - 1. Manufacturer's: Subject to compliance with requirements, provide products by one of the following:
 - a. James Hardie Building Products, Inc., HZ 10.
 - b. Approved Substitution

- B. Horizontal Lap Board Siding:
 - 1. Texture: Smooth at exposed face.
 - 2. Size: 5/16 inch thick, 12 ft. long boards.
 - 3. Exposure: 7 inches.
- C. Panel Siding:
 - 1. Groove Pattern: None
 - 2. Texture: Smooth at exposed face.
 - 3. Size: 5/16 inch thick, 4 x 8 ft., 4 x 9 ft. or 4 x 10 ft. sheets as required.
- D. Exterior Trim 5/4 (1 inch) cement fiber boards:
 - 1. Texture: Smooth at exposed face.
 - 2. Size: 1 inch actual thickness, width as noted on Drawings, 10 ft. long boards.
- E. Finish:
 - 1. Factory Primer: Manufacturer's standard acrylic primer.
 - 2. Topcoats: As specified in Section 09 91 00 "Painting."

2.2 RAINSCREEN FURRING

- A. Rain Screen Furring Strips:
 - 1. Exterior grade plywood, wood preservative treated, 1/2 inch thick x 2 inch wide.
- B. Borate (SBX) Preservative Treatment: Disodium octoborate tetrahydrate (DOT) treatment for insect and decay protective pressure treatment of wood, producing material meeting the following minimum standards:
 - 1. Treatment Standard: AWWPA 3B.
 - 2. Treatment Level: Borate preservative treatment minimum retention level of 0.42 pcf.
 - 3. Edge Treatment: Fully treated by cutting furring strips to width prior to preservative treatment process.
- C. Rainscreen Furring Fasteners: Hot-Dip galvanized. Stainless steel, size as specified on Drawings.

2.3 ACCESSORIES

- A. Joint Flashing at Lap Siding Field Butt Joints:
 - 1. Material: Zinc-Coated (Galvanized) Steel Sheet; ASTM A 653/A 653M, G90 coating designation.
 - 2. Thickness: 0.0179 inch, 29 ga.
 - 3. Width: 6 inches.
 - 4. Finish: Pre-painted by coil-coating process to comply with ASTM A 755/ A 755M.
 - 5. Color: As selected by Architect from manufacturer's full range.
 - 6. Length: Equal to siding width
- B. Soffit Vents: Manufactured PVC vent sections designed specifically to integrate with plywood soffit panels, 1/16 inch wall thickness, integral color white. "Regular Hat Shaped Vent", manufactured by Tamlyn & Sons, or approved.
 - 1. Profile: 2-7/8" width (1-7/8" wide perforated section)

- C. Rainscreen Insect Protection:
 - 1. Cor-A-Vent; SV-3, 7/16 inch x 3 inch plastic corrugated siding vent strip.
 - 2. Insect Screen: 18 x 16 mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration. Comply with ASTM D 3656.
- D. Separator Material: Self adhered membrane per Section 07 25 00 Weather Barriers.

2.4 FASTENERS

- A. To wood framing: fiber cement plank siding and exterior trim.
 - 1. Minimum: Fastener with minimum embedment in wood substrate as indicated in manufacturer's fastener schedule. Increase fastener length as required to accommodate non-wood materials. Obtain written confirmation fastener selection is appropriate for substrate from manufacturer's representative.
 - 2. Refer to manufacturer's applicable building code compliance reports for specific framing and fastener requirements as determined by maximum basic wind speed and exposure category.
 - 3. For fastening schedule refer to manufacturer's recommendations.
 - 4. Fastener Material:
 - a. At Trim: Stainless steel nails, with ring or spiral shank.
 - b. Other locations: Hot-Dipped galvanized, with ring or spiral shank.
- B. To wood framing: fiber cement panels.
 - 1. Minimum: Manufacturer's recommended pan head screws with coated heads to match siding finish and color or as shown on Drawings.
 - 2. Minimum: Fastener with minimum embedment in wood substrate as indicated in manufacturer's fastener schedule. Increase fastener length as required to accommodate non-wood materials. Obtain written confirmation fastener selection is appropriate for substrate from manufacturer's representative.
 - 3. Refer to manufacturer's applicable building code compliance reports for specific framing and fastener requirements as determined by maximum basic wind speed and exposure category.
 - 4. For fastening schedule refer to manufacturer's recommendations.
 - 5. Fastener Material:
 - a. At Trim: Stainless steel nails, with ring or spiral shank.
 - b. Other locations: Hot-Dipped galvanized, with ring or spiral shank.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding and soffit and related accessories. Notify Architect of unsatisfactory substrate conditions in writing. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION - GENERAL

- A. Install blocking as required to attach trim, siding and rainscreen materials and accessories.
- B. Coordinate installation of weather barriers, flashings and adjoining construction to ensure proper sequencing.
- C. Cuts: Provide cut edges that are smooth, clean and straight. Make all cross cuts square to the material being cut unless otherwise indicated. Make all longitudinal cuts parallel to the edge of the siding unless otherwise indicated. Make all angled cuts parallel to adjacent surfaces unless otherwise indicated. Use squares, straight edges or guides as required to produce straight cut edges. Cuts shall not deviate from a straight line more than 1/16 inch over 96 inches. Do not overcut inside corners. Replace work that does not meet cut requirements.

3.3 INSTALLATION – PLYWOOD STRIP RAINSCREEN FURRING

- A. General: Provide rain screen furring under all siding. Install over weather resistive barrier and opening flashings.
- B. Install furring strips vertically. Other than at wall openings, do not install horizontal furring that would impede the flow of moisture in the siding cavity.
- C. Locate furring strips directly over wall studs.
- D. Provide additional furring at jambs of wall openings.
- E. Provide air gap of ½ inch minimum between window trim furring and window frame at head and jambs.
- F. Provide a minimum of ½ inch minimum space between adjacent furring strips.
- G. Do not run rainscreen behind utility boxes and meter bases.

3.4 INSTALLATION - LAP SIDING

- A. General: Comply with siding manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.
- B. Install board siding lapped for natural watershed.
- C. Install siding using manufacturer's approved blind nailing techniques.
 - 1. Drive fasteners perpendicular to siding and framing.
 - 2. Fastener heads should fit snug against siding (no air space)
 - 3. Do not overdrive fasteners or drive at an angle.
 - 4. If nail is countersunk, fill nail hole and add another nail.
 - 5. Do not use aluminum fasteners, staples or clipped head nails.
- D. Install in full length pieces where possible. Make every effort to minimize butt joints. Do not install any length under 4 feet, unless length of wall is less than 4 feet.

- E. Butt joints:
 - 1. Stagger butt joints. Alternate board lengths to avoid butt joint alignment within four (4) courses of siding.
 - 2. Position cut ends over stud locations or solid blocking.
 - 3. Install joint flashing material behind all butt joints.
 - 4. Install factory cut edges together at butt joints
 - 5. Install planks in moderate contact at butt joints
 - 6. Do not install sealant at field butt joints.
 - 7. Nail per manufacturer recommendations.
- F. Fasten siding in place with blind nailing, level and plumb. Nail into wood studs or solid blocking. Do not nail siding to sheathing.
- G. Touch up pre-painted surfaces as required to insure complete coating coverage at all surfaces.
- H. Kick Out Flashings: Install sheet metal kick-out flashing at all sidewall / roof eave and sidewall/ deck intersections.
- I. Clearances:
 - 1. Provide 1/8 inch gap between siding and corner, window and door trim. Seal weather tight per Section 07 92 00 "Joint Sealants" with properly dimensioned fillet joint.
 - 2. Maintain a minimum 1/4" clearance between the bottom of siding and horizontal flashing – do not caulk gap.
 - 3. Maintain a minimum of 6" between the bottom of siding and finished adjacent grade.
 - 4. Maintain a minimum of 1" gap between gutter end caps and siding and trim.
 - 5. Maintain a minimum of 2" vertical clearance between siding and decking, roofing, patios surfaces and sidewalks.
 - 6. Other clearances as required by manufacturer's installation instructions.

3.5 INSTALLATION, PANEL SIDING

- A. General: Comply with siding manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.
- B. Coordination:
 - 1. Coordinate spacing of studs and rainscreen strips with panel reveals / battens.
 - 2. Center batten patterns and panel reveals on areas to be sided unless otherwise indicated on Drawings.
- C. Arrange joints as shown on Drawings. Align joints in adjacent panels to provide consistent joint lines around entire building.
- D. Locate edge joints centered over furring.
- E. Provide cut edges that are smooth and clean
- F. Reveal Trim: Install reveal trim per manufacturer's fastening and installation instructions. Install vertical trim plumb and horizontal trim level.

- G. Dissimilar Reveal Materials: When reveal materials are dissimilar provide self-adhered membrane separator material between dissimilar materials.
- H. Pre-Finished Panel Filler: Fill nail holes in pre-finished panels with colored matched filler recommended by pre-finished panel manufacturer. When using color matched filler at pre-finished panels completely wipe filler from area surrounding nail head or nail hole.

3.6 INSTALLATION - STANDING AND RUNNING TRIM

- A. Install trim level, plumb, true, and aligned with adjacent materials.
 - 1. Scribe and cut exterior trim to fit adjoining work.
 - 2. Use concealed shims where necessary for alignment.
 - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb.
 - 4. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 5. Coordinate exterior trim with materials and systems in or adjacent to it.
 - 6. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.
 - 7. Rabbet vertical edges at corner trim and blind caulk vertical trim to trim joints.
 - 8. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available.
 - 9. Do not use pieces less than 48 inches long except where necessary.
 - 10. Use 22.5 degree scarf joints (weather joints) for end-to-end joints. Bed mating surfaces of scarf joints in sealant. Fit exterior joints to exclude water.
 - 11. Stagger end joints in adjacent and related members.
 - 12. Miter building trim at outside corners to produce tight-fitting joints with full-surface contact throughout length of joint. Bed mating surfaces of mitered trim with sealant.
 - 13. Butt window trim as indicated on Drawings.

3.7 FIELD PRIMING OF SIDING AND TRIM

- A. Prime paint field cut ends of siding and trim using siding manufacturer's recommended primer.
- B. Allow primer to cure prior to installing materials.
- C. Prime siding and trim areas to receive sealant with sealant manufacturer's recommended primer when a primer is required to achieve satisfactory pull test results as indicated in Section 07 92 00 "Joint Sealants".

3.8 ADJUSTING AND CLEANING

- A. Touch-up exposed fasteners and field cuts with manufacturer approved finish.
- B. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- C. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 07 46 00