



SECTION 07400

ENGINEERED COMPOSITE SIDING

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GENERAL

1.1 SECTION INCLUDES

- A. Rigid PVC Composite Shingle Siding.
- B. Cellular PVC trim and accessories.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Framing and sheathing.
- B. Section 07900 - Joint Sealers.
- C. Section 09900 – Finishes: Paints and Coatings

1.3 REFERENCES

- A. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM D 256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Notched Specimens of Plastics.
- C. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supported Plastics in a Horizontal Position.
- D. ASTM D 1435 - Standard Practice for Outdoor Weathering of Plastics.
- E. ASTM D 2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
- F. ASTM D5206 - Standard Test Method for Windload Resistance of Rigid Plastic Siding.
- G. ASCE7-02 - Standard Minimum Design Loads for Buildings and Other Structures.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. 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.
- C. Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- D. Certificate: Manufacturer's certification that siding as supplied meets or exceeds the conditions specified herein.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Maintain rigorous production quality control standards to ensure that siding will perform as expected for its intended use. Products meet or exceed the requirements of ICC, listed by ICC International Code Council.
- B. Regulatory Requirements: Products shall conform with the following:
 - 1. ATI Code Compliance Research Report - CCRR-0241.
 - 2. Florida Building Code Commission Report – FBC-20403
 - 3. Texas Department of Insurance Evaluation – TDI EC-93 Grayne
 - 4. Wildland Urban Interface (WUI) G63885.03.01-121-24
- C. 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, color, and texture are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Pack siding products in cartons and clearly mark each carton with manufacturer's name, siding style, color, identifying lot number.
- B. Store products and accessories in clean, dry area, out of direct sunlight.
- C. Handle material to prevent damage. Do not allow cartons to crease.

1.7 PROJECT CONDITIONS

- A. 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.

1.8 WARRANTY

- A. Upon completion, provide a written Limited 50 Year Warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Grayne™ - The Tapco Group, which is located at: 29797 Beck Rd. ; Wixom, MI 48398-2834; Toll Free Tel: 800-771-4486; Fax: 800-582-0508; Email: Wayne_Sanderson@tapcoint.com; Web: www.grayne.com

- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.

2.2 MATERIALS

- A. Siding General Requirements: Manufactured from polymer composite material.
 - 1. Fire Properties:
 - a. ASTM E 84: Class 1 (A).
 - 1) Flame Spread Index: No more than 25, when tested in accordance with ASTM E 84.
 - 2) Smoke Developed Index: Not greater than 450, when tested in accordance with ASTM E 84.
 - 3) Fuel Contributed: 0.
 - b. Ignition Temperature: When tested in accordance with ASTM D 1929, no self ignition and no flaming; no smoldering at less than 875 degrees F (468 degrees C).
 - c. Average Time of Burning: Less than 5 seconds, when tested in accordance with ASTM D 635.
 - d. Average Extent of Burning: Less than 5 mm, when tested in accordance with ASTM D 635.
 - 2. Typical Siding Properties:
 - a. Weatherability: No surface or structural defects such as peeling, cracking, or chipping or blistering.
 - b. Surface Distortion: No distortion at 120 degrees F (40.5 degrees C).
 - c. Absolute Color Formulation: All colors to be formulated with acrylic capstock for fade protection.
- B. 5 inch White Cedar Shingle, 5 inch (127 mm).
 - 1. Description: The 5" Plain Sawn Shingle offers the charm of natural cedar with none of the maintenance. The shingle's graining patterns create natural depth and shadows for a striking appearance on the wall.
 - 2. Width Exposure: 5 inch (127 mm).
 - 3. Panel Length: 60.75 inches (1543 mm).
 - 4. Can install at grade, impervious to moisture
 - 5. 72 woodgrains
 - 6. 8 unique panelized boards
 - 7. 0.75 inch (19.1 mm) projection from the wall
 - 8. 0.625 inch (15.9 mm) Butt thickness
 - 9. Plain Sawn Wood Grain
 - 10. Distinct color differences between early wood and late wood tree rings
 - 11. Dual Offset installation: A system which provides identification marks to cut each panel and to use around protrusions in the wall ensuring keyways (lap joints) are never stacked on top of each other.
 - 12. Color: As selected by Architect from manufacturers standards.
 - 13. Color shall be as follows:
 - a.. 401 Cape Grey
 - b. 402 Autumn Shade
 - c. 403 Lakeside Blue
 - d. 404 Ridge Moss
 - e. 405 Aspen Brown
 - f. 406 Homestead Red
 - g. 997 Paintable (unfinished – this product must be painted)

- C. 7.5 inch Red Cedar Shingle, 7.5 inch (190.5 mm)
 - 1. Description: The 7.5 inch Plain Sawn Shingle offers the charm of Natural cedar with none of the maintenance. The shingles panels Graining patterns create a natural depth and shadows for a striking appearance on the wall
 - 2. Width Exposure: 7.5 inches (190.5 mm)
 - 3. Panel Length: 60.75 inches (1543 mm)
 - 14. Can install at grade, impervious to moisture
 - 15. 72 woodgrains
 - 16. 8 unique panelized boards
 - 17. 0.75 inch (19.1 mm) projection from the wall
 - 18. 0.625 inch (15.9 mm) butt thickness
 - 19. Plain Sawn Wood Grain
 - 20. Distinct color differences between early wood and late wood tree rings
 - 21. Dual Offset installation: A system which provides identification marks to cut each panel and to use around protrusions in the wall ensuring keyways (lap joints) are never stacked on top of each other.
 - 22. Color: As selected by Architect from Manufacturers Standards.
 - 23. Color shall be as follows:
 - a. 451 Aged Grey
 - b. 452 Tuscan Gold
 - c. 453 Treated Cedar
 - d. 454 Vintage Brown
 - e. 455 Heritage Grey
 - f. 456 Harvest Shade
 - g. 997 Paintable (unfinished – this product must be painted)

- C. Accessories.
 - 1. Starter Strip - 10 feet (3048 mm).
 - a. Metal Starter Strip
 - 2. Trimboards: Kleer Konceal Trimboard
 - a. Finish: Smooth.
 - b. Finish: Wood Grain.
 - c. Thickness: 15/16 inches (23.8 mm).
 - d. Width: 3.5 inch (88.9 mm) width with 0.75 inch by 0.75 inch (19.1 mm by 19.1 mm) Konceal Edge.
 - e. Length: 10 feet (3048 mm).
 - 3. Corner Board: Kleer Konceal Cornerboard
 - a. Finish: Smooth.
 - b. Finish: Wood grain.
 - c. Width: 3.5 inch (88.9 mm) width with 0.75 inch by 0.75 inch (19.1 mm by 19.1 mm) Konceal Edge.
 - d. Thickness: 15/16 inches (23.8 mm).
 - e. Length: 10 feet (3048 mm)
 - 4. Other accessories as approved by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Confirm that all critical dimensions are as specified on the drawings.
- B. Beginning installation indicates installer's acceptance of substrate as suitable to accept products specified.

3.2 PREPARATION

- A. Repair substrate flaws or defects before applying siding.

- B. Where necessary, use furring strips or foam sheathing on uneven surfaces to even the substrate and ensure that the surfaces are free from obstructions before application.
- C. A code approved water-resistive barrier must be installed prior to installation of the siding panels.

3.3 INSTALLATION

- A. Install siding in accordance with the manufacturer's instructions, and Drawings.
 - 1. PLEASE NOTE: patent pending on unique installation instructions for minimal waste and perfect Keyway alignment.
- B. Securely attach siding using methods and materials recommended by siding manufacturer for wind load conditions at project site.
- C. Install siding and accessories with all joint members plumb and true.
- D. Paint Recommendations:
 - 1. Follow paint manufacturers recommendations
 - 2. Use 100% acrylic latex paint to finish paintable Grayne panels.
 - a. The use of a paint designed specifically for exterior Rigid PVC is recommended.
 - b. Utilize a paint with an LRV (Light Reflectance Value) greater than or equal to 55

3.4 FIELD QUALITY CONTROL

- A. After installation of siding check entire surface for obvious flaws or defects.
- B. Replace and repair any problem areas, paying close attention to the substrate for causes of the problem.

3.5 CLEANING

- A. After application of siding clean as necessary to remove all fingerprints and soiled areas.
- B. Clean siding in accordance manufacturer's instructions.
- C. Upon completion of siding application, clean entire area, removing all scrap, packaging, and unused materials related to this work.

END OF SECTION