

Part II
Division 6
Carpentry

SECTION 06 10 00
ROUGH CARPENTRY

1 PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract including General and Supplementary Conditions and Division 1 specification sections apply to Work of this section.

1.2 SECTION INCLUDES

- A. Structural floor and wall framing; built-up structural members, misc. wall and roof sheathing; subfloor sheathing; preservative treatment; sill gaskets.
- B. Roof curbs and cants; blocking in wall and roof openings; wood furring and grounds; electrical panel backboards, concealed wood blocking.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 - 1. Lumber Grading Agency: Certified by ALSC.
 - 2. Plywood Grading Agency: Certified by APA.

2 PART 2 PRODUCTS

2.1 LUMBER MATERIALS

- A. Lumber Grading Rules: SPIB, WWPA, NLGA.
- B. Joist Framing: S-P-F species, No. 2 & better grade, 19 percent maximum moisture content.
- C. Rafter Framing: S-P-F species, No. 2 & better grade, 19 percent maximum moisture content.
- D. Non-structural Light Framing: S-P-F species, Standard grade, 19 percent maximum moisture content.
- E. Sill Plates/Wood in Contact with Cementitious Materials: Pressure treated Southern Pine.

2.2 SHEATHING MATERIALS

- A. Roof Sheathing: APA Rated Sheathing Structural I, Span Rating 40/20, Exposure 1; unsanded.
- B. Floor Sheathing: AdvanTech, HUBER Engineered Wood Products, Span Rating 24 oc; Exposure 1; unsanded.

- C. Wall Sheathing: APA Rated Sheathing, Span Rating 32/16, Exposure 1; unsanded.
- D. Telephone and Electrical Panel Boards: Plywood, APA C-C Plugged INT.

2.3 SHEATHING AND UNDERLAYMENT LOCATIONS

- A. Roof Sheathing: 1 inch (nominal) thick plywood, 48 x 96 inch sized sheets, square edges.
- B. Floor Sheathing: varying thickness plywood (see plans), 48 x 96 inch sized sheets, tongue and groove edges.
- C. Above Grade Wall Sheathing: 15/32 inch thick OSB, 48 x 96 inch sized sheets, square edges.

2.4 ACCESSORIES

- A. Fasteners: Galvanized steel for exterior, high humidity, and treated wood locations, plain finish elsewhere.
- B. Die Stamped Connectors: 20 gage thick galvanized steel.
- C. Structural Framing Connectors, Joist Hangers: Galvanized steel, sized to suit framing conditions.
- D. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fasteners for anchorages to steel.
- E. Sill Gasket on Top of Foundation Wall: Plate width, closed cell polyethylene foam strip.

2.5 WOOD TREATMENT

- A. Wood Preservative (Pressure Treatment): AWPA Treatment C1 using water borne preservative with 0.25 percent retainage.
- B. Shop preservative treat wood materials indicated on Drawings and in schedule at end of Section, in accordance with manufacturer's instructions.

3 PART 3 EXECUTION

3.1 FRAMING

- A. Erect wood framing members in accordance with applicable code. Place members level and plumb. Place horizontal members crown side up.
- B. Place sill gasket directly on foundation under exterior wall sills.
- C. Place wall studs directly under wood truss, rafter and joist framing members.
- D. Frame double joist headers at floor and ceiling openings. Frame rigidly into joists. Frame double joists under wall studding.

- E. Bridge joists framing in excess of 8 feet span at mid-span members. Fit solid blocking bridging at ends of members.
- F. Curb all roof openings except where curbs are provided. Construct curb members of single pieces per side.

3.2 SHEATHING

- A. Install roof sheathing continuous over supports with 48 inches minimum length. Fasten with 6d deformed shank nails, 6" oc at edges, 12" oc at intermediate supports.
- B. Install floor sheathing continuous over supports with 48 inches minimum length. Glue and fasten with 6d deformed shank nails, 6" oc at edges, 12" oc at intermediate supports.
- C. Secure wall sheathing with ends staggered, over firm bearing. Fasten with 6d deformed shank nails, 6" oc at edges, 12" oc at intermediate supports. Provide 2x blocking at all horizontal joints.
- D. Place air and water infiltration barrier over wall sheathing, tape seal lap joints and end laps, staple in place.
- E. Use galvanized steel sheathing clips between sheets between roof framing members.
- F. Install telephone and electrical panel backboards with plywood sheathing material where required. Size the backboard by 12 inches beyond size of electrical panel.
- G. Install underlayment continuous subfloor with 48 inches minimum length. Fasten with 3d deformed shank nails, 6" oc at edges, 8" oc each way.

3.3 WOOD TREATMENT SCHEDULE

- A. Wood wall and partition sills in contact with concrete.
- B. Wood blocking in contact with roofing materials.
- C. Wood in contact with earth.

...END OF SECTION

SECTION 06 60 00
PLASTIC FABRICATIONS

1 PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cellular PVC Trim Boards for architectural millwork and window trim.

1.2 RELATED SECTIONS

- A. N/A

1.3 REFERENCES

- A. ASTM D792 - Density and Specific Gravity of Plastics by Displacement.
- B. ASTM D570 - Water Absorption of Plastics.
- C. ASTM D638 - Tensile Properties of Plastics.
- D. ASTM D790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- E. ASTM D1761 - Mechanical Fasteners in Wood.
- F. ASTM D5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by a Falling Weight.
- G. ASTM D256 - Determining the Pendulum Impact Resistance of Plastics.
- H. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer.
- I. ASTM D635 - Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
- J. ASTM E84 - Surface Burning Characteristics of Building Materials.
- K. ASTM D648 - Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
- L. ASTM D3679 - Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, manufacturer's catalogs, SPEC-DATA® product Sheet, for specified products.

- C. Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Check with Local Building Code for installation requirements.
- B. Allowable Tolerances:
 - 1. Variation in component length: -0.00 / +1.00"
 - 2. Variation in component width: $\pm 1/16$ "
 - 3. Variation in component thickness: $\pm 1/16$ "
 - 4. Variation in component edge cut: $\pm 2^\circ$
 - 5. Variation in Density -0% + 10%
- C. Workmanship, Finish, and Appearance:
 - 1. Cellular PVC that is homogeneous and free of voids, holes, cracks, and foreign inclusions and other defects. Edges must be square, and top and bottom surfaces shall be flat with no convex or concave deviation.
 - 2. Uniform surface free from cupping, warping, and twisting.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.7 WARRANTY

- A. Provide manufacturer's 25 year warranty against defects in manufacturing that cause the products to rot, corrode, delaminate, or excessively swell from moisture.

2 PART 2 PRODUCTS

2.1 MATERIALS

- A. Acceptable products: Versatex® Trimboards manufactured by Wolfpac Technologies, Inc., 111 Leetsdale Industrial Drive, Unit 101, Leetsdale, PA, or equal.
- B. Material: Expanded rigid poly vinyl chloride material with a small-cell microstructure and density of .55 grams/cm³.
 - 1. Material shall have a minimum physical and performance properties specified in the following Section C.
- C. Performance and physical characteristic requirements:

| Property | Units | Value | ASTM Method |
|---------------------------------|-----------------------|-------------------------|-------------|
| PHYSICAL | | | |
| Density | g/cm ³ | 0.55 | D 792 |
| Water Absorption | % | <0.70 | D 570 |
| MECHANICAL | | | |
| Tensile Strength | psi | 1889 | D 638 |
| Tensile Modulus | psi | 107,000 | D 638 |
| Flexural Strength | psi | 4019 | D 790 |
| Flexural Modulus | psi | 164,200 | D 790 |
| Nail Hold | Lbf/in of penetration | 108 | D 1761 |
| Screw Hold | Lbf/in of penetration | 442 | D 1761 |
| Staple Hold | Lbf/in of penetration | 69 | D 1761 |
| Gardner Impact | in-lbs | 98 | D5420 |
| Notched Izod Impact | ft-lbs/inch | 0.250 | D256 |
| THERMAL | | | |
| Coefficient of Linear Expansion | in/in/°F | 3.25 x 10 ⁻⁵ | D 696 |
| Burning Rate | In/min | Failed to Ignite | D 635 |
| Flame Spread Index | -- | 25 | E 84 |
| Heat Deflection Temp (264 psi) | °F | 153 | D648 |
| Oil Canning(@140°F) | °F | Passed | D 648 |

2.2 ACCESSORY PRODUCTS

- A. Fasteners: Use only stainless steel fasteners recommended by manufacturer.
1. Install fasteners in accordance with manufacturer's recommendations.
 2. Do not use staples, small brads, wire nails, fine threaded wood screws and ring-shank fasteners.
- B. Adhesives:
1. Bonding Versatex to Itself: Bond joints with PVC cement or cellular PVC adhesives approved by manufacturer.
 2. Bonding Versatex to Various Substrates: Bond with construction adhesives recommended by manufacturer.
 3. Use scarf joint cuts in running trim.
 4. Secure bonded joints with fasteners on each side of joint.

C. Sealants:

1. Use urethane, polyurethane or acrylic based sealants that do not contain silicone.

2.3 FINISHES

A. Preparation:

1. Clean, Dry surface
2. Finish nail holes with a polyurethane or acrylic based caulk.
3. For painted surfaces, use only 100% acrylic latex paint system.

3 PART 3 EXECUTION

3.1 INSTALLATION

- A. Manufacturers instructions: Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.
- B. Cutting: Cut sheets and boards with standard saws and carbide tipped blades used for wood. Do not use fine tooth metal cutting blades.
- C. Drilling: Drill using standard woodworking drill bits. Do not use drill bits made for rigid PVC.
- D. Milling: Mill with standard woodworking milling or moulding machines of various types. Relief Angle 20° to 30°; Cutting speed to be optimized with the number of knives and feed rate.
- E. Routing: Rout with standard carbide tipped routers used in woodworking.
- F. Edge Finishing: Various sanding, grinding or filing tools. Do not allow excessive frictional heat to build up.
- G. Nail Location: Standard nailing patterns are recommended. Use two fasteners at each framing member for trimboard applications. Use additional fasteners for trimboards wider than 10 inches and sheet. Install fasteners no more than two inches from the end of boards.
- H. Linear Thermal Expansion and Contraction: When properly fastened, allow for 3/16" movement for each 18' board. When butting boards together it is recommended that the butt joint is glued with PVC cement. This will eliminate any separation at the joint. The gap can be accommodated at the ends of the run.

...END OF SECTION