

SECTION 06 10 00 ROUGH CARPENTRY

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Section specifies wood blocking, sheathing, furring, nailers, and rough hardware.

1.2 RELATED WORK

- A. Milled Woodwork: Section 06 20 00, FINISH CARPENTRY.

1.3 PERFORMANCE REQUIREMENTS

- A. Sustainably Harvested Wood: Comply with requirements of Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.
- B. Engineered Wood Products:
1. Provide products with no added urea formaldehyde; determine formaldehyde concentrations in air from wood products under test conditions of temperature and relative humidity in accordance with ASTM D6007 or E1333.
 2. Bio-based Content:
 - a. Interior Panels: Engineered products designed specifically for interior applications and providing a surface that is impact-, scratch-, and wear-resistant and that does not absorb or retain moisture; provide minimum 55 percent bio-based content.
 - b. Structural Interior Panels: Engineered products designed for use in structural construction applications; provide minimum 89 percent bio-based content.
 - c. Structural Wall Panels: Engineered products designed for use in structural walls, curtain walls, floors and roofs; provide minimum 94 percent bio-based content.
 3. VOC Emissions:
 - a. Provide low VOC products with Green Seal Certification to GS-36 and description of the basis for certification.

1.4 SUSTAINABILITY REQUIREMENTS

- A. Materials in this section may contribute towards contract compliance with sustainability requirements. See Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS, for project local/regional materials, recycled content, certified wood requirements.
- B. Biobased Material: For products designated by the USDA's BioPreferred® program, provide products that meet or exceed USDA recommendations for biobased content, subject to the products compliance with performance requirements in this Section. For

more information regarding the product categories covered by the BioPreferred® program, visit <http://www.biopreferred.gov>.

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Provide documentation of conformance with performance requirements of this section.
- C. Prepare shop drawings showing framing connection details, fasteners, connections and dimensions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Protect lumber and other products from dampness both during and after delivery at site.
- B. Pile lumber in stacks in such manner as to provide air circulation around surfaces of each piece.
- C. Stack plywood and other board products so as to prevent warping.
- D. Locate stacks on well drained areas, supported at least 150 mm (6 inches) above grade and cover with well-ventilated sheds having firmly constructed over hanging roof with sufficient end wall to protect lumber from driving rain.

1.7 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced.
Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
- B. American Forest and Paper Association (AF&PA):
Wood Structural Design Data
- C. American Lumber Standard Committee, Incorporated (ALSC):
ALSC Board of Review
- D. American National Standards Institute (ANSI):
ANSI A190.1-2012 Structural Glued Laminated Timber
- E. American Plywood Association (APA):
E30-2011 Engineered Wood Construction Guide
- F. American Society of Mechanical Engineers (ASME):
B18.2.1-2012 Square, Hex, Heavy Hex and Askew Head Bolts and Hex,
Heavy Hex, Hex Flange, Lobed Head, and Lag Screws
B18.2.2-2010 Hex Nuts for General Applications
B18.6.1-81 (R2008) Wood Screws

B18.6.4-98(R2005) Thread Forming and Thread Cutting Tapping Screws and
Metallic Drive Screws

G. American Society for Testing and Materials (ASTM):

A307-10 Carbon Steel Bolts and Studs, 60,000 PSI Tensile
Strength

C954-11 Steel Drill Screws for the Application of Gypsum Panel
Products or Metal Plaster Bases to Steel Studs from 0.033
in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness

C1002-07 Steel Self-Piercing Tapping Screws for the Application of
Gypsum Panel Products or Metal Plaster Bases to Wood
Studs or Steel Studs

D6007-02 Determining Formaldehyde Concentration in Air from
Wood Products Using a Small Scale Chamber

E1333-10 Determining Formaldehyde Concentrations in Air and
Emission Rates from Wood Products Using a Large
Chamber

F844-07a Washers, Steel, Plan (Flat) Unhardened for General Use

F1667-11ae1 Nails, Spikes, and Staples

H. American Wood Protection Association (AWPA)

I. FM Global Group (FM):

FM 4435 Approval Standard for Edge Systems Used with Low Slope
Roofing Systems

J. Green Seal (GS):

GS-36 (2013) Commercial Adhesives

K. South Coast Air Quality Management District (SCAQMD):

SCAQMD Rule 1168 (1989; R2005) Adhesive and Sealant Applications

L. U.S. Department of Commerce/National Institute of Science and Technology:

PS 1-09 Structural Plywood

PS 20-10 American Softwood Lumber Standard

PART 2 - PRODUCTS

2.1 LUMBER

A. Unless otherwise specified, each piece of lumber to bear a grade mark, stamp, or other identifying marks indicating grades of material, and rules or standards under which produced.

1. Identifying marks in accordance with rule or standard under which material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification.
 2. Inspection agency for lumber approved by the Board of Review, American Lumber Standards Committee, to grade species used.
- B. Structural Members: Species and grade as listed in the AF&PA, National Design Specification for Wood Construction having design stresses as shown.
- C. Lumber Other Than Structural:
1. Unless otherwise specified, species graded under the grading rules of an inspection agency approved by Board of Review, American Lumber Standards Committee.
 2. Framing lumber: Minimum extreme fiber stress in bending of 1100.
 3. Furring, blocking, nailers and similar items 100 mm (4 inches) and narrower Standard Grade; and, members 150 mm (6 inches) and wider, Number 2 Grade.
- D. Sizes:
1. Conforming to Prod. Std. PS20.
 2. Size references are nominal sizes, unless otherwise specified, actual sizes within manufacturing tolerances allowed by standard under which produced.
- E. Moisture Content:
1. At time of delivery and maintained at the site.
 2. Boards and lumber 50 mm (2 inches) and less in thickness: 19 percent or less.
 3. Lumber over 50 mm (2 inches) thick: 25 percent or less.
- F. Preservative Treatment:
1. Do not treat Heart Redwood and Western Red Cedar.
 2. Products containing chromium or arsenic will not be permitted.
 3. Provide products with waterborne or boron-based preservatives.
- G. Waterborne Wood Preservatives:
1. Treat wood products with waterborne wood preservatives listed in Section 4 of AWWA Standards U1, excluding those which contain arsenic and/or chromium.
 2. Pressure treatment of wood products must conform to the requirements of AWWA Standards U1 and T1.
 3. Retention of preservatives as prescribed in AWWA Standard U1 for the following Use Categories (material conforming to a higher AWWA Use Category may be specified):
 - a. UC1: Interior construction - above ground, dry conditions.

- b. UC2: Interior construction - above ground, damp conditions.
- c. UC3A: Exterior construction - above ground, coated and with rapid water runoff.
- d. UC3B: Exterior construction - above ground, uncoated or poor water runoff.
- e. UC4A: General purpose soil or fresh water contact - heavy duty above ground.
- f. UC4B: Heavy duty soil or fresh water contact - critical or difficult to replace components.
- g. UC4C: Extreme duty soil or fresh water contact - critical structural components.
- H. Boron-based Preservatives: Impregnate lumber with preservative treatment conforming to AWWPA Standard U1.
- I. Fire-retardant Treatment:
 - 1. Fire-retardant-treated wood products to be free of halogens, sulfates, ammonium phosphate and formaldehyde.
 - 2. Fire retardant treatment of wood products to conform to the requirements of AWWPA Standard U1, Commodity Specification H and AWWPA Standard T1, Section H.

2.2 PLYWOOD

- A. Comply with Prod. Std. PS 1 and APA E30.
- B. Bear the mark of a recognized association or independent inspection agency that maintains continuing control over quality of plywood which identifies compliance by veneer grade, group number, span rating where applicable, and glue type.
- C. Sheathing:
 - 1. APA rated Exposure 1 or Exterior; panel grade CD or better.
 - 2. Wall Sheathing:
 - a. Minimum 9 mm (11/32 inch) thick with supports 400 mm (16 inches) on center and 12 mm (15/32 inch) thick with supports 600 mm (24 inches) on center unless specified otherwise.
 - b. Minimum 1200 mm (48 inches) wide at corners without corner bracing of framing.
 - 3. Roof Sheathing:
 - a. Minimum 9 mm (11/32 inch) thick with span rating 24/0 or 12 mm (15/32 inch) thick with span rating for supports 400 mm (16 inches) on center unless specified otherwise.
 - b. Minimum 15 mm (19/32 inch) thick or span rating of 40/20 or 18 mm (23/32 inch) thick or span rating of 48/24 for supports 600 mm (24 inches) on center.

2.3 ROUGH HARDWARE

- A. Anchor Bolts: ASTM A307, size as indicated, complete with nuts and washers.
- B. Washers:
 - 1. ASTM F844.
 - 2. Use zinc or cadmium coated steel or cast iron for washers exposed to weather.
- C. Screws:
 - 1. Wood to Wood: ANSI B18.6.1 or ASTM C1002.
 - 2. Wood to Steel: ASTM C954, or ASTM C1002.
- D. Nails:
 - 1. ASTM F1667:
 - a. Common: Type I, Style 10.
 - b. Concrete: Type I, Style 11.
 - c. Barbed: Type I, Style 26.
 - d. Underlayment: Type I, Style 25.
 - e. Masonry: Type I, Style 27.

2.4 BLOCKING

- A. General: Provide miscellaneous lumber as indicated and lumber support or attachment for other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
- B. Provide Standard or No. 2 Grade lumber.

PART 3 - EXECUTION

3.1 INSTALLATION OF FRAMING AND MISCELLANEOUS WOOD MEMBERS

- A. Conform to applicable requirements of the following:
 - 1. Comply with APA standards for installation of plywood.
- B. Anchors in Masonry: Except where indicated otherwise, embed anchor bolts not less than 400 mm (15 inches) in masonry unit walls and provide each with a nut and a 50 mm (2 inch) diameter washer at bottom end. Fully grout bolts with mortar.
- C. Anchors in Concrete:
 - 1. Except where indicated otherwise, embed anchor bolts not less than 200 mm (8 inches) in poured concrete walls and provide each with a nut and a 50 mm (2 inch) diameter washer at bottom end.

2. A bent end may be substituted for the nut and washer; bend to be not less than 90 degrees.
 3. Powder-actuated fasteners spaced 900 mm (3 feet) o.c. may be provided instead of bolts for single thickness plates on concrete.
- D. Sheathing:
1. Lay panels with joints staggered, with edge and ends 3 mm (1/8 inch) apart and nailed over bearings as specified.
 2. Set nails not less than 9 mm (3/8 inch) from edges.
 3. Install 50 mm by 100 mm (2 inch by 4 inch) blocking spiked between studs to support edge or end joints of panels.
- E. Wood Roof Nailers, Edge Strips, Crickets, Curbs, and Cants: Provide sizes and configurations indicated or specified and anchored securely to continuous construction.
1. Roof Edge Strips and Nailers: Provide at perimeter of roof, around openings through roof, and where roofs abut walls, curbs, and other vertical surfaces.
 2. Except where indicated otherwise, nailers to be 150 mm (6 inches) wide and the same thickness as the insulation. Anchor nailers securely to underlying construction.
 3. Anchor perimeter nailers in accordance with FM 4435.
 4. Crickets, Cants, and Curbs: Provide wood saddles or crickets, cant strips, curbs for scuttles and ventilators, and at expansion joints, as indicated, specified, or necessary.
- F. Wood Blocking: Provide proper sizes and shapes at proper locations for the installation and attachment of wood and other finish materials, fixtures, equipment, and items indicated or specified.
- G. Wood Grounds: Provide for fastening wood trim, finish materials, and other items to plastered walls and ceilings. Install grounds in proper alignment and true with a 2400 mm (8 foot) straightedge.
- H. Wood Furring:
1. Provide where shown and as necessary for facing materials specified.
 2. Except as shown otherwise, furring strips to be nominal one by 3, continuous, and spaced 400 mm (16 inches) o.c. Erect furring vertically or horizontally as necessary.
 3. Nail furring strips to masonry.
 4. Do not use wood plugs.
 5. Provide furring strips around openings, behind bases, and at angles and corners.

6. Furring to be plumb, rigid, and level and shimmed as necessary to provide a true, even plane with surfaces suitable to receive the finish required.

3.2 PROTECTION

- A. Protect rough carpentry from weather.
- B. If rough carpentry becomes wet, apply EPA-registered borate treatment complying with EPA registered label.

- - - E N D - - -

SECTION 06 20 00 FINISH CARPENTRY

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies exterior and interior millwork.

1.2 RELATED WORK

- A. Fabricated Metal brackets, bench supports and countertop legs: Section 05 50 00, METAL FABRICATIONS.
- B. Framing, furring and blocking: Section 06 10 00, ROUGH CARPENTRY.
- C. Wood doors: Section 08 14 00, WOOD DOORS.
- D. Stock Casework: Section 12 32 00, MANUFACTURED WOOD CASEWORK.
- E. Electrical light fixtures and duplex outlets: Division 26, ELECTRICAL.

1.3 PERFORMANCE REQUIREMENTS

- A. Sustainably Harvested Wood: Comply with requirements of Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.
- B. Engineered Wood Products:
 - 1. Provide products with no added urea formaldehyde; determine formaldehyde concentrations in air from wood products under test conditions of temperature and relative humidity in accordance with ASTM D6007 or E1333.
 - 2. Bio-based Content:
 - a. Interior Panels: Engineered products designed specifically for interior applications and providing a surface that is impact-, scratch-, and wear-resistant and that does not absorb or retain moisture; provide minimum 55 percent bio-based content.
 - b. Structural Interior Panels: Engineered products designed for use in structural construction applications; provide minimum 89 percent bio-based content.
 - c. Structural Wall Panels: Engineered products designed for use in structural walls, curtain walls, floors and roofs; provide minimum 94 percent bio-based content.
 - 3. VOC Emissions:
 - a. Provide low VOC products with Green Seal Certification to GS-36 and description of the basis for certification.

1.4 SUSTAINABILITY REQUIREMENTS

- A. Materials in this section may contribute towards contract compliance with sustainability requirements. See Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS, for project local/regional materials, low-emitting materials, recycled content, certified wood requirements.
- B. Biobased Material: For products designated by the USDA's BioPreferred® program, provide products that meet or exceed USDA recommendations for biobased content, subject to the products compliance with performance requirements in this Section. For more information regarding the product categories covered by the BioPreferred® program, visit <http://www.biopreferred.gov>.

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Provide documentation of conformance with performance requirements of this section.
- C. Shop Drawings:
 - 1. Millwork: Half size scale for sections and details; 1:50 (1/4-inch) for elevations and plans.
 - 2. Indicate materials and details of construction, methods of fastening, erection, and installation.
- D. Samples:
 - 1. Plastic laminate, finished plywood or particleboard, 150 mm by 300 mm (6 by 12 inches).
- E. Certificates:
 - 1. Indicate preservative treatment of materials meet the requirements specified.
 - 2. Indicating moisture content of materials meet the requirements specified.
- F. List of acceptable sealers for fire retardant and preservative treated materials.
- G. Manufacturer's literature and data:
 - 1. Finish hardware.
 - 2. Sinks with fittings.
 - 3. Electrical components.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Protect lumber and millwork from dampness, maintaining moisture content specified both during and after delivery at site.

- B. Store finishing lumber and millwork in weathertight well ventilated structures or in space in existing buildings designated by COTR. Store at a minimum temperature of 21⁰C (70⁰F) for not less than 10 days before installation.
- C. Pile lumber in stacks in such manner as to provide air circulation around surfaces of each piece.

1.7 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced.
Publications are referenced in text by the basic designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
- B. American Society of Testing and Materials (ASTM):
 - A167-99(2009) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
 - B26/B26M-12 Aluminum-Alloy Sand Castings
 - B221-13 Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
 - D6007-02 Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber
 - E1333-10 Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber
- C. American Hardboard Association (AHA):
 - A135.4-12 Basic Hardboard
- D. American Lumber Standard Committee, Incorporated (ALSC):
 - ALSC Board of Review
- E. American National Standards Institute (ANSI):
 - NPA A208.1-2009 Particleboard (published by National Particleboard Association/Composite Panel Association)
 - Z124.3-05 Plastic Lavatories
- F. American Society of Mechanical Engineers (ASME):
 - B18.2.1-2012 Square, Hex, Heavy Hex and Askew Head Bolts and Hex, Heavy Hex, Hex Flange, Lobed Head, and Lag Screws
 - B18.2.2-2010 Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)

- G. American Wood-Preservers' Association (AWPA)
- H. Architectural Woodwork Institute (AWI):
Architectural Woodwork Standards and Quality Certification Program (2009)
- I. Builders Hardware Manufacturers Association (BHMA):
 - A156.9-10 Concealed Cabinet Hardware
 - A156.11-10 Cabinet Locks
 - A156.16-02 Auxiliary Hardware
 - A156.18-12 Exposed Cabinet Hardware
- J. Green Seal (GS):
 - GS-36 (2013) Commercial Adhesives
- K. Hardwood Plywood and Veneer Association (HPVA):
 - HP-1-2011 Hardwood Plywood Handbook
- L. National Electrical Manufacturers Association (NEMA):
 - LD 3-05 High-Pressure Decorative Laminates
- M. National Hardwood Lumber Association (NHLA)
- N. South Coast Air Quality Management District (SCAQMD):
 - SCAQMD Rule 1168 (1989; R2005) Adhesive and Sealant Applications
- O. U.S. Department of Commerce/National Institute of Science and Technology:
 - PS1-09 Construction and Industrial Plywood
 - PS20-10 American Softwood Lumber Standard

PART 2 - PRODUCTS

2.1 LUMBER

- A. Grading and Marking:
 - 1. Lumber to bear the grade mark, stamp, or other identifying marks indicating grades of material.
 - 2. Such identifying marks on a material to be in accordance with the rule or standard under which the material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification.
 - 3. The inspection agency for lumber to be approved by the Board of Review, American Lumber Standards Committee, to grade species used.

B. Sizes:

1. Lumber size references, unless otherwise specified, are nominal sizes; actual sizes to be within manufacturing tolerances allowed by the standard under which product is produced.
2. Millwork, standing and running trim, and rails: Actual size as shown or specified.

C. Hardwood: FAS Grade of NHLA, species as specified for each item.

D. Softwood: PS-20, exposed to view appearance grades:

1. Use C select or D select, vertical grain for transparent finish including stain transparent finish.
2. Use Prime for painted or opaque finish.

E. Use edge grain wood members exposed to weather.

2.2 PLYWOOD

A. Softwood Plywood:

1. Prod. Std.
2. Grading and Marking:
 - a. Each sheet of plywood must bear the mark of a recognized association or independent inspection agency that maintains continuing control over the quality of the plywood.
 - b. The mark must identify the plywood by species group or identification index, and show glue type, grade, and compliance with PS1.
3. Plywood, 13 mm (1/2 inch) and thicker; not less than five ply construction, except 32 mm (1-1/4 inch) thick plywood not less than seven ply.
4. Plastic Laminate Plywood Cores:
 - a. Exterior Type, any species group.
 - b. Veneer Grade: A-C.
5. Shelving Plywood:
 - a. Interior Type, any species group.
 - b. Veneer Grade: A-B or B-C.
6. Other: As specified for item.

B. Hardwood Plywood:

1. HPVA: HP-1.
2. Species of Face Veneer: As shown or as specified in connection with each particular item.
3. Inside of Building:

- a. Use Type II (interior) A grade veneer for transparent finish.
- b. Use Type II (interior) Sound Grade veneer for paint finish.
4. On Outside of Building:
 - a. Use Type I, (exterior) A Grade veneer for natural or stained and varnish finish.
 - b. Use Type I, (exterior) Sound Grade veneer for paint finish.
5. Use plain sliced red oak or rotary cut white birch unless specified otherwise.

2.3 PARTICLEBOARD

- A. ANSI NPA A208.1
- B. Plastic Laminate Particleboard Cores:
 1. Use Type 1, Grade 1-M-3, or Type 2, Grade 2-M-2, unless otherwise specified.
 2. Use Type 2, Grade 2-M-2, exterior bond, for tops with sinks.
- C. General Use: Type 1, Grade 1-M-3 or Type 2, Grade 2-M-2.
- D. Do not use product with urea formaldehyde.

2.4 PLASTIC LAMINATE

- A. NEMA LD-3.
- B. Exposed decorative surfaces including countertops, both sides of cabinet doors, and for items having plastic laminate finish; General Purpose, Type HGL.
- C. Cabinet Interiors including Shelving: Both of following options to comply with NEMA CLS Grade, as a minimum.
 1. Plastic laminate clad plywood or particle board.
 2. Resin impregnated decorative paper thermally fused to particle board.
- D. Backing sheet on bottom of plastic laminate covered wood tops: Backer, Type HGP.
- E. Plastic Laminate Work:
 1. Factory glued to a plywood or particle board core, thickness as shown or specified.
 2. Cover exposed edges with plastic laminate, except where aluminum, stainless steel, or plastic molded edge strips are shown or specified. Use plastic molded edge strips on 19 mm (3/4-inch) molded thick or thinner core material.
 3. Provide plastic backing sheet on underside of countertops, vanity tops, thru-wall counter and sills including back splashes and end splashes of countertops.
 4. Use backing sheet on concealed large panel surface when decorative face does not occur.
- F. Counter or Work Tops:
 1. Fabrication with plastic laminate over 32 mm (1-1/4 inch) thick core unless shown otherwise.

- a. Use decorative laminate for exposed edges of tops 38 mm (1-1/2 inches) wide and on back splash and end splash. Use plastic or metal edges for top edges less than 38 mm (1-1/2 inches) wide.
- b. Assemble back splash and end splash to counter top.
- c. Use one piece counters for straight runs.
- d. Miter corners for field joints with overlapping blocking on underside of joint.

2.5 SOLID SURFACE COUNTERTOPS

- A. Comply with AWI Section 400 and ANSI Z124.3 requirements for countertops.

2.6 BUILDING BOARD (HARDBOARD)

- A. ANSI/AHA A135.4.

2.7 ADHESIVE

- A. Product compliant with performance requirements.

2.8 STAINLESS STEEL

- A. ASTM A167, Type 302 or 304.

2.9 ALUMINUM CAST

- A. ASTM B26.

2.10 ALUMINUM EXTRUDED

- A. ASTM B221.

2.11 HARDWARE

- A. Rough Hardware:
 1. Furnish rough hardware with a standard plating, applied after punching, forming and assembly of parts; galvanized, cadmium plated, or zinc-coated by electric-galvanizing process. Provide galvanized where indicated.
 2. Use galvanized coating on ferrous metal for exterior work unless non-ferrous metals or stainless is used.
 3. Fasteners:
 - a. Bolts with Nuts: ASME B18.2.1 and ASME B18.2.2.
 - b. Screws: ASMC B18.6.1.
- B. Finish Hardware:
 1. Cabinet Hardware: ANSI A156.9.
 - a. Door/Drawer Pulls: B02011. Door in seismic zones: B03182.
 - b. Drawer Slides: B05051 for drawers over 150 mm (6 inches) deep, B05052 for drawers 75 mm to 150 mm 3 to 6 inches) deep, and B05053 for drawers less than 75 mm (3 inches) deep.

- c. Sliding Door Tracks: B07063.
 - d. Adjustable Shelf Standards: B4061 with shelf rest B04083.
 - e. Concealed Hinges: B1601, minimum 110 degree opening.
 - f. Butt Hinges: B01361, for flush doors, B01381 for inset lipped doors, and B01521 for overlay doors.
 - g. Cabinet Door Catch: B0371 or B03172.
 - h. Vertical Slotted Shelf Standard: B04103 with shelf brackets B04113, sized for shelf depth.
2. Cabinet Locks: ANSI A156.11.
- a. Drawers and Hinged Door: E07262.
 - b. Sliding Door: E07162.
3. Primers: Manufacturer's standard primer for steel providing baked enamel finish.

2.12 MOISTURE CONTENT

- A. Moisture content of lumber and millwork at time of delivery to site.
- 1. Moisture content of other materials to be in accordance with the standards under which the products are produced.

2.14 FABRICATION

- A. General:
- 1. Provide interior woodwork complying with referenced quality standard.
 - 2. Use AWI Custom Grade for architectural woodwork and interior millwork, except as otherwise indicated.
 - 3. Finish woodwork must be free from pitch pockets.
 - 4. Provide trim as standard stock molding and members of the same species, except where special profiles are shown.
 - 5. Plywood cannot be less than 13 mm (1/2 inch), unless otherwise shown or specified.
 - 6. Edges of members in contact with concrete or masonry to have a square corner caulking rebate.
 - 7. Fabricate members less than 4 m (14 feet) in length from one piece of lumber, back channeled and molded as shown.
 - 8. Plastic Laminate Work:
 - a. Factory glued to plywood or particle board core, thickness as shown or specified.
 - b. Cover exposed edges with plastic laminate, except where aluminum, stainless steel, or plastic molded edge strips are shown or specified. Use plastic molded edge strips on 19 mm (3/4-inch) molded thick or thinner core material.

- c. Provide plastic backing sheet on underside of countertops, vanity tops, thru-wall counter and sills including back splashes and end splashes of countertops.
- d. Use backing sheet on concealed large panel surface when decorative face does not occur.

PART 3 - EXECUTION

3.1 ENVIRONMENTAL REQUIREMENTS

- A. Maintain work areas and storage areas to a minimum temperature of 21°C (70°F) for not less than 10 days before and during installation of interior millwork.
- B. Do not install finish lumber or millwork in any room or space where wet process systems such as concrete, masonry, or plaster work are not complete and dry.

3.2 INSTALLATION

- A. General:
 - 1. Install to comply with AWI 1700.
 - 2. Millwork receiving transparent finish to be primed and back-painted on concealed surfaces; do not set millwork until primed and back-painted.
 - 3. Secure trim with fine finishing nails, screws, or glue as required.
 - 4. Set nails for putty stopping. Use washers under bolt heads where no other bearing plate occurs.
 - 5. Seal cut edges of preservative and fire retardant treated wood materials with a certified acceptable sealer.
 - 6. Coordinate with plumbing and electrical work for installation of fixtures and service connections in millwork items.
 - 7. Plumb and level items unless shown otherwise.
 - 8. Nail finish at each blocking, lookout, or other nailer and intermediate points; toggle or expansion bolt in place where nails are not suitable.
 - 9. Exterior Work: Provide joints that are close fitted, mitered, tongue and grooved, rebated, or lapped to exclude water filled and sealed.
 - 10. Install woodwork plumb and level to a tolerance of 3 mm in 2400 mm (1/8 inch in 96 inches).
- B. Install with butt joints in straight runs and miter joints at corners.

- - - E N D - - -

THIS PAGE LEFT BLANK INTENTIONALLY

SECTION 06 30 10 LINEAR SUSPENDED uPVC CEILING SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies linear suspended uPVC ceiling systems. The Basis of Design for the linear uPVC ceiling systems covered by this specification are the products of the Rulon International, World Commerce Center, 2000 Ring Way Road, St. Augustine, FL 32092. Phone: 800-227-8566, Fax: 904-584-1499.
- B. The General Conditions and the requirements of Division 1 of the specifications shall apply to all work hereunder.
- C. All work shall be completed in accordance with the manufacturer's instructions, and in a manner satisfactory to the owner's representative.

1.2 SCOPE

- A. The manufacturer shall furnish suspension carrier system, ceiling strips, and designated accessories required to complete installation by the contractor – in compliance with plans and specifications.
- B. The Basis of Design is the Plasline Linear Suspended uPVC Ceiling System.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: The contractor shall be a qualified installer with no less than (2) two years of successful experience in installation of suspended ceilings with requirements similar to this project. The contractor shall be acceptable to the architect, manufacturer, and owner's representative.
- B. Fire Performance Characteristics: The Linear Suspended uPVC Ceiling System shall be "Fire Resistant" – receiving a Class 1, or flame spread rating, when tested in accordance with ASTM E-84.

1.4 COORDINATION OF WORK

- A. The layout and installation of uPVC ceiling and suspension system components shall be coordinated with other work penetrating the ceiling. This includes light fixtures and speaker system components.

1.5 SUBMITTALS

- A. Product Data: The manufacturer shall provide product specifications and installation instructions for all suspended ceiling materials.

- B. Shop Drawings: The manufacturer shall supply shop drawings outlining the placement of hangers and the location of carriers, and any other details necessary for proper installation.
- C. Samples: a 9 inch wide by 12 inch long sample shall be submitted for approval. The sample shall consist of 3 ceiling strips of the style and color specified assembled onto the carrier.

1.6 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered to the project site in original, labeled, unopened packages.
- B. Materials shall be stored flat and level in a fully enclosed space, preferably in the room in which they are to be installed and in compliance with manufacturer's storage and handling instructions.
- C. Care in handling must be exercised to avoid damage.

1.7 WARRANTIES

- A. Manufacturer: All materials supplied by the manufacturer shall be guaranteed against manufacturing defects for one (1) year.
- B. Contractor: All work shall be guaranteed for one (1) year from final acceptance of completed work.

PART 2 - PRODUCTS

2.1 uPVC STRIPS

- A. The Basis of Design for the uPVC ceiling strips shall be of Rulon Plasline manufacture. The strips are designed to connect onto the Rulon suspension carrier. The uPVC strip pattern shall be #900 straight edge strip in white.
- B. Pattern dimensions shall be: 4 inch modules, consisting of uPVC strips 3-1/4 inch wide face with a 3/4 inch recess at one side of the strips. Cut ends of uPVC strips shall have clean, square cuts, butted together, and connected on the back side with a piece of cut uPVC #850 splicer strip snapped tightly between the strips to ensure alignment.

2.2 SUSPENSION SYSTEMS

- A. The Basis of Design for the standard suspension carrier shall be of Rulon manufacture, and consist of commercial grade steel with surface prepared, and galvanized.

2.3 EDGES, BORDERS, AND PERIMETER TRIM

- A. Edges, borders and perimeter trims shall be standard design by the manufacturer.

2.4 COLORS

- A. All uPVC strips shall be factory-manufactured in the color, or finish, selected for the project.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ceiling Layout: Contractor shall measure ceiling areas and establish layout of hangers and carriers, in accordance with manufacturer's written installation instructions.
- B. Coordination: The contractor shall furnish the layout for supports that shall be installed for suspension of ceilings. Contractor shall furnish devices for installation in time to coordinate the work. The contractor shall coordinate with other trades the location of devices which will penetrate the Ceiling Panels or interfere with the installation. Recessed or surface devices located within the ceiling panels are to be located and cut in the field.

3.2 INSTALLATION

- A. General: The contractor shall install materials in accordance with the manufacturer's printed instructions. The installation will comply with applicable regulations and industry standards.
- B. Perimeters: Using a leveling device, the contractor shall lay out and install perimeter trim, as specified.
- C. Suspensions: Carriers shall be placed perpendicular to the desired uPVC strip direction, and positioned on 3 foot or 2 foot centers – as specified by the manufacturer. Specified hangers shall be attached directly to structure.
- D. uPVC Strip Installation: uPVC strips shall be fully attached to the carrier by snapping one side of the strip into position first, followed by the second side. When properly installed, the strips shall be firmly secured, and fully level. End cuts are butted tight together by snapping a short piece of #850 ceiling material, behind the strips, to create a secure, aligned joint.
- E. Electrical installations shall be supported independently of the linear uPVC ceiling.

3.3 ADJUSTMENT, CLEANING, AND REPAIR

- A. The Contractor shall make final adjustments to level or contours.
- B. Upon completion of the ceiling installation, the contractor shall clean all uPVC strips, and borders of dirt, grease, oils, and fingerprints, etc. – using liquid detergent on a clean cloth.

- C. All work that cannot be successfully cleaned and repaired shall be removed and replaced.

3.4 INSPECTION

- A. Upon completion of the ceiling system installation, the owner's representative shall inspect all finished surfaces to ensure that the work has been completed in a manner satisfactory to the owner. Any deficiencies in the installed ceiling shall be corrected by the contractor at no additional cost to the owner, or to ceiling manufacturer.

- - - E N D - - -