

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American National Standards Institute (ANSI)
    - .1 ANSI A208.1-09, Particleboard.
    - .2 ANSI A208.2-09, Medium Density Fiberboard (MDF) for Interior Applications.
    - .3 ANSI/HPVA HP-1-10, Standard for Hardwood and Decorative Plywood.
  - .2 ASTM International
    - .1 ASTM E 1333-10, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates From Wood Products Using a Large Chamber.
    - .2 ASTM D 2832-92(R2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
    - .3 ASTM D 5116-10, Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.
  - .3 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
    - .1 Architectural Woodwork Standards 2014.
  - .4 Canada Green Building Council (CaGBC)
    - .1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations.
  - .5 Canadian General Standards Board (CGSB)
    - .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
  - .6 CSA International
    - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
    - .2 CSA O112.10-08, Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure).
    - .3 CSA O121-08, Douglas Fir Plywood.
    - .4 CSA O141-05(R2009), Softwood Lumber.
    - .5 CSA O151-09, Canadian Softwood Plywood.
    - .6 CSA O153-M1980(R2008), Poplar Plywood.
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1.1 REFERENCES  
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- .7 Forest Stewardship Council (FSC)
  - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .8 Green Seal Environmental Standards (GS)
  - .1 GS-11-11, Paints and Coatings.
  - .2 GS-36-11, Commercial Adhesives.
- .9 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .10 International Organization for Standardization (ISO)
  - .1 ISO 14040-2006, Environmental Management-Life Cycle Assessment - Principles and Framework.
  - .2 ISO 14041-98, Environmental Management-Life Cycle Assessment - Goal and Scope Definition and Inventory Analysis.
- .11 National Electrical Manufacturers Association (NEMA)
  - .1 ANSI/NEMA LD-3-05, High-Pressure Decorative Laminates (HPDL).
- .12 National Hardwood Lumber Association (NHLA)
  - .1 Rules for the Measurement and Inspection of Hardwood and Cypress 2011.
- .13 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber 2010.
- .14 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
  - .1 SCAQMD Rule 1113-A2011, Architectural Coatings.
  - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.2 ACTION AND  
INFORMATIONAL  
SUBMITTALS

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- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
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1.2 ACTION AND  
INFORMATIONAL  
SUBMITTALS  
(Cont'd)

- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for architectural woodwork and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Submit electronic copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Shop Drawings:
  - .1 Indicate details of construction, profiles, jointing, fastening and other related details.
    - .1 Scales: profiles full size, details half full size.
  - .2 Indicate materials, thicknesses, finishes and hardware.
  - .3 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.
- .4 Samples:
  - .1 Submit for review and acceptance of each unit if so requested.
  - .2 Samples will be returned for inclusion into work.
- .5 Certifications: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .6 Sustainable Design Submittals:
  - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.

1.3 QUALITY  
ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
  - .2 Sustainable Standards Certification:
    - .1 Certified Wood: submit listing of wood products and materials used in accordance with CAN or FSC.
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1.3 QUALITY  
ASSURANCE  
(Cont'd)

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- .3 Plywood, particleboard, OSB and wood based composite panels to CSA and ANSI standards.
- .4 Mock-ups:
  - .1 If requested, construct mock-ups in accordance with Section 01 45 00 - Quality Control.
    - .1 If so required, shop prepare one base cabinet unit, wall cabinet, counter top, shelving unit, convector cabinet, complete with hardware and shop applied finishes, and install where directed by Departmental Representative
    - .2 Allow 48 hours for inspection of mock-up by Departmental Representative before proceeding with Work.
    - .3 When accepted, mock-up will demonstrate minimum standard for Work.
    - .4 Do not proceed with work prior to receipt of written acceptance of mock-up by Departmental Representative.
    - .5 Mock-up may remain as part of finished work.

1.4 DELIVERY,  
STORAGE AND  
HANDLING

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- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
  - .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
    - .1 Protect millwork against dampness and damage during and after delivery.
    - .2 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.
  - .3 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
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| 1.4 DELIVERY,<br>STORAGE AND<br>HANDLING<br>(Cont'd) | .4 | Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements. |
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PART 2 - PRODUCTS

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| 2.1 MATERIALS | .1 | Softwood lumber: unless specified otherwise, S4S, moisture content 19 % or less in accordance with following standards:<br>.1 CSA 0141.<br>.2 FSC certified.<br>.3 NLGA Standard Grading Rules for Canadian Lumber.<br>.4 AWMAC premium grade, moisture content as specified. |
|               | .2 | Machine stress-rated lumber is acceptable for all purposes.                                                                                                                                                                                                                   |
|               | .3 | Ensure manufacturing process adheres to Lifecycle Assessment (LCA) Standards to, CSA Z760-94 Life Cycle Assessment.                                                                                                                                                           |
|               | .4 | Hardwood lumber: moisture content 10% or less in accordance with following standards:<br>.1 National Hardwood Lumber Association (NHLA).<br>.2 FSC certified.<br>.3 AWMAC premium grade, moisture content as specified.                                                       |
|               | .5 | Douglas fir plywood (DFP): to CSA 0121, standard construction, FSC certified.<br>.1 Plywood resin to contain no added urea-formaldehyde.                                                                                                                                      |
|               | .6 | Canadian softwood plywood (CSP): to CSA 0151, standard construction, FSC certified.<br>.1 Plywood resin to contain no added urea-formaldehyde.                                                                                                                                |
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2.1 MATERIALS  
(Cont'd)

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- .7 Hardwood plywood: to ANSI/HPVA HP-1, FSC certified.
    - .1 Plywood resin to contain no added urea-formaldehyde.
  - .8 Poplar plywood (PP): to CSA O153, standard construction, FSC certified.
    - .1 Plywood resin to contain no added urea-formaldehyde.
  - .10 Birch plywood: to AWMAC Paint Grade Select White, FSC certified.
    - .1 Plywood resin to contain no added urea-formaldehyde.
  - .11 Hardboard:
    - .1 To CAN/CGSB-11.3, FSC certified.
    - .2 Hardboard resin to contain no added urea-formaldehyde.
  - .12 Laminated plastic for flatwork: to NEMA LD3, Grade VGL, Type HD, 1.016 mm thick; based on solid, multilayered colour range with furniture finish.
  - .13 Laminated plastic for postforming work: to NEMA LD3, Grade H GP, 0.75 mm thick, based on solid multilayered colour range with furniture finish.
  - .14 Laminated plastic backing sheet: Grade BK, Type HD minimum of 0.75 mm thick or same thickness and colour as face laminate.
  - .15 Laminated plastic liner sheet: Grade GP, Type HD 0.75 mm thick, white colour.
  - .16 Nails and staples: to CSA B111.
  - .17 Wood screws: stainless steel, type and size to suit application.
  - .18 Splines: as recommended by manufacturer.
  - .19 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
    - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.
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2.1 MATERIALS  
(Cont'd)

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- .20 Laminated plastic adhesive:
  - .1 Adhesive: contact adhesive to CAN/CGSB-71.20.
  - .2 Adhesives: VOC limit 30 g/L maximum to SCAQMD Rule 1168.
  - .3 Clear Wood Finishes: VOC limit 350 g/L maximum to SCAQMD Rule 1113.
  - .4 Paints: VOC limit 50 g/L maximum to SCAQMD Rule 1113.

2.2 MANUFACTURED  
UNITS

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- .1 Casework:
    - .1 Fabricate caseworks to AWMAC premium quality grade.
    - .2 Furring, blocking, nailing strips, grounds and rough bucks and sleepers.
      - .1 S2S is acceptable for all uses.
      - .2 Board sizes: "standard" or better grade.
      - .3 Dimension sizes: "standard" light framing or better grade.
      - .4 Urea-formaldehyde free.
    - .3 Framing hardwood species, NHLA grade.
    - .4 Case bodies (ends, divisions and bottoms).
      - .1 Poplar plywood, grade premium, thickness as indicated. Laminated with HPL.
    - .5 Backs:
      - .1 Poplar plywood, grade premium, thickness as indicated. Laminated with HPL.
    - .6 Shelving:
      - .1 Poplar plywood, grade premium, thickness as indicated. Laminated with HPL.
      - .2 Edge banding: provide 10mm thick solid matching wood strip on particleboard edges 12 mm or thicker, exposed in final assembly. Strip same width as particleboard. Matching colour in HPL.
  - .2 Metal Drawers Sidebox:
    - .1 Metal sidebox drawer profiles, heights to suit drawer dimensions, complete with brackets for securing wood drawer front, back and bottom.
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2.2 MANUFACTURED  
UNITS  
(Cont'd)

- .2 Metal Drawers Sidebox: (Cont'd)
  - .2 Provide sliding drawer profiles, length to suit metal sidebox. Sliding drawer profile to provide full drawer extension operation.
  - .3 Backs:
    - .1 Hardwood plywood:
      - .1 Thickness: 13 mm.
  - .4 Bottoms:
    - .1 Preformed plastic laminate covered plywood, grade premium 13 mm thick.
  - .5 Fronts:
    - .1 Particleboard, grade premium, thickness as indicated. Laminated with HPL.
- .3 Casework Doors:
  - .1 Fabricate doors to AWMAC premium grade supplemented as follows:
    - .1 Poplar plywood , grade premium, thickness as indicated. Laminated with HPL.
- .4 Toe-Kick Base:
  - .1 Exterior grade plywood, 19 mm thick, height as indicated on drawings.
- .5 Hardware:
  - .1 Door and drawer rolls, hinges, slides, locks, pulls, knobs shelf rest, standards, rods track shall be in accordance with CAN/CGSB-69.25-M90/ANSI/BHMA A156.9.

2.3 FABRICATION

- .1 Set nails and countersink screws, apply wood filler to indentations, sand smooth and leave ready to receive finish.
- .2 Shop install cabinet hardware for doors, shelves and drawers. Recess shelf standards unless noted otherwise.
- .3 Shelving to cabinetwork to be adjustable unless otherwise noted.
- .4 Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures.



2.3 FABRICATION  
(Cont'd)

- .5 Shop assemble work for delivery to site in size easily handled and to ensure passage through building openings.
- .6 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .7 Ensure adjacent parts of continuous laminate work match in colour and pattern.
- .8 Veneer laminated plastic to core material in accordance with adhesive manufacturer's instructions. Ensure core and laminate profiles coincide to provide continuous support and bond over entire surface. Use continuous maximum lengths. Keep joints 600 mm from sink cutouts.
- .9 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.
- .10 Use straight self-edging laminate strip for flatwork to cover exposed edge of core material. Chamfer exposed edges uniformly at approximately 20 degrees. Do not mitre laminate edges.
- .11 Apply laminate backing sheet to reverse side of core of plastic laminate work.
- .12 Apply laminated plastic liner sheet to interior of cabinetry and where indicated.

2.4 FINISHING

- .1 Manufacturer's standard.
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PART 3 - EXECUTION

- 3.1 EXAMINATION
- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for architectural woodwork installation in accordance with manufacturer's instructions.
    - .1 Visually inspect substrate in presence of Departmental Representative.
    - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
    - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.
- 3.2 INSTALLATION
- .1 Do architectural woodwork to Quality Standards of AWMAC.
  - .2 Install prefinished millwork at locations shown on drawings.
    - .1 Position accurately, level, plumb and straight.
  - .3 Fasten and anchor millwork securely.
    - .1 Supply and install heavy duty fixture attachments for wall mounted cabinets.
  - .4 Use draw bolts in countertop joints.
  - .5 Scribe and cut as required to fit abutting walls and to fit properly into recesses and to accommodate piping, columns, fixtures, outlets or other projecting, intersecting or penetrating objects.
  - .6 At junction of plastic laminate counter back splash and adjacent wall finish, apply small bead of sealant in accordance with Section 07 92 00 - Joint Sealants.
  - .7 Apply bituminous coating over wood framing members in contact with masonry or cementitious construction.
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- 3.2 INSTALLATION (Cont'd)
- .8 Fit hardware accurately and securely in accordance with manufacturer's written instructions.
  - .9 Site apply laminated plastic to units as indicated.
    - .1 Adhere laminated plastic over entire surface.
    - .2 Make corners with hairline joints.
    - .3 Use full sized laminate sheets.
    - .4 Make joints only where approved by Departmental Representative.
    - .5 Slightly bevel arises.
  - .10 For site application, offset joints in plastic laminate facing from joints in core.
- 3.3 CLEANING
- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
    - .1 Leave Work area clean at end of each day.
  - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
    - .1 Clean cabinet work, inside cupboards and drawers and outside surfaces.
    - .2 Remove excess glue from surfaces.
  - .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
    - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- 3.4 PROTECTION
- .1 Protect cabinet work from damage until final inspection.
  - .2 Protect installed products and components from damage during construction.
  - .3 Repair damage to adjacent materials caused by architectural woodwork installation.
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3.5 SCHEDULE .1 As indicated.