

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

- .1 American National Standards Institute (ANSI)
 - .1 ANSI/HPVA HP-1-2016, American National Standard for Hardwood and Decorative Plywood.
- .2 American Society for Testing and Materials (ASTM)
 - .1 ASTM A123/A123M-17, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .3 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Woodwork Institute (WI).
 - .1 AWMAC/WI NAAWS North American Architectural Woodwork Standards, Edition 3.1-2017.
- .4 CSA International
 - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
 - .2 CSA O121-17, Douglas Fir Plywood.
 - .3 CSA O141-05(R2019), Softwood Lumber.
 - .4 CSA O151-17, Canadian Softwood Plywood.
 - .5 CSA O153-13(R2017), Poplar Plywood.
 - .6 CAN/CSA-Z809-16, Sustainable Forest Management.
- .5 Forest Stewardship Council (FSC)
 - .1 FSC-STD-CAN-1-2018 EN V1-0, FSC National Forest Stewardship Standard of Canada
 - .2 FSC-STD-20-002-2010, Structure and Content of Forest Stewardship Standards V3-0.
 - .3 FSC Accredited Certified Bodies.
- .6 National Lumber Grades Authority (NLGA)
 - .1 NLGA Standard Grading Rules for Canadian Lumber GR 2017.
- .7 Sustainable Forestry Initiative (SFI)
 - .1 SFI 2015-2019 (Extended through December 2021) Standards and Rules.
- .8 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S104-15, Standard Method for Fire Tests of Door Assemblies.
 - .2 CAN/ULC-S105:16, Standard Specification for Fire Door Frames.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for plywood, particleboard, and MDF and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies of WHMIS SDS.

- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.
 - .2 Indicate details of construction, profiles, jointing, fastening and other related details.
 - .3 Indicate materials, thicknesses, finishes and hardware.

- .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate 300 x 300 mm samples of each type of wood to receive a stained or natural finish.

- .5 Certifications: submit AWMAC GIS certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .1 Architectural woodwork shall be manufactured and/or installed to the current AWMAC Architectural Woodwork Standards and shall be subject to an inspection at the plant and/or site by an appointed AWMAC Certified Inspector.
 - .2 Inspection costs shall be included in the bid price for this project. Contact your local AWMAC Chapter for details of inspection costs.
 - .3 Shop drawings shall be submitted to the AWMAC Chapter office for review before work commences.
 - .4 Work that does not meet the AWMAC Architectural Woodwork Standards, as specified, shall be replaced, reworked and/or refinished by the architectural woodwork contractor, to the approval of AWMAC, at no additional cost to the. Departmental Representative.
 - .5 If the woodwork contractor is an AWMAC Manufacturer member in good standing, a two (2) year AWMAC Guarantee Certificate will be issued.
 - .6 The AWMAC Guarantee shall cover replacing, reworking and/or refinishing any deficient architectural woodwork due to faulty workmanship or defective materials supplied by the woodwork contractor, which may appear during a two (2) year period following the date of issuance.
 - .7 If the woodwork contractor is not an AWMAC Manufacturer member they shall provide the Departmental Representative with a two (2) year extended warranty, in lieu of the AWMAC Guarantee Certificate.

- .6 Test and Evaluation Reports: submit certified test reports for composite wood from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.

1.3 QUALITY ASSURANCE

- .1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).

- .2 Plywood, particleboard, OSB and wood based composite panels to CSA and ANSI standards.

- .3 Wood fire rated frames and panels: listed and labelled by an organization accredited by Standards Council of Canada to CAN/ULC-S104 and CAN/ULC-S105.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 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.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood products from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 74 20.
- .5 Packaging Waste Management: remove for reuse and return of pallets, crates, padding and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 20.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Softwood lumber: S4S, S-DRY graded and stamped in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 AWMAC/WI North American Architectural Woodwork Standards custom grade, moisture content as specified.
 - .4 Machine stress-rated lumber is acceptable.
- .2 Hardwood lumber: **Maple unless otherwise specified**, moisture content 7% or less in accordance:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 AWMAC/WI North American Architectural Woodwork Standards custom grade, moisture content as specified.
 - .3 CSA Z809, SFI or Forestry Stewardship Council (FSC) certified.
- .3 Panel Material: Urea-formaldehyde free
 - .1 CAN/CSA-Z809, SFI or Forestry Stewardship Council (FSC) certified.
 - .2 Canadian softwood plywood (CSP): to CSA O151, standard construction.
 - .3 Hardwood plywood: to ANSI/HPVA HP-1.
- .4 Wood veneer:
 - .1 As indicated, conforming to ANSI/HPVA HP-1 having finishes and meeting grades as follows:
 - .1 Opaque finish, Grade B.
 - .2 Transparent finish, Grade AA.

- .2 Face veneer cut: As indicated.
- .3 Sizes, thickness, and shapes as indicated.

- .1 Fire retardant finish: In accordance with Section 09 91 23.

2.2 ACCESSORIES

- .1 Nails and staples: to CSA B111; galvanized to ASTM A123/A123M for exterior work, interior humid areas and for treated lumber; plain finish elsewhere.
- .2 Wood screws: electroplated steel, type and size to suit application.
- .3 Adhesive and Sealants: in accordance with Section 07 92 00.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for wood products installation in accordance with manufacturer's written 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 finish carpentry to AWMAC/WI North American Architectural Woodwork Standards.
- .2 Scribe and cut as required, fit to abutting walls, and surfaces, fit properly into recesses and to accommodate piping, columns, fixtures, outlets, or other projecting, intersecting or penetrating objects.
- .3 Form joints to conceal shrinkage.

3.3 CONSTRUCTION

- .1 Fastening:
 - .1 Position items of finished carpentry work accurately, level, plumb, true and fasten or anchor securely.
 - .2 Design and select fasteners to suit size and nature of components being joined. Use proprietary devices as recommended by manufacturer.
 - .3 Set finishing nails to receive filler. Where screws are used to secure members, countersink screw in round smooth cut hole and plug with wood plug to match material being secured.
 - .4 Replace items of finish carpentry with damage to wood surfaces including hammer and other bruises.

- .2 Standing and running trim:
 - .1 Butt and cope internal joints of baseboards to make snug, tight, joint. Cut right angle joints of casing and base with mitred joints.
 - .2 Fit backs of baseboards and casing snugly to wall surfaces to eliminate cracks at junction of base and casing with walls.
 - .3 Make joints in baseboard, where necessary using a 45 degrees scarf type joint.
 - .4 Install door and window trim in single lengths without splicing.
- .3 Interior and exterior frames:
 - .1 Set frames with plumb sides and level heads and sills secure.
- .4 **Edge banding:**
 - .1 ***Provide 10 mm thick solid matching wood strip on solid wood millwork, including but not limited to cabinets and benches, with edges 12 mm or thicker, exposed in final assembly. Strips same width as exposed edges.***
 - .4 ***Provide fire retardant finish for solid wood millwork in accordance with Section 09 91 23.***

3.4 INSTALLATION OF SHELVING

- .1 Softwood plywood DFP or CSP, A-D grade, square edge, thickness as indicated.
- .2 Wood veneer, 6 mm thick.
- .3 Solid wood: maple species, custom grade, thickness as indicated.
- .4 Edge banding: provide 10 mm thick solid matching wood strip on plywood edges 12 mm or thicker, exposed in final assembly. Strips same width as plywood.

3.5 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00.
 - .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 00.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 20.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.6 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by finish carpentry installation.