SECTION 08 14 13 – wood doors and frames

1. General
   1. summary
      1. This Section includes requirements for supply and installation of the following:

SPEC NOTE: Edit the following paragraph to identify if the finish is Opaque (Paint or PLAM) or Transparent (wood veneer with stain) for example.

* + - 1. Interior wood doors and frames complete with opaque and transparent finish.
  1. REFERENCE Standards
     1. AWMAC (Architectural Woodwork Manufacturers' Association of Canada)
        1. Architectural Woodwork Standards (AWS), latest edition.
     2. CAN/CSA-0132.2 Series - Wood Flush Doors.
  2. SUBMITTALS
     1. Submit submittals in accordance with Section 01 33 00- Submittal Procedures.
     2. Shop Drawings:
        1. Submit shop drawings showing types of cores and construction details, openings required, material designation and door schedules.
        2. Show each type of frame, hardware blanking, reinforcing, tapping and drilling arrangements, thicknesses and finishes.
        3. Submit door and frame schedule identifying each unit. Each unit shall bear a legible identifying mark corresponding to that listed in the door and frame schedule.
     3. Samples:
        1. Submit for Consultant's review, if requested, two 305mm x 305mm (12" x 12") corner samples of each type of door specified herein showing construction, workmanship and finish including face veneers, core materials, edge strips, frame and stops.
  3. QUALITY ASSURANCE
     1. Except where otherwise specified, meet requirements of CAN/CSA-0132.2 Series and applicable provisions of AWMAC Architectural Woodwork Standards (AWS), during fabrication, finish, and installation of the following:
        1. Wood Frames, Jambs and Trim: Architectural Woodwork Standards (AWS), Premium Grade.
        2. Wood Doors; Fabrication and Finish: Architectural Woodwork Standards (AWS), Premium Grade.
  4. DELIVERY, STORAGE, HANDLING AND PROTECTION
     1. Coordinate deliveries to comply with construction schedule and arrange ahead for off the ground, under cover storage location.
     2. Do not permit delivery of work to job site until building is sufficiently dry, wet trades are completed and the moisture readings of surfaces in proposed storage area is less than 18%.
     3. Materials shall be carefully checked, unloaded, stored, and handled to prevent damage. Store doors flat on level surface, pre-hung in frames. Protect materials with suitable non-staining waterproof coverings but allow air circulation at sides.
     4. Label each door with manufacturers' name, product identification, door size and type.
  5. SITE CONDITIONS
     1. Site Measurements: Verify actual dimensions of openings by site measurements before fabrication and indicate measurements on shop drawings; coordinate fabrication schedule with construction progress to avoid delaying the Work.
     2. Established Measurements: Establish dimensions and proceed with fabricating frames without site measurements where site measurements cannot be made without delaying the Work; coordinate construction to ensure that actual site dimensions correspond to established dimensions.
     3. Ambient Conditions: Maintain area or room in which frames are being installed at a uniform temperature and humidity for twenty-four (24) hours prior to, during and after installation in accordance with AWS for relative humidity and moisture content.
  6. WARRANTY
     1. Warrant that the doors shall be free from defects in materials or workmanship in accordance with General Conditions but for a period of one (1) year and agree to promptly make good defects by replacing defective doors in finish to match adjacent similar doors or of original door finish to match by and in a manner satisfactory to Owner.
     2. Defects shall include, but not be limited to the following:
        1. Delamination of edges.
        2. Warp.
        3. Twist.
        4. Bow exceeding 6mm (1/4").
     3. "Replace" as used herein includes installing hardware, finishing, hanging, and fitting.

1. Products
   1. ACCEPTABLE MANUFACTURERS
      1. The following manufacturers are acceptable provided they comply with the requirements of this section:
         1. Baillargeon.
         2. Lampton Doors.
         3. Mowhawk Flush Doors.
         4. VT Industries.
   2. MATERIALS
      1. Solid Core Flush Wood Doors:
         1. Conform to CAN/CSA-0132.2 Series, Architectural Grade.
         2. Particle Board Cores: Conform to CAN/CSA-0188.1, Grade R, density 28 lbs./cu.ft. Extruded particle board cores with voids shall not be permitted.
         3. Crossbanding: 1.6mm (1/16") thick hardwood veneer, both faces of core.
         4. Edge Bands: Laminated to core with adhesive:
            1. Stiles: Laminated softwood and 5/8" thick hardwood edge, total width 114mm (4-1/2"), at wood veneer faced doors provide hardwood edge matching wood veneer, at plastic laminate faced doors provide hardwood edge, between plastic laminate faces.
            2. Rails: 70mm (2-3/4") softwood.
         5. Wood Stiles, Rails and Hardware Reinforcement: Low density hardwood species, kiln dried to 8% moisture content.
         6. Wood Frames:

SPEC NOTE: Select the following finish required on the project.

* + - * 1. For Hardwood Face Veneer Doors: 1/4 sawn, solid white oak.
        2. For Paint Grade Faced Doors: Medium Density Fibreboard (MDF): ANSI A208.2; composed of wood fibres, medium density; of grade to suit application; sanded faces.
      1. Stiles and Rails: Hardwood. Stile thickness minimum 38mm (1-1/2") and rail thickness minimum 28mm (1-1/8").
      2. Adhesive: Conforms to CAN/CSA-0132.2 Series, Type II.

SPEC NOTE: Select the following when Veneer Doors, requiring transparent / stained finish are required on the project.

* + - 1. Hardwood Face Veneer for Flush Wood Doors Scheduled to have Transparent/Stained Finish:

SPEC NOTE: Provide the WD# indicated in the Product and Finish Schedule.

* + - * 1. (WD-#): As indicated in Section 06 40 23 and Section 09 06 05 Product and Finish Schedule.
        2. Hardwood face veneers shall be selected for architectural quality, uniformity of colour, figure, grain, character, architectural "Random matched" and all sheets numbered in sequence, parallel clipped, jointed by tapeless splicer and edge glued.
        3. Face veneers shall also have a high standard of finished appearance, including being free of, but not limited to the following: mineral streaks, discolouration, grain ruptures, loose texture, shakes, open joints, face depressions, glue stains, patches, plastic wood repairs, and any other manufacturing defects or irregularities.

SPEC NOTE: Select the following when paint grade or PLAM Doors are selected for the project.

* + - 1. Face Veneer for Flush Wood Doors Scheduled to Receive Painted Finish:
         1. Minimum 3mm (1/8") thick AWMAC Architectural Quality Grade, Yellow Birch - Quarter Cut veneer, paint grade.
    1. Sealer: Interior alkyd primer-sealer, conforming to CAN/CGSB-1.84.
  1. FABRICATION - FLUSH WOOD DOORS
     1. Provide solid core flush wood doors as indicated on drawings and schedules.
     2. Conform to CAN/CSA-0132.2 Series for solid core and hollow core flush doors, except as specified otherwise herein. Size doors for 1.6mm (1/16") clearance of heads and jambs and 6mm (1/4") clearance at sills. Solid core flush wood doors shall have 5-ply construction. 3-ply and/or 7-ply construction is not acceptable.
     3. Solid Particle Core: Laminated wood frame core construction comprising solid particle board core with minimum total thickness of stiles, top and bottom rails, and hardware reinforcing, including hardwood edging 100mm (4") and 70mm (2-3/4") respectively.
     4. Edges: 19mm (3/4") minimum thickness one-piece full-length hardwood to match face veneer of doors, rebated at custom pivot doors.
     5. Sealing: Seal top and bottom edges with one coat of sealer applied in door manufacturer's plant.
     6. Frames and Jambs:
        1. Door Opening Size: Refer to Door and Frame Schedule.
        2. Frame Type: Rebated frame with ploughed‑in stops.
        3. Frame Dimensions: Frame width determined by adjacent wall thickness.
        4. Shop cut, trim, and prime/clear seal frames to the greatest extent possible.
     7. Factory Finishing:
        1. Complete fabrication of doors before applying factory finishes including, but not limited to fitting doors for openings and machining for recessed hardware.
        2. Factory finish all four edges, edges of cut outs, and mortises the same as for faces, except that stains and fillers may be omitted on bottom edges, edges of cut outs, and mortises, and as follows:
           1. Finish doors at factory that are indicated to receive finish, other than paint finish.
        3. Steam out deep scratches and ease sharp edges by sanding before starting factory finishing; block sand using 150/180 grit in direction of grain on all surfaces to remove handling marks and fingerprints.
        4. Perform filling, sanding, and finishing in horizontal position wherever possible.
        5. Do not use water-based primers, stains or combination stain sealers as they raise natural wood grain and may cause veneer splitting and highlighting of veneer joints.
        6. Use caution when staining Birch, Oak, or any light wood to another colour; achieve uniform colour by thoroughly block sanding veneer faces to ensure consistent fibre raise; apply thin sealer coat prior to staining to prevent blotchiness and reduce the barber pole effect; do not use penetrating stains.
        7. Use caution when working with Oak to prevent blue stain, caused when natural tannic acid in the wood comes into contact with iron and moisture:
           1. Do not use steel wool on bare wood.
           2. Do not store transparent finish in unlined metal containers.
           3. Remove blue stain prior to finishing using a solution of oxalic acid made by dissolving one part acid to 7 parts of lukewarm water; allow solution to work, rinse with clear water; dry and sand with 150/180 grit sandpaper.

SPEC NOTE: Delete the following when Transparent Finish isn’t required on the Project.

* + - 1. Transparent Finish:
         1. Grade: Premium.
         2. Staining: As selected by Consultant from manufacturer's full range.
         3. Effect: Open-grain finish.

1. Execution
   1. EXAMINATION
      1. Verify that frames are in accordance with indicated requirements for type, size, location, and swing characteristics and are installed with level heads and plumb jambs.
      2. Exam all doors thoroughly before installation or finishing; reject any defective doors and obtain replacements from manufacturer at no additional cost to the Owner or Project.
      3. Proceed with installation only after unsatisfactory conditions have been corrected.
   2. INSTALLATION
      1. Install doors and hardware in accordance with manufacturer's printed instructions; refer to Section 08 70 00 and Hardware Schedule for hardware types and groups; pre‑drill pilot holes for hinges, cylindrical locks, and similar surface mounted hardware; cut mortises and pre-drill pilot holes for recessed hinges.
      2. Trim doors as required for proper fit and function; refinish all cut or planed surfaces immediately to match finish.
      3. Set and secure frame and trim components in place, plumb and level.
      4. Place jamb lumber to floor surface. Install components with fasteners set below frame or trim surface.
      5. Do not impair structural strength of door by the application of hardware, cutting and altering the door for lights, louvers, or other special details.
      6. Install transom and side panels using concealed fasteners or countersunk screws concealed with wood plugs matching panel in grain and colour in metal door frames.
      7. Install stops and louvers ready to receive finish.
   3. ERECTION TOLERANCES
      1. Squareness: Maximum 0.8mm (1/32”) measured across opening between hinge jam and strike jamb.
      2. Plumbness: Maximum 0.8mm (1/32”) measured from bottom of frame to head level.
      3. Alignment: Maximum 0.8mm (1/32”) measured offset between face of hinge jamb and strike jamb relative to wall construction.
      4. Twist: Maximum 0.8mm (1/32”) measured from leading edge of outside frame rabbet to leading edge of inside frame rabbet.
   4. CLOSEOUT ACTIVITIES
      1. Deficient Work: Replace, rework, or refinish work that does not meet AWS requirements as directed by Consultant.
      2. Adjusting and Cleaning: Readjust doors and hardware just prior to completion of building to function freely and properly and as follows:
         1. Re‑hang or replace doors that do not swing or operate freely.
         2. Replace doors that are damaged or that do not comply with requirements of this Section; doors may be repaired or refinished where work complies with requirements and shows no evidence of repair or refinishing in completed work.

END OF SECTION