ROUGH CARPENTRY

1. GENERAL

1.1 Design Requirements

.1 Design construction methods for expansion and contraction of materials. Adopt method of construction to ensure that materials are rigidly and securely attached and will not be loosened by work of other Sections. Fasten wood nailers, blocking, framing and strapping solidly to adjacent materials in true planes.

1.2 Quality Assurance

.1 Lumber Identification: lumber identification shall conform to requirements of Standard Grading Rules for Canadian Lumber of National Lumber Grades Authority (NLGA) or grade stamped by an agency certified by Canadian Lumber Standards Accreditation Board.

.2 Source Limitation: lumber for each type of structural component shall be of same species and grade, equally seasoned and shall be processed and stamped at same mill. Grading: 120, National Grading Rule for Dimension Lumber, kiln dried to maximum 19% moisture, and in clean condition.

.3 Plywood identification: by grade mark in accordance with applicable CSA standards.

.4 Align and plumb faces of furring and blocking to tolerance of 1:600.

1.3 Submittals

.1 Preservative Treatment Test Reports: duplicate reports from chemical treatment manufacturer and certification by independent testing agency comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.

.2 For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project Site.

.3 Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 Waste Disposal

.1 Dispose waste legally off-site, in accordance with governing regulation. Dispose of any end-cuts and left over chemicals in an approved land-fill site. Do not burn or allow other use of end-cuts.

2. PRODUCTS

2.1 Materials

.1 Framing Lumber: unless specified otherwise, Spruce/Pine/Fir (SPF), NLGA 121b Standard, with structural members meeting minimum No. 2 Grade requirements of CAN/CSA-O141.

.2 Cants, Curbs, Blocking, Nailers and other Members Less Than 89 mm (4") Wide: Spruce, 122c. "Standard" light framing, except as otherwise specified.

.3 Softwood Plywood, Douglas Fir, CSA O121-M of Following Grades: Good One Side (G1S) elsewhere.

.4 Rough Hardware: CSA B111; Nails, screws, bolts, lag screws, anchors, special fastening devices and supports required for erection of carpentry components. Use galvanized components if exposed to exterior atmosphere. Galvanize in accordance with requirements of CAN/CSA-G164-M.

.5 General purpose adhesive: CSA O112 Series.

.6 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by manufacturer.

2.2 Wood Preservative-Treated Materials

.1 Preservative Treatment by Pressure Process: CSA O80 Series, using preservative chemicals acceptable to authorities having jurisdiction, ammoniacal or amine copper quat (ACQ), or copper azole (AC), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated with inorganic boron (SBX).

.2 Precut wood, where practical, prior to preservative treatment.

.3 Treat site cut pressure treated lumber cut ends treated with preservatives compatible with pressure treatment chemicals.

.4 Kiln-dry material after treatment to a maximum moisture content of 19% for lumber and 15% for plywood. Do not use material that is warped or does not comply with requirements for untreated material.

.5 Mark each treated item with the treatment quality mark of an inspection agency approved by the Canadian Lumber Standards Accreditation Board.

.6 Application: treat items indicated on Drawings, and the following:

.1 Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, air and vapor barriers, and waterproofing.

.2 Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 Fire-Retardant-Treated Materials

.1 General: identify fire-retardant-treated wood with appropriate classification marking of ULC or another testing and inspecting agency acceptable to authorities having jurisdiction.

.2 Fire retardant treated wood: to ULC S102, flame spread, fuel contributed and smoke developed ratings of 25 or less, pressure treated.

.1 Lumber and plywood: FirePro FRTW by Osmose, or Dricon FRT by Arch Wood Products Inc., or other acceptable equivalents.

.2 Particleboard: Duraflake FR by Weyerhauser, or other acceptable equivalents.

.3 Use treatment that does not promote corrosion of metal fasteners.

3. EXECUTION

3.1 Installation - General

.1 Install members true to line, levels and elevations.

.2 Construct continuous members from pieces of longest practical length.

.3 Install spanning members with crown-edge up.

.4 Install materials so that grade-marks and other defacing marks are not visible or are removed by sanding.

.5 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.

.6 Countersink bolts where necessary to provide clearance for other Work.

.7 Fasten work to hollow units with toggle bolts and to solid masonry or concrete with lead expansion shields and lag screws. Do not use organic fibre or wood plugs.

3.2 Furring and Blocking

.1 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding and other work as required.

.2 Install furring to support siding applied vertically and where sheathing is not suitable for direct nailing.

3.3 Nailing Strips and Rough Bucks

.1 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other Work.

3.4 Cants, Curbs, Fascia Backing

.1 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized fasteners.

3.5 Electrical, Data ad Telephone Equipment Backboard

.1 Provide fire retardant treated backboards for mounting equipment as indicated. Use 19 mm (3/4") thick plywood on 38 mm x 89 mm (2 x 4) furring around perimeter and at maximum 300 mm (12") intermediate spacing.

END OF SECTION

PREFABRICATED WOOD TRUSSES

1. GENERAL

1.1 Work Included

.1 Prefabricated wood trusses, girder trusses, jack framing, bracing, bridging.

.2 Connections to structure, including metal hangers and hold-down brackets.

1.2 Related Work

.1 Rough Carpentry: Section 06100

1.3 Standards

.1 Perform work to CAN/CSA O86.1-M89 except where specified otherwise.

1.4 Design Criteria

.1 Design roof trusses, bracing, bridging, connectors to requirements of CAN/CSA O86-M84 (R1992), to safely carry snow and drift loads for building locality as ascertained by NBC Supplement No. 1, Climatic Information for Building Design in Canada, and in accordance with Part 4 of the National Building Code of Canada. Design connectors to resist uplift force due to wind.

.2 Deflection under live load only shall not exceed 1/240th of span, except that where plaster and/or gypsum board ceilings are hung directly from the trusses live load deflection shall not exceed 1/360th of span.

1.5 Certificates

.1 Identify lumber by official grade mark containing symbol of grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded and condition of seasoning at time of manufacturer.

.2 Submit certification by treating plant stating that pressure treated wood conforms to required standard.

.3 Submit certification by treating plant stating that moisture content of wood was reduced to 15% maximum, after treatment with water-borne preservative.

.4 Submit certification by treating plant stating that fire retardant treated wood materials comply with requirements of regulatory agencies and that treatment will not bleed through finished surfaces.

1.6 Shop Drawings

.1 Submit shop drawings in accordance with Section 01300 and bearing stamp of Professional Structural Engineer registered in the Province of Manitoba.

.2 Clearly indicate species, sizes and stress grades of lumber used as truss members. Show pitch, span, camber, member configuration and spacing of trusses. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details.

1.7 Delivery and Storage

.1 Store trusses on job site in accordance with manufacturer's instructions. Provide bearing supports and bracing to prevent bending or overturning of trusses during transit and storage.

.2 Provide supports and braces as required to prevent overturning or out-of-plane bending of trusses during shipping, storage and erection.

2. PRODUCTS

2.1 Materials

.1 Lumber Spruce/Pine/Fir (SPF) species, minimum No. 2 grade to CSA 0141, S4S, with maximum moisture content of 15% at time of fabrication.

.2 Connector plates: galvanized sheet steel to ASTM A446-75, grade 'A', with Z600 zinc coating, with holes, plugs, teeth or prongs uniformly spaced and formed.

.3 Nails: zinc coated steel to CSA B111, sized as required.

.4 Screws: zinc coated steel, purpose made to CSA B35.4.

.5 Shear plates: malleable iron, grade 35018, to ASTM A47.

.6 Metal gussets: carbon steel plate to CAN/CSA G40.21-92, type 260W.

2.2 Fabrication

.1 Fabricate wood trusses in accordance with reviewed shop drawings.

.2 Cut truss members to accurate length, angle and size to provide tight joints on finished trusses.

.3 Assemble truss members in design configuration by securing tightly in jigs or with clamps.

.4 Provide for design camber when positioning truss members.

.5 Connect members using metal connector plates. Connector plates shall be applied under uniform pressure, using mechanical presses; manual application of plates will not be allowed unless approved in writing by the Contract Administrator.

.6 Supply for erection all pre-cut blocking, bridging and tie-down framing anchors.

3. EXECUTION

3.1 Erection

.1 Hoist trusses into position with cables secured at designated lift points in accordance with manufacturer's instructions.

.2 Exercise care to keep out-of-plane bending of trusses to minimum.

.3 Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing is installed.

.4 Install permanent bracing, bridging and related components prior to application of loads to trusses.

.5 Tighten loose connectors.

.6 Restrict construction loads to prevent overstressing of truss members.

.7 Do not cut or remove chords or other truss members.

.8 Anchor trusses securely against wind uplift, using galvanized steel framing anchors. Toe-nailing of trusses will not be acceptable for this purpose.

.9 "False trusses" are to be installed after underlying primary trusses have been sheathed.

3.2 Other Loads

.1 The Contract Administrator’s approval shall be obtained before applying any loads to the trusses other than those specified.

.2 Except for suspended ceilings, any secondary loads applied to any part of roof trusses shall be located at panel points unless approved by the Contract Administrator.

END OF SECTION

FINISH CARPENTRY

1. GENERAL

1.1 Quality Assurance

.1 Execute the work of this Section by fully equipped, expert craftsmen, highly skilled in millwork fabrication.

.2 Quality of work and materials: Unless otherwise specified, comply with the requirements for Premium Grade in accordance with the 2005 AWI/AWMAC Architectural Woodwork Quality Standards Illustrated Eighth Edition Version 2 (AWI/AWMAC QSI).

1.2 Definitions

.1 Exposed Surfaces: Surfaces exposed to view. Surfaces visible when doors and drawers are closed, backs of hinged doors and edges of hinged doors when opened.

.2 Semi-Exposed Surfaces: Surfaces that become visible when drawers and doors are opened.

.3 Concealed Surfaces: Surfaces not visible after installation.

1.3 Delivery, Storage, and Handling

.1 Store work in a temperature and humidity controlled area.

.2 Protect fire-retardant materials against high humidity and moisture.

.3 Provide protective coverings of suitable material for plastic laminate items; take special precautions at corners.

.4 Provide dry storage areas. Stack materials with 150 mm (6") clearance off the floor.

1.4 Submittals

.1 Shop Drawings: Show large scale details of construction. Indicate profiles of members, jointing, fastening, strapping, cut-outs for mechanical and electrical services and related items.

.2 Samples: Duplicate 150 mm x 150 mm (6" x 6") samples of plastic laminate veneers for review, show colours and details of edging, forming and construction.

2. PRODUCTS

2.1 Materials

.1 Wood members: Clean, seasoned, straight, square and true on all four sides. Comply with minimum size and tolerances of CSA O141. Grade-mark all wood materials. Kiln dry wood materials for interior use to a moisture content of 4 to 8%, and 7 to 10% for exterior use.

.2 Plywood: Veneer core plywood.

.1 Douglas Fir plywood: CSA O121; Western Softwood Plywood: CSA O151. Exposed two sides shall be Grade S2S, and exposed one side shall be Grade S1S.

.2 Hardwood Plywood: CSA O115, Type II (Type I for high humidity conditions). Exposed faces of Good Sequence Matched, selected veneers, and unexposed faces of Sound Grade, So, veneers.

.3 Birch Faced Hardwood Plywood: CSA O115, Good Sequence Matched, Select White or Select Red.

.3 Particleboard: ANSI A208.1, 720 kg/m^3 (45 lb/ft^3) density, mat formed wood particleboard.

.4 Concealed Framing: NLGA, S-Dry No. 1 grade Ontario White Pine or Douglas Fir, comply with BCLMA Construction grade.

.5 Sealer: Water-repellent, low VOC, clear, colourless, penetrating wood sealer, compatible with final finish.

.6 Hardboard: CAN/CGSB-11.3, impregnated, pressed wood with a tempering compound and polymerized by baking.

.7 Glue For Wood Assemblies: CSA O112 Series, polyvinyl adhesive.

.8 Plastic Laminate: NEMA LD-3, high pressure paper base decorative laminates. Unless otherwise specified, use the following:

.1 Horizontal Postform Work: Grade HGP, 1 mm (0.040") thick.

.2 Horizontal Flat Work: Grade HGS, 1.2 mm (0.048") thick.

.3 Vertical Postform Work: Grade VGP, 0.7 mm (0.028") thick.

.4 Vertical Flat Work: Grade VGS, 0.7 mm (0.028”) thick.

.5 Chemical-Resistant: Grade HGP, 1 mm (0.040”) thick.

.6 Backing Sheet: Grade BK, same thickness as facing sheets, sanded one face and manufactured by the same manufacturer as the facing sheet.

.7 Plastic Laminate Colours:

.1 To be selected by the Contract Administrator from the Contractor’s standard selection catalogue of colours.

.9 Melamine Board: Melamine resin impregnated paper, thermally fused to particle board or MDF core.

.1 Colour selected by the Contract Administrator from the Contractor's standard selection catalogue of colours.

2.2 Fabrication - General

.1 As far as practical, shop assemble work for delivery to site ready for installation and in size easily handled and to ensure passage through building openings. Leave ample allowance for fitting and scribing on the job.

.2 Fabricate work square and to the required lines. Recess and conceal fasteners and anchor heads. Fill with matching wood plugs.

.3 Make each unit rigid and self supporting, suitable for individual removal.

.4 Provide wood members free from bruises, blemishes, mineral marks, knots, shake and other defects and select for colour, grain and texture. Machine and hand sand surfaces exposed in the finished work to an even, smooth surface free from defects detrimental to appearance.

.5 Finish exposed edges and curves smooth. Keep contrast in colour and grain in adjoining materials to a minimum.

.6 Provide running members in the maximum lengths obtainable. Provide thickness of members in maximum dressed size of standard lumber. Where thickness or width indicated is not available in hardwoods, use glue laminations to obtain sizes required.

.7 Spline or key solid boards 150 mm (6") and wider and glue under pressure. Unless otherwise specified or indicated, book-match veneered faces, using selected and approved veneers. Provide unexposed backs of veneers having the same physical characteristics as the face veneer.

.8 Design and fabricate work to allow for expansion and contraction of the materials. Unless otherwise specified, work shall be glued, and blind screwed or nailed. Properly frame material with tight, hairline joints and hold rigidly in place. Use glue blocks where necessary.

.9 Conceal joints and connections wherever possible. Locate prominent joints where directed. Glue and pin mortise and tenon joints. Intermediate joints between supports will not be permitted. Set and fill surface nails. Prevent opening-up of glue lines in the finished work.

.10 Comply with glue Manufacturer's recommendations for lumber moisture content, glue shelf life, pot life, working life, mixing, spreading, assembly time, time under pressure and ambient temperature.

.11 Provide exposed and grain of solid members and edges of exposed plywood with matching solid edging at least 6 mm (¼") thick.

.12 Seal finish carpentry wood items before they leave the fabricating shop. For surfaces to receive a natural or stain finish ensure that the sealer is compatible with the final finish. Co-operate with Division 9 Section Painting and obtain written approval of proposed sealer.

.13 Fit shelf, door, drawer, gable and cabinet edges and other edges with 13 mm (½") hardwood edging prior to application of laminated plastic edging or subsequent finishing.

.14 Set nails and screws, apply wood filler to indentations, sand smooth and prepare to receive finish. Clean, ensure surfaces are free of dust.

2.3 Fabrication - Cabinets

.1 Framing: Solid stock framing assembled with machined dovetailed, mortised tennoned or blind dado joints adequately glued and secured with screws.

.2 Countertops: Provide cut-outs for sinks, fitments and services as required.

.3 Gables: Attach gables to framing with tongue and groove. Reinforce connections with supplementary metal angles. Route gables to receive shelf standards and fixed shelving's. Provide plastic laminate finished wood cleats for closet shelving and coat rod installation.

.4 Backs: Conceal joints behind framing, rout backs into end gables.

.5 Bottoms: Attach bottoms to front rails with tongue and groove.

.6 Doors: Flush overlay construction.

.7 Drawers: Solid stock fronts, backs, sides, dividers, and plywood bottoms. Joints glued.

.1 Fronts: 19 mm (¾") thick

.2 Backs: 13 mm (½") thick.

.3 Dividers: 6 mm (¼") thick.

.4 Sides: 15 mm (⅝") thick, dovetail joints to fronts, grooved joints to backs.

.5 Bottoms: 9 mm (⅜") thick, grooved into front and sides.

.8 Shelving: Apply plastic laminate to visible edges, except that adjustable shelves shall be edged on front and back.

.9 Base: Solid stock of height equal to base in room.

2.4 Fabrication - Plastic Laminate Faced Work

.1 Factory apply plastic laminate to interiors of all cabinetwork except drawers, but including drawer fronts and shelves, including underside of cabinets.

.2 Edge band doors, drawers, gables and all visible edges of plywood and particle board components with plastic laminate to match faces, strips same width as plywood or particle board.

.3 Apply backing sheet to laminated flatwork. Apply uniform coating of sealer on exposed edges. Provide backing sheet of sufficient thickness to compensate stresses caused by the facing sheet.

.4 Self edge straight-line-edging with flat work material and radius corners with post-forming material; apply with same adhesive as facing sheet. Chamfer edges uniformly at approximately 20 degrees using machine router.

.5 Locate joints at 2400 to 3000 mm (8' to 10') o.c. Accurately fit members together to provide tight and flush butt joints, in true planes. Provide 6 mm (¼") blind spline and approved type draw bolts; one draw bolt for widths up to 150 mm (6") at maximum 450 mm (18") centres for widths exceeding 150 mm (6"). Colour-match adjoining units.

.6 Provide cut-outs as required for inserts, fixtures and fittings. Use radiused corners and chamfer edges around cut-outs to avoid chipping laminate.

.7 Post-form laminate work to details indicated. Provide same core and laminate profiles to provide continuous support and bond for the entire surface.

.8 Assemble work, true and square. Arrange adjacent parts of continuous laminate work to match in colour and pattern.

2.5 Fabrication - Trim

.1 Trim members shall be of sizes and profiles indicated. Trim members shall be slow-fed work, free from chatter and other machine marks.

.2 Provide trim over 60 mm (2½") wide with backs ploughed or kerfed. Mitre all joints. Carefully machine drum-sand exposed flat surfaces. Minimize sanding on the job.

3. EXECUTION

3.1 Installation

.1 Set and secure materials and components in place, rigid, straight, level, plumb and square with hairline joints. Scribe neatly to adjoining surfaces; install blocking and fillers required. Secure units using concealed fasteners.

.2 Provide matching scribing closer strips between units and walls or similar surfaces.

.3 Provide heavy duty fixture attachments for wall mounted cabinet work.

.4 Apply sealant between units and adjacent wall and floor surface, around sills, pipes and escutcheon plates and similar areas to seal and finish installation, in accordance with Section 07900 – Joint Sealants.

.5 Make allowances around perimeter where fixed objects pass through or project into carpentry work to permit normal movement without restriction.

.6 Touch up cut edges and surfaces with sealer.

.7 Apply water resistant building paper or bituminous coating over wood framing members in contact with cementitious construction.

.8 After installation, adjust operating hardware for proper fit and function.

.9 Protect finished surfaces by approved means. Do not remove until immediately before Substantial Performance.

END OF SECTION

ARCHITECTURAL WOODWORK

1. GENERAL

1.1 References

.1 American National Standards Institute (ANSI)

.1 ANSI A208.1-99, Particleboard.

.2 American Society for Testing and Materials (ASTM)

.1 ASTM E1333-96, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates From Wood Products Using a Large Chamber.

.2 ASTM D2832-92(R1999), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.

.3 ASTM D5116-97, Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

.3 Architectural Woodwork Manufacturers Association of Canada (AWMAC)

.1 Architectural Woodwork Quality Standards Illustrated AWMAC, 2003.

.4 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.

.5 Canadian Standards Association (CSA)

.1 CSA B111-74(R1998), Wire Nails, Spikes and Staples.

.2 CSA O112.4-M1977(R1999), Standards for Wood Adhesives.

.3 CSA O112.5-Series-M-1977(R1999), Urea Resin Adhesives for Wood (Room- and High-Temperature Curing).

.4 CSA O112.7-Series M-1977(R1999), Resorcinol and Phenol-Resorcinol Resin Adhesives for Wood (Room- and Intermediate-Temperature Curing).

.5 CSA O121-M89(R1998), Douglas Fir Plywood.

.6 CAN/CSA O141-91(R1999), Softwood Lumber.

.7 CSA O151-M1978(R1998), Softwood Plywood.

.8 CSA O153-M1980(R1998), Poplar Plywood.

.6 International Organization for Standardization (ISO)

.1 ISO 14040-97, Environmental Management-Life Cycle Assessment - Principles and Framework.

.2 ISO 14041-98, Environmental Management-Life Cycle Assessment - Goal and Scope Definition and Inventory Analysis.

.7 National Electrical Manufacturers Association (NEMA)

.1 NEMA LD-3-95.

.8 National Hardwood Lumber Association (NHLA)

.1 Rules for the Measurement and Inspection of Hardwood and Cypress, January 1996.

.9 National Lumber Grades Authority (NLGA)

.1 Standard Grading Rules for Canadian Lumber, 2000.

1.2 Shop Drawings

.1 Submit shop drawings in accordance with Section 01300 - Submittals.

.2 Indicate details of construction, profiles, jointing, fastening and other related details.

.1 Scales: profiles full size, details 1/2 full size.

.3 Indicate materials, thicknesses, finishes and hardware.

.4 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.

1.3 Samples

.1 Submit samples in accordance with Section 01300 - Submittals.

1.4 Delivery, Storage, and Handling

.1 Deliver, handle, store and protect materials of this section in accordance with the General Conditions.

.2 Protect millwork against dampness and damage during and after delivery.

.3 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.

2. PRODUCTS

2.1 Materials

.1 Softwood lumber: unless specified otherwise, S4S, moisture content 15 % or less in accordance with following standards:

.1 AWMAC premium grade, moisture content as specified.

.2 Machine stress-rated lumber is acceptable for all purposes.

.3 Hardwood lumber: moisture content 12 % or less in accordance with following standards:

.1 AWMAC premium grade, moisture content as specified.

.4 Douglas fir plywood (DFP): to CSA O121, standard construction.

.5 Interior mat-formed wood particleboard: to ANSI A208.1.

.6 Fibreboard must contain less than 10% round wood by weight, using a weighted average over a three month period at each manufacturing location. Round wood refers to logs, with bark, delivered to a pulp mill, cut in lengths up to 3 m.

.7 Hardboard

.1 to CAN/CGSB-11.3.

.8 Laminated plastic for flatwork: to Section 06470.

.9 Thermofused Melamine: to NEMA LD3 Grade VGL.

.1 High wear resistant thermofused melamine: equal or exceed 400 cycles Minimum standard for HPL abrasion test.

.10 Nails and staples: to CSA B111.

.11 Wood screws: steel plated, type and size to suit application.

.12 Splines: wood, plastic, metal.

.13 Sealant: 07900.

.14 Laminated plastic adhesive: urea resin adhesive to CSA O112.5, contact adhesive to CAN/CGSB-71.20, resorcinol resin adhesive to CSA O112.7, polyvinyl adhesive to CSA O112.4, two component epoxy thermosetting adhesive.

.1 Test for acceptable VOC emissions in accordance with ASTM D2369 and ASTM D2832.

.2 Acceptable materials: ECP-44.

.15 Accessories:

.1 form

.2 stainless steel

2.2 Manufactured Units

.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 .

.2 Board sizes: "Standard" or better grade.

.3 Dimension sizes: "Standard" light framing or better grade.

.3 Case bodies ends, divisions and bottoms.

.1 Hardwood plywood as indicated:

.1 Thickness: as indicated

.2 Particleboard, thickness as indicated.

.3 Plastic laminate all exterior exposed edges as indicated, grade, type, and colour as specified.

.4 Interior Thermofused melamine thickness and colour as indicated.

.4 Backs.

.1 Hardwood plywood:

.1 Thickness: as indicated .

.2 Particleboard, thickness as indicated.

.5 Shelving.

.1 Hardwood plywood:

.1 Thickness: as indicated.

.2 Particleboard laminated thickness and size as indicated

.3 Particleboard, laminated with thermofused melamine thickness and size as indicated

.4 Interior Thermofused melamine thickness and colour as indicated.

.5 Solid wood: species, thickness as indicated.

.6 Edge banding: provide thickness indicated solid matching wood strip on plywood, particleboard edges 12 mm or thicker, exposed in final assembly as indicated. Strips same width as, plywood, particleboard. Matching colour in material indicated.

.7 Glass as indicated.

.2 Drawers

.1 Fabricate drawers to AWMAC premium grade supplemented as follows:

.2 Sides and Backs.

.1 Hardwood plywood:

.1 Thickness: as indicated, laminated.

.2 Fibreboard, Medium Density Fibreboard thickness as indicated, laminated.

.3 Thermofused Melamine: thickness as indicated.

.3 Bottoms.

.1 Hardwood plywood:

.1 Thickness: as indicated, laminated

.2 Fibreboard, Medium Density Fibreboard thickness as indicated.

.3 Thermofused Melamine: thickness as indicated.

.4 Fronts.

.1 Particleboard, laminated with Thermofused Melamine thickness as indicated.

.2 Particleboard, laminated thickness as indicated.

.3 Casework Doors

.1 Fabricate doors to AWMAC premium grade supplemented as follows:

.1 Particleboard, laminated with Thermofused Melamine thickness as indicated.

.2 Particleboard, laminated thickness as indicated.

2.3 Fabrication

.1 Set nails and countersink screws apply plain 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.

.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 lengths up to 3000 mm. 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 where indicated.

3. EXECUTION

3.1 Installation

.1 Do architectural woodwork to Quality Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), except where specified otherwise.

.2 Install prefinished millwork at locations shown on drawings. Position accurately, level, plumb straight.

.3 Fasten and anchor millwork securely. Provide 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.

.7 Apply bituminous coating over wood framing members in contact with masonry or cementitious construction.

.8 Fit hardware accurately and securely in accordance with manufacturer's written instructions.

.9 Site apply laminated plastic to units as indicated. Adhere laminated plastic over entire surface. Make corners with hairline joints. Use full sized laminate sheets. Make joints only where indicated or approved. Slightly bevel arises.

.10 For site application, offset joints in plastic laminate facing from joints in core.

3.2 Cleaning

.1 Clean millwork, inside cupboards and drawers and outside surfaces.

.2 Remove excess glue from surfaces.

3.3 Protection

.1 Protect millwork from damage until final inspection.

END OF SECTION

PLASTIC LAMINATE

1. GENERAL

1.1 Summary

.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions.

.2 Division 1 Specification Sections, apply to this Section.

.3 Section Includes:

.1 Standard decorative laminate surfacing for finishing millwork and countertops as indicated, including accessories and trim needed for a complete installation.

1.2 Related Work

.1 Work of this section is related to work specified in the following sections:

.1 Division 6 Section “Finish Carpentry”.

.2 Division 6 Section “Architectural Woodwork”.

1.3 Submittals

.1 Product Data: Manufacturer's technical literature for decorative plastic laminate material, adhesive for bonding plastic laminate, miscellaneous accessories and related components.

.2 Samples:

.1 Decorative plastic laminates, 5 by 7 inches (125 by 175 mm), for each type, color, pattern, and surface finish.

.3 Product: Decorative plastic laminate materials confirming to Formica Specifications or accepted equal.

1.4 Quality Assurance

.1 Fabricator/Installer Qualifications: Company specializing in fabricating and installing decorative plastic laminate finished work with a minimum 3 years experience.

.2 Material, equipment, and workmanship shall conform to industry-standard practices, conditions, procedures and recommendations as specified by ANSI/NEMA LD3-1995 Section 4, Architectural Woodwork Quality Standards, DLPA(Decorative Laminated Products Association) and ANSI 161.2-1979 standards.

.3 Source Limitations: Obtain decorative plastic laminate materials through one source from a single manufacturer.

.4 Fire-Test-Response Characteristics: Provide decorative plastic laminate with the following surface burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

.1 Flame-Spread Index: 25 or less.

.2 Smoke-Developed Index: 450 or less.

1.5 Delivery, Storage and Handling

.1 Deliver, store, handle, and protect materials in accordance with manufacturer's written instructions.

.1 Provide protective coverings of suitable material. Take special precautions at corners.

1.6 Sequencing

.1 Coordinate sizes and locations of cut-outs and other related Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

2. PRODUCTS

2.1 Products and Manufacturers

.1 Acceptable Manufacturer: Formica Corporation.

2.2 Materials and Components

.1 Decorative Plastic Laminate: Manufacturers standard and custom decorative surface papers with melamine resins, bonded under heat and pressure to Kraft paper backing sheet with phenolic resins.

.1 Grade: Grade 10, HGS VGP CLS BKH.

.2 Thickness: 1.2 mm.

.3 Surface burning characteristics in accordance with ASTM E84.

.4 Colors and Patterns: As selected by Contract Administrator from manufacturer's full range.

.5 Finish: As selected by Contract Administrator from manufacturer's full range.

2.3 Accessory Materials

.1 Adhesive for Bonding Plastic Laminate: for standard and post-forming grade: use semi-rigid (PVAc) or rigid (Urea Resorcinol) adhesives for colour core surfacing material use semi-

rigid (PVAc) or unpigmented contact cement applied to adhesive manufacturer's recommendations.

3. EXECUTION

3.1 Examination and Preparation

.1 Examine surfaces for conditions that would adversely affect decorative plastic laminate surfacing.

.2 Laminate to be bonded to a suitable substrate such as medium-density fiber board (MDF) or a 45# density particle board (CS 236-66; Type 1, Grade B, Class 2). The following materials are not recommended for use: plywood, plaster, gypsum board, concrete. Maximum panel widths to be 610 mm) for Grade 20.

3.2 Installation

.1 Workmanship shall conform to industry-standard practices, procedures and recommendations as specified by ANSI/NEMA LD3-1995 Section 4, Architectural Woodwork Quality Standards, DLPA(Decorative Laminated Products Association) and ANSI 161.2-1979 standards.

.2 Install decorative plastic laminate in accordance with manufacturer's written installation instructions, approved Submittals and requirements of Division 6 Section "Finish Carpentry" and Division 6 Section "Interior Architectural Woodwork".

.1 Provide templates and rough-in measurements.

3.3 Cleaning and Protection

.1 Cleaning:

.1 Clean decorative plastic laminate surfaces in accordance with manufacturer's instructions.

.2 Protection:

.1 Do not permit construction near unprotected surfaces.

END OF SECTION