

PART 1 - GENERAL

<u>1.1 RELATED SECTIONS</u>	.1	Section 06 40 00 - Architectural Woodwork.
	.2	Section 06 47 00 - Plastic Laminates.
	.3	Section 08 11 14 - Metal Doors and Frames.
	.4	Section 08 11 16 - Aluminum Doors and Frames.
	.5	Section 09 91 23 - Interior Painting.
	.6	Section 10 28 10 - Toilet and Bath Accessories.
<u>1.2 REFERENCES</u>	.1	CSA B111-1974(R2003) Wire Nails, spikes and Staples.
	.2	CSA 0121-M08 Douglas Fir Plywood.
	.3	CAN/CSA-0141-05 (R2009) Softwood Lumber.
	.4	CSA 0151-09 Canadian Softwood Plywood.
	.5	National Lumber Grades Authority (NLGA) Special Products Standard for Fingerjoined Structural Lumber SPS 2006.
	.6	National Lumber Grades Authority (NLGA) Standard Grading Rules for Canadian Lumber. 2007.
<u>1.3 QUALITY ASSURANCE</u>	.1	Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
	.2	Plywood identification: by grade mark in accordance with applicable CSA standards.

PART 2 - PRODUCTS

- 2.1 LUMBER MATERIAL
- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
 - .1 CAN/CSA-0141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .2 Framing: in accordance with NBC.
 - .3 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 S2S is acceptable for cants, all others D4S.
 - .2 Board sizes: "Standard" or better grade.
 - .3 Dimension sizes: "Standard" light framing or better grade.
 - .4 Post and timbers sizes: "Standard" or better grade.
 - .4 Finger jointed lumber is not acceptable for Work on this project.
- 2.2 PANEL MATERIALS
- .1 Douglas fir plywood (DFP): to CSA 0121, standard construction.
 - .2 Canadian softwood plywood (CSP): to CSA 0151, standard construction.
 - .1 Underlay, unless otherwise specified: DFP or CSP sheathing grade, thickness as indicated.
- 2.3 ACCESSORIES
- .1 Sealants: as per Section 07 90 00 - Joint Sealing.
 - .2 Nails, spikes and staples: to CSA B111.
 - .3 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
 - .4 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for purpose by manufacturer.
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| 2.3 ACCESSORIES
(Cont'd) | .5 | Wall access doors:
.1 Standard: Satin Coated 16 gauge steel,
concealed pin hinge, screwdriver operated
cam latch, complete with rust inhibiting
grey primer |
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PART 3 - EXECUTION

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| 3.1 INSTALLATION | .1 | Comply with requirements of NBC 2010. |
| | .2 | Install members true to line, levels and
elevations, square and plumb. |
| | .3 | Construct continuous members from pieces of
longest practical length. |
| | .4 | Select exposed framing for appearance.
Install panel materials so that grade-marks
and other defacing marks are concealed or
are removed by sanding where materials are
left exposed. |
| | .5 | Install rough bucks, nailers and linings to
rough openings as required to provide
backing for frames and other work. |
| 3.2 ERECTION | .1 | Frame, anchor, fasten, tie and brace members
to provide necessary strength and rigidity. |
| | .2 | Countersink bolts where necessary to provide
clearance for other work. |
| | .3 | Use nailing disks for soft sheathing as
recommended by sheathing manufacturer. |
| 3.3 SCHEDULES | .1 | Electrical equipment mounting boards:
.1 Plywood, DFP, G1S, square edge 19 mm
thick.
.2 Paint with fire retardent paint. |
| | .2 | Provide and install all miscellaneous
carpentry items including but not limited to
the following: |
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3.3 SCHEDULES
(Cont'd)

.2 (Cont'd)

- .1 Cutting and patching of floors, walls, ceilings, roof, etc., reasonably required by other trades. Other trades to supply sizes and locations of openings they require.
- .2 Wood blocking required for installation of miscellaneous specialty items.
- .3 Installation of access panels supplied by mechanical and electrical trades.
- .4 Installation of Miscellaneous Specialties.
- .5 Installation of steel doors, frames, and hardware.
- .6 Installation of washroom accessories.

PART 1 - GENERAL

1.1 RELATED
SECTIONS

- .1 Section 06 10 00 - Rough Carpentry.
- .2 Section 06 47 00 - Plastic Laminate Finishing.
- .3 Section 07 90 00 - Joint Sealing.
- .4 Section 08 71 10 - Hardware.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.2- 2009, Medium Density Fiberboard for Interior Use.
 - .2 American Society for Testing and Materials (ASTM)
 - .1 ASTM E 1333-10, Standard Test Method for Determining Formaldehyde Levels From Wood Products Under Defined Test Conditions Using a Large Chamber.
 - .3 Architectural Woodwork Manufacturers Association of Canada (AWMAC)
 - .1 AWMAC Quality Standards for Architectural Woodwork 1984.
 - .4 Canadian Standards Association (CSA)
 - .1 CAN3-A172-M79(R1999), High Pressure Paper Base, Decorative Laminates.
 - .2 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
 - .3 CSA O115-M1982(R2001), Hardwood and Decorative Plywood.
 - .4 CSA O121-M08, Douglas Fir Plywood.
 - .5 CAN/CSA-O141-05(R2009), Softwood Lumber.
 - .6 CSA O151-M09, Canadian Softwood Plywood.
 - .7 CSA O153-M1980(R2008), Poplar Plywood.
 - .8 CAN3-O188.1-M78, Interior Mat-Formed Wood Particleboard.
 - .9 CAN/CGSB-11.3-M87, Hardboard.
 - .5 National Hardwood Lumber Association (NHLA)
 - .1 Rules for the Measurement and Inspection of Hardwood and Cypress January 2011 (VI.I)
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- 1.3 SHOP DRAWINGS
- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate details of construction, profiles, jointing, fastening and other related details.
 - .1 Scale: profiles full size , details 1/2 full size.
 - .3 Indicate all materials, thicknesses, finishes and hardware.
 - .4 Indicate locations of all service outlets in casework, typical and special installation conditions , and all connections, attachments, anchorage and location of exposed fastenings.
- 1.4 SAMPLES
- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit duplicate samples: sample size 300x 300mm.
 - .3 Submit duplicate colour samples of laminated plastic for colour selection.
 - .4 Submit duplicate samples of laminated plastic joints, edging, cutouts and postformed profiles.
- 1.5 MOCK-UPS
- .1 Construct mock-ups in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Shop prepare one base cabinet unit wall cabinet counter top shelving unit convector cabinet , complete with hardware and shop applied finishes , and install on project at designated location.
 - .3 Allow 24 hours for inspection of mock-up by Departmental Representative before proceeding with this work.
 - .4 When accepted, mock-up will demonstrate minimum standard for this work. Mock-up may not remain as part of finished work.
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<u>1.6 DELIVERY, STORAGE, AND HANDLING</u>	.1	Protect millwork against dampness and damage during and after delivery.
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	.2	Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.
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<u>1.7 ALTERNATIVE MATERIALS</u>	.1	Acceptable Materials: where materials are specified by trade name refer to the Instructions to Tenderers for procedure to be followed in applying for approval of alternatives.
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PART 2 - PRODUCTS

<u>2.1 COUNTERTOP MATERIALS</u>	.1	Laminated plastic for post formed countertops: to CSA CAN3-A172, high pressure, 0.76 mm thick, as specified in Section 06 47 00, Article 2.1.4, bonded with adhesive as specified in Section 06 47 00, Article 2.1, to a core of Poplar plywood conforming to the requirements of CSA 0121. Self-edge all exposed edges and ends with matching high pressure plastic laminate.
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	.2	Core materials to be used in all vanities, and countertops which have sinks to be poplar plywood conforming to the requirements of CSA 0153.
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	.3	Formed backsplashes shall extend 100 mm above countertop surface. All joints to be sealed with water-tight cement to ensure protection from liquids entering the substrate.
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	.4	All plastic laminate countertops shall be factory fabricated in as long sections as possible to dimensions that have been site verified. Where joints are necessary, they shall be level and true, splined and fully secured with mechanical fasteners recessed into substrate, three per joint, forming permanent water-tight joints.
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2.1 COUNTERTOP
MATERIALS
(Cont'd)

- .5 On all countertops as specified above, plastic laminate is to be applied to the vertical edge before plastic laminate is applied to the horizontal top of the counter.
- .6 All hidden edges of countertops where the core material is exposed, are to be sealed to prevent moisture entry.

2.2 CABINET
MATERIALS

- .1 All cabinet components with the exception of countertops, shall be fabricated from high pressure, 1.15 mm thick plastic laminate material, conforming to the requirements of CSA CAN3-A172, and as specified in Section 06 47 00, Article 2.1.1.1 and Article 2.1.1.2, laminated to 19 mm thickness Poplar plywood substrate, conforming to CSA O121. Laminate shall be applied both sides of substrate fused under pressure to form cabinet components. All components shall be self-edged with matching high pressure plastic laminate material applied with a hot melt glue machine.
- .2 Nails and staples to CSA B111, galvanized finish.

2.3 CABINET
HARDWARE

- .1 Hinges: Acceptable materials are model "125" with spring as manufactured by Blum, or an approved equal.
 - .2 Pulls: 192 mm long nickel plated matt finish. Acceptable materials "2101192170" as manufactured by Richelieu, or an approved equal.
 - .3 Bumpers: Acceptable materials are model "MP 30311" as manufactured by Richelieu, or an approved equal.
 - .4 Door locks: Acceptable materials are model "1E7E4 x 626" as manufactured by Best, or an approved equal.
 - .5 Shelf standards: Acceptable materials are model "283.13.902" as manufactured by Hafele Canada Inc., model "120" as manufactured by Roll-It, or an approved equal.
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2.3 CABINET
HARDWARE
(Cont'd)

- .6 Shelf clips: Acceptable materials are model "283.64.909" as manufactured by Hafele Canada Inc., model "101" as manufactured by Roll-It, or an approved equal.
- .7 Drawer slides: Acceptable material are 400mm pull out pantry unit as manufactured by Hafele, or an approved equal.

2.4 COUNTERTOP
FABRICATION

- .1 Fabricate countertops, and backsplashes as per plans, details, and as described herein.
- .2 No joints in countertops will be permitted within 600 mm of a sink.
- .3 Make countertops in sections as long as possible.
- .4 Cut holes for fittings, accessories, sinks, faucets and equipment on site as per requirements.
- .5 Round exposed edges and corners of cutouts. Edges of the core material of all cutouts are to be sealed with silicone waterproofing. In countertops where cutouts occur the edges of the countertop, between the countertop and the backsplash, are to be sealed with silicone waterproofing.
- .6 All exposed ends are to be finished in matching materials.

2.5 CABINET
FABRICATION

- .1 Fabricate cabinets to best cabinet makers practice, to approved manufacturer's standards.
 - .2 Fabricate all base and wall cabinets as per plan cabinet sections, of plastic laminate components, doors and drawer heads as per 2.2.
 - .3 Fabricate cabinets with recessed toe space to heights and depths as shown on drawings. The base of the cabinet, forming the toe space is to be fabricated of Poplar plywood, and finished with 1.15 mm plastic laminate.
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2.5 CABINET
FABRICATION
(Cont'd)

- .4 Fabricate all units in modular sections, rigid, self-supporting, with demountable fastenings for ease of relocation.
- .5 Aprons, as required shall be fabricated from 19 mm formed high-pressure plastic laminate panels matching decor. All aprons to be backed in matching plastic laminate and shall be complete with mounting materials.
- .6 All shelves shall be adjustable and shall extend full depth of cabinets to within 12 mm of the face of the supporting gables.
- .7 Handles on doors to be mounted vertically.
- .8 Provide and install all valence and filler panels to match cabinetwork, as shown on drawings. Removable panels where indicated on drawings to be fully finished panels on all sides and edges, secured with removable fasteners as specified in section 2.3.

PART 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.
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| <u>3.1 INSTALLATION
(Cont'd)</u> | .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 directions. |
| | .9 | It is to be noted that this contractor is responsible for protecting the cabinetwork and countertops during installation and shall not proceed with the installation until the building and building components are proper for commencing. |
| | .10 | This Contractor shall work in concert with other trades during the installation. |
| <u>3.2 CLEANING</u> | .1 | On completion, replace marred or abraded finished surfaces. |
| | .2 | Wipe down surfaces to remove fingerprints and markings, and leave in clean condition. |
| <u>3.3 PRODUCT
HANDLING AND
STORAGE</u> | .1 | The cabinetwork Contractor shall be responsible for the receipt from transportation of all his equipment and materials at the site and shall arrange with the General Contractor for the delivery and distribution of such equipment and materials at the site. He shall be responsible for the proper protection from damage of all materials and finished work, and he shall replace, at his own expense, all this work and materials damaged through neglect to protect same properly. |
| | .2 | No equipment or material shall be delivered to the site until that portion of the building in which it is to be installed is completed and ready for such equipment or material unless approved safe storage space has been provided by the General Contractor. |
| | .3 | The cabinetwork Contractor shall be responsible to deliver all material to the site, uncrate, set-in-place, and anchor securely, and shall work in cooperation with other trades for the final connections to services and equipment. |

PART 1 - GENERAL

<u>1.1 RELATED SECTION</u>	.1	Section 06 10 00 - Rough Carpentry.
	.2	Section 06 40 00 Architectural Woodwork.
<u>1.2 REFERENCE</u>	.1	CAN3-A172-M79 (R1999) High Pressure, Paper Base, Decorative Laminates.
	.2	CSA O112.4-M1977(2001) Polyvinyl Adhesives for Wood.
	.3	CSA O112.5-M1977(2001) Urea Resin Adhesives for Wood (Room- and High-Temperature Curing).
	.4	CSA O112.7-M1977(2001) Resorcinol and Phenol-Resorcinol Resin Adhesives for Wood (Room- and Intermediate-Temperature Curing).
	.5	CSA O153-M1980(R2008) Poplar Plywood.
	.6	CAN3-O188.1-M78 Interior Mat-Formed Wood Particle Board.
	.7	CAN/CGSB-71.20-M88 Adhesive, Contact, Brushable.
<u>1.3 SAMPLES</u>	.1	Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
	.2	Submit duplicate samples of joints, edging, cutouts and postformed profiles.
<u>1.4 CLOSEOUT SUBMITTALS</u>	.1	Provide maintenance data for laminate work for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
<u>1.5 STORAGE AND PROTECTION</u>	.1	Maintain relative humidity between 25 and 60% at 22°C during storage and installation.

- 1.6 ALTERNATIVE MATERIALS .1 Acceptable Materials: where materials are specified by trade name refer to the Instructions to Tenderers for procedure to be followed in applying for approval of alternatives.

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Laminated plastic for flatwork: to CSA CAN3-A172, and as follows:
- .1 General purpose laminate to meet the following standards:
 - .1 Wear value cycles - 1800.
 - .2 Impact resistance - <1650mm.
 - .3 Dimensional change:
 - .1 Length - 0.16%.
 - .2 Width - 0.70%.
 - .4 Boiling water resistant - No effect.
 - .5 High temperature resistance - No effect.
 - .6 Radiant heat resistance - 300 seconds.
 - .7 Stain resistance - No effect.
 - .8 Cleanability - 7-10.
 - .9 Light resistance - No effect.
 - .2 Post-forming laminate to meet the following standards:
 - .1 Wear value cycles - 400 min.
 - .2 Impact resistance - 500mm.
 - .3 Dimensional change:
 - .1 Length - 1.1%.
 - .2 Width - 1.4%.
 - .4 Boiling water resistant - Slight effect.
 - .5 High temperature resistance - Slight effect.
 - .6 Radiant heat resistance - 80 seconds.
 - .7 Stain resistance - No effect.
 - .8 Cleanability - 20.
 - .9 Light resistance - Slight effect.
 - .10 Formability - 13mm radius.
 - .11 Blister resistance - 40 sec.
 - .3 Vertical forming laminate to meet the following standards:
 - .1 Wear value cycles - 1800.
 - .2 Impact resistance - 1000mm.
 - .3 Dimensional change:
 - .1 Length - 0.15%.
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2.1 MATERIALS
(Cont'd)

- .1 (Cont'd)
 - .3 (Cont'd)
 - .2 Width - 0.75%.
 - .4 Boiling water resistant - No effect.
 - .5 High temperature resistance - No effect.
 - .6 Radiant heat resistance - 250 seconds.
 - .7 Stain resistance - No effect.
 - .8 Cleanability - 7-10.
 - .9 Light resistance - No effect.
 - .10 Formability - 6mm radius.
 - .11 Blister resistance - 52 sec.
- .2 Horizontal surfaces: General purpose, high pressure, standard duty, textured finish, 1.15 mm thick. Colour, pattern etc., to be chosen by the Departmental Representative from the manufacturer's range and may be chosen from the manufacturer's specialty designs and/or colours.
- .3 For all vertical surfaces such as doors, drawer fronts, exterior sides of casework, gables, backs where exposed to view, wall panels, etc. and for horizontal surfaces such as shelves which are exposed to view, etc.: Vertical forming, light duty, high pressure plastic laminate, 1.15 mm thick, matte finish. Colours, pattern, etc. to be chosen by the Departmental Representative from the manufacturer's range and may be chosen from the manufacturer's specialty designs and/or colours.
- .4 Horizontal post-formed surfaces: High pressure, standard duty, textured finish, 0.76 mm thick. Colour, pattern etc., to be chosen by the Departmental Representative from the manufacturer's range and may be chosen from the manufacturer's specialty designs and/or colours.
- .5 Laminated plastic backing sheet: Grade BK, Type standard duty not less than 0.76 mm thick or same thickness as face laminate.

2.1 MATERIALS
(Cont'd)

- .6 Laminated plastic liner sheet (inside surfaces of cabinets): General purpose, high pressure, standard duty, textured finish, 0.76 mm thick. Colour, pattern etc., to be chosen by the Departmental Representative from the manufacturer's range and may be chosen from the manufacturer's specialty designs and/or colours.
- .7 Laminated plastic adhesive: urea resin adhesive to CSA 0112 for countertops, contact adhesive to CAN/CGSB-71.20 for other. All adhesive to be odorless.
- .8 Sealer: water resistant sealer or glue acceptable to laminate manufacturer.
- .9 Sealants: in accordance with Section 07 90 00 - Sealants, colour selected by Departmental Representative.
- .10 Draw bolts and splines: as recommended by fabricator.
- .11 Maximum selection of plastic laminate to be based on 25 colours.

2.2 FABRICATION

- .1 Comply with CAN3-A172, Appendix 'A'.
 - .2 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
 - .3 Ensure adjacent parts of continuous laminate work match in colour and pattern.
 - .4 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 2400 mm. Keep joints 600 mm from sink cutouts.
 - .5 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.
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| <u>2.2 FABRICATION</u>
(Cont'd) | .6 | 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. |
| | .7 | Apply laminate backing sheet to reverse side of core of plastic laminate work. |
| | .8 | Apply laminated plastic liner sheet to interior of cabinetry. |

PART 3 - EXECUTION

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| <u>3.1 INSTALLATION</u> | .1 | Install work plumb, true and square, neatly scribed to adjoining surfaces. |
| | .2 | Make allowances around perimeter where fixed objects pass through or project into laminated plastic work to permit normal movement without restriction. |
| | .3 | Use draw bolts and splines in countertop joints. Maximum spacing 450 mm oc, 75 mm from edge. Make flush hairline joints. |
| | .4 | Provide cutouts for inserts, grilles, appliances, outlet boxes and other penetrations. Round internal corners, chamfer edges and seal exposed core. |
| | .5 | At junction of laminated plastic counter back splash and adjacent wall finish, apply small bead of sealant. |
| | .6 | Site apply laminated plastic to units as indicated. Adhere laminated plastic over entire surface. Make corners with hairline joints. Use full sized laminated sheets. |
| | .7 | For site application, offset joints in plastic laminate facing from joints in core. |
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- 3.2 PROTECTION .1 Cover finished laminated plastic veneered surfaces with heavy kraft paper or put in cartons during shipment. Protect installed laminated surfaces by approved means. Do not remove until immediately before final inspection.