

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 12 35 53.13 – Steel Laboratory Casework
- .2 Section 06 47 00 – Plastic Laminate Finishing

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A123/A123M- 15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A653/A653M- 15e1, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealloyed) by the Hot-Dip Process.
 - .3 ASTM C1396/C1396M-17, Standard Specification for Gypsum Board.
 - .4 ASTM D1761-12, Standard Test Methods for Mechanical Fasteners in Wood.
 - .5 ASTM D5456-17e1, Standard Specification for Evaluation of Structural Composite Lumber Products.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-71.26-M88, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.
- .3 CSA International
 - .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
 - .2 CSA O112 Series-M1977(R2006), CSA Standards for Wood Adhesives.
 - .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.
- .4 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
 - .2 FSC-STD-20-002-2004, Structure and Content of Forest Stewardship Standards V2-1
 - .3 FSC Accredited Certified Bodies.
- .5 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2007.
- .6 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2007, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Product Data:

- .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.

1.4 QUALITY ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.
- .3 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with FSC-STD-01-001.

1.5 DELIVERY, STORAGE AND HANDLING

- .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.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 FRAMING STRUCTURAL AND PANEL MATERIALS

- .1 Description:
 - .1 Sustainability Characteristics:
 - .1 Lumber, SCL, FSC Certified.
 - .2 Plywood, urea-formaldehyde free, FSC Certified.
- .2 Lumber: softwood, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .3 Structural Composite Lumber (SCL) in accordance with ASTM D5456.
- .4 Framing and board lumber: in accordance with NBC.
- .5 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 S2S is acceptable for concealed locations.
 - .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.

- .6 Plywood, OSB and wood based composite panels: to CSA O325.
- .7 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .8 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .9 Poplar plywood (PP): to CSA O153, standard construction.

2.2 ACCESSORIES

- .1 General purpose adhesive: to CSA O112 Series.
 - .1 VOC limit 70 g/L maximum to SCAQMD Rule 1168.
- .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.
- .5 Nailing discs: flat caps, minimum 25 mm diameter, minimum 0.4 mm thick, sheet metal, formed to prevent dishing. Bell or cup shapes not acceptable.
- .6 Fastener Finishes:
 - .1 Galvanizing: to ASTM A123/A123M, use galvanized fasteners for exterior work, interior highly humid areas, pressure-preservative treated lumber.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product 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 Install members true to line, levels and elevations, square and plumb.
- .2 Construct continuous members from pieces of longest practical length.
- .3 Install spanning members with "crown-edge" up.
- .4 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .5 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding, electrical equipment mounting boards, and other work as required.
- .6 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

- .7 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .8 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.
- .9 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .10 Countersink bolts where necessary to provide clearance for other work.
- .11 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

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.
- .3 Waste Management: separate waste materials for reuse and recycling.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 PROTECTION

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

END OF SECTION

Part 1 General**1.1 REFERENCES**

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
- .2 ASTM International
 - .1 ASTM D2832-92(R2016), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
 - .2 ASTM D2369-10(2015)e1, Standard Test Method for Volatile Content of Coatings.
- .3 CSA International
 - .1 CSA O112.10-08, Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure).
 - .2 CSA O121-08 (R2013), Douglas Fir Plywood.
 - .3 CSA O151-09 (R2014), Canadian Softwood Plywood.
 - .4 CSA O153-M1980(R2008), Poplar Plywood.
 - .5 CAN/CSA-Z809-08 (R2013), Sustainable Forest Management.
- .4 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .6 National Electrical Manufacturers Association (NEMA)
 - .1 ANSI/NEMA LD-3-05, High Pressure Decorative Laminates (HPDL).
- .7 Scientific Equipment and Furniture Association (SEFA)
 - .1 SEFA 8-99, Laboratory Furniture.
- .8 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
 - .1 SCAQMD Rule 1113-A2016, Architectural Coatings.
 - .2 SCAQMD Rule 1168-A2017, Adhesives and Sealants Applications.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for laminate, adhesive, and core materials and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements. Indicate VOC's for adhesives in g/L.

- .3 Samples:
 - .1 Submit for review and acceptance from standard colour range.
 - .2 Submit duplicate samples of joints and edging.
- .4 Submit layout of complete installations, including surface joint locations and detail of core substrate.
- .5 Certifications: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.3 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for laminate work for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with CAN/CSA-Z809 or FSC or SFI.
- .3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .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 off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect laminate, adhesive, and core materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 MATERIALS

- .1 Laminated plastic for flatwork: to NEMA LD3 and SEFA 8.
 - .1 Type: laboratory grade
 - .2 Size: 1.27mm thick.
 - .3 Colour: integral colour throughout
 - .4 Pattern: solid or printed pattern.
 - .5 Finish: satin.
- .2 Laminated plastic adhesive: contact adhesive to CAN/CGSB-71.20

- .1 Test for acceptable VOC emissions in accordance with ASTM D2369 and ASTM D2832.
- .2 VOC limit 80g/L maximum to SCAQMD Rule 1168 & GS-36.

2.2 FABRICATION

- .1 Comply with NEMA LD3, Annex 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 3000 mm.
- .5 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.
- .6 Apply laminate backing sheet to reverse side of core of plastic laminate work.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for laminate, adhesive, and core materials 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.

3.2 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.3 INSTALLATION

- .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 on centre, 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 laminate sheets. Make joints only where approved. Slightly bevel arrises.
- .7 For site application, offset joints in plastic laminate facing from joints in core.

3.4 CLEANING

- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
 - .1 Clean to NEMA LD3, Annex B.
- .3 Protect installed laminated surfaces in accordance with manufacturer's written recommendations.
 - .1 Remove protection only immediately before final inspection.
- .4 Protect installed products and components from damage during construction.
- .5 Repair damage to adjacent materials caused by laminate, adhesive, and core materials installation.

END OF SECTION