

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 05 50 00 - Metal Fabrications.
- .2 Section 08 62 10 - Skylights.
- .1 Section 09 91 99 - Painting for Minor Works.
- .2 Division 7 - Thermal Protection.

1.2 REFERENCES

- .1 American National Standards Institute/National Particleboard Association (ANSI/NPA)
 - .1 ANSI/NPA A208.1-2009, Particleboard.
 - .2 ASTM International
 - .1 ASTM A 123/A 123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .2 ASTM A 653/A 653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvaneal) by the Hot-Dip Process.
 - .3 ASTM C 578-11a, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - .4 ASTM C 1289-11, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - .5 ASTM C 1396/C 1396M-11, Standard Specification for Gypsum Board.
 - .6 ASTM D 1761-06, Standard Test Methods for Mechanical Fasteners in Wood.
 - .7 ASTM D 5055-11, Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
 - .8 ASTM D 5456-11, Standard Specification for Evaluation of Structural Composite Lumber Products.
 - .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3-M87, Hardboard.
 - .2 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.
 - .3 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction and amendment.
 - .4 CAN/CGSB-71.26-M88, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems.
 - .4 CSA International
 - .1 CAN/CSA-A123.2-03(R2008), Asphalt Coated Roofing Sheets.
 - .2 CAN/CSA-A247-M86(R1996), Insulating Fiberboard.
 - .3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
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- .4 CSA 0112.9-10, Evaluation of Adhesives for Structural Wood Products (Exterior Exposure).
- .5 CSA 0121-08, Douglas Fir Plywood.
- .6 CAN/CSA 0122-06(R2011), Structural Glued-Laminated Timber.
- .7 CSA 0141-05(R2009), Softwood Lumber.
- .8 CSA 0151-09, Canadian Softwood Plywood.
- .9 CSA 0153-M1980(R2008), Poplar Plywood.
- .10 CSA 0325-07, Construction Sheathing.
- .11 CSA 0437 Series-93(R2011), Standards on OSB and Waferboard.
- .12 CAN/CSA-Z809-08, Sustainable Forest Management.
- .5 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .6 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2010.
- .7 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.
- .8 The Truss Plate Institute of Canada
 - .1 Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses 2007.
- .9 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S706-09, Standard for Wood Fibre Insulating Boards for Buildings.

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.
 - .3 Sustainable Design Submittals:
 - .1 Wood Certification: submit manufacturer's Chain-of-Custody Certificate number for FSC certified wood.
 - .2 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants and paints and coatings used in building, showing compliance with VOC and chemical component limits or restriction requirements.
 - .2 Submit listing of composite wood products used in building, stating that they contain no added
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urea-formaldehyde resins, and laminate adhesives used in building, stating that they contain no urea-formaldehyde.

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 CAN/CSA-Z809 or FSC or SFI.

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 and 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.
 - .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
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PART 2 - PRODUCTS

2.1 FRAMING STRUCTURAL AND PANEL MATERIALS

- .1 Description:
 - .1 Sustainability Characteristics:
 - .1 Lumber, Finger Jointed Lumber, Glulam, I-Joists, Trusses, SCL, CAN/CSA-Z809 or FSC or SFI certified.
 - .2 Plywood. Particleboard OSB urea-formaldehyde free, CAN/CSA-Z809 or FSC certified.
 - .2 Lumber: softwood, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
 - .1 CSA 0141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 Glulam in accordance with Structural Glued-Laminated Timber CAN/CSA-0122.
 - .4 Wood I-joists in accordance with Prefabricated Wood I-Joists ASTM D 5055.
 - .5 Light-frame trusses in accordance with "Truss Design and Procedures for Light Metal Connected Wood Trusses", The Truss Plate Institute of Canada.
 - .6 Structural Composite Lumber (SCL) in accordance with ASTM D 5456.
 - .7 Framing and board lumber: in accordance with NBC.
 - .8 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 S2S is acceptable.
 - .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.
 - .9 Plywood, OSB and wood based composite panels: to CSA 0325.
 - .10 Douglas fir plywood (DFP): to CSA 0121, standard construction.
 - .11 Canadian softwood plywood (CSP): to CSA 0151, standard construction.
 - .12 Poplar plywood (PP): to CSA 0153, standard construction.
 - .13 Interior mat-formed wood particleboard: to ANSI/NPA 208.1.
 - .14 Mat-formed structural panelboards (OSB wafer): to CAN 0437.
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- .15 Insulating fiberboard sheathing: to CAN/CSA-A247 CAN/ULC-S706.
- .16 Gypsum sheathing: to ASTM C 1396/C 1396M.

2.2 ACCESSORIES

- .1 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
 - .2 Subflooring adhesive: to CAN/CGSB-71.26, cartridge loaded.
 - .3 General purpose adhesive: to CSA O112.9.
 - .4 Nails, spikes and staples: to CSA B111.
 - .5 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
 - .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.
 - .7 Joist hangers: minimum 1 mm thick sheet steel, galvanized ZF001 coating designation.
 - .8 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.
 - .9 Roof sheathing H-Clips: formed "H" shape, thickness to suit panel material, extruded 6063-T6 aluminum alloy type approved by Departmental Representative.
 - .10 Fastener Finishes:
 - .1 Galvanizing: to ASTM A 123/A 123M, ASTM A 653, use galvanized fasteners for exterior work and pressure-preservative, treated lumber.
 - .11 Wood Preservative:
 - .1 Preservative : in accordance with manufacturer's recommendations for surface conditions:
 - .1 Preservative: VOC limit 350 g/L maximum.
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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 PREPARATION

- .1 Treat surfaces of material with wood preservative, before installation.
- .2 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
- .4 Provide pressure treated wood in location as follows:
 - .1 Wood cants, fascia backing, curbs, nailers, sleepers on roof deck.
 - .2 Wood furring for outside surface of exterior masonry and concrete walls.
 - .3 Wood sleepers supporting wood subflooring over concrete slabs in contact with ground or fill.

3.3 MATERIAL USAGE

- .1 Roof sheathing:
 - .1 Plywood, DFP or CSP sheathing grade or PP standard sheathing grade, square edge, thickness noted on drawings.
 - .2 Exterior wall sheathing:
 - .1 Plywood, DFP or CSP sheathing grade or PP standard sheathing grade, T&G edge, in thickness as detailed on drawings.
 - .2 Construction sheathing product: end use mark W24.
 - .3 Mat-formed structural panelboard, grade O-1.
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- .3 Subflooring:
 - .1 Plywood, DFP or CSP sheathing grade or PP standard sheathing grade, T&G edge, thickness as noted on drawings.
 - .2 Mat-formed OSB structural panelboard, grade O-1 .
- .4 Underlay:
 - .1 Plywood, DFP or CSP grade, or PP grade, square edge in thickness as detailed.
- .5 Electrical equipment mounting boards:
 - .1 Plywood, DFP grade, square edge 19 mm thick coated with intumescent paint.

3.4 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 subflooring and combined subfloor and underlay with panel end-joints located on solid bearing, staggered at least 800 mm.
 - .1 In addition to mechanical fasteners, floor panels secure floor subflooring to floor joists using glue screws. Place continuous adhesive bead in accordance with manufacturer's instructions, single-bead on each joist and double-bead on joists where panel ends butt.
 - .6 Install wall sheathing in accordance with manufacturer's printed instructions.
 - .7 Install roof sheathing in accordance with requirements of NBC.
 - .8 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.
 - .9 Install furring to support siding applied vertically where there is no blocking and where sheathing is not suitable for direct nailing.
 - .1 Align and plumb faces of furring and blocking to tolerance of 1:600.
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- .10 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .11 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .12 Install sleepers as indicated.
- .13 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.
- .14 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .15 Countersink bolts where necessary to provide clearance for other work.
- .16 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

3.5 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 in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
 - .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 rough carpentry installation.

PART 1 - GENERAL

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A 653/A 653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 CSA International
 - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
 - .2 CAN/CSA O80 Series-08, Wood Preservation.
 - .3 CSA O86 Consolidation-09, Engineering Design in Wood.
 - .4 CAN/CSA-Z809-08, Sustainable Forest Management.
- .3 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .4 Green Seal Environmental Standards (GS)
 - .1 GS-36-11, Commercial Adhesives.
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .6 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2010.
- .7 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.

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 decking 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 - Health and Safety Requirements 01 35 43 - Environmental Procedures.
 - .3 Shop Drawings:
 - .1 Submit drawings in accordance with Section 01 33 00 - Submittal Procedures.
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1.4 QUALITY ASSURANCE

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with FSC.

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 and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood decking from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Wood decking: to NLGA standard Grading Rules for Canadian Lumber select commercial grade Spruce x 32 mm. Kiln dry decking to 15% maximum moisture content following preservative treatment.
 - .2 Decking lengths: 1.8 to 6 m or longer with a minimum of 90% planks exceeding 3 m. Square end trimmed. For single spans shorter than 3 m use decking of same length as span.
 - .3 Nails: to CSA B111, stainless steel finish; sizes to CSA O86, ASTM 653/653M. Supply 200 mm spiral spikes for lateral nailing.
 - .4 Splines: galvanized metal, as recommended by decking manufacturer.
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- .5 Wood preservative: water borne type to CSA 080 for natural finish, arsenic free.
- .6 Adhesive and Sealants: in accordance with Section 07 92 00 - Joint Sealants.

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 decking 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 wood deck work to CSA 086 except where specified otherwise.
- .2 Install decking to CSA 086, controlled random pattern.
- .3 Supply minimum of 1 bearing support for each plank except extend cantilevers over two supports.
- .4 Stagger end joints in adjacent planks minimum of 0.5 m.
 - .1 Separate joints in same area by at least 2 intervening courses.
 - .2 Avoid joints in first fifth of end spans.
 - .3 Minimize joints in middle third of span.
- .5 Apply preservative to end cuts of pressure treated lumber.

3.3 FIELD QUALITY CONTROL

- .1 Testing:
 - .1 Testing moisture content of delivered material will be performed by testing laboratory designated by Departmental Representative.
 - .2 Departmental Representative will pay for costs of testing in accordance with Division 1.
 - .3 Testing moisture content of delivered material will be by testing laboratory designated by Departmental Representative.
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West Gate Visitor	WOOD DECKING	Section 06 15 00
Reception Centre		Page 4
Fundy National Park		R.075853.001

3.4 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 in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.5 PROTECTION

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

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.

1.2 REFERENCES

- .1 CSA International
 - .1 CAN/CSA O80 Series-08, Wood Preservation.
 - .2 CSA O86 Consolidation-09, Engineering Design in Wood.
 - .3 CSA O141-05(R2009), Softwood Lumber.
 - .4 CSA S307-M1980(R2001), Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings.
 - .5 CSA S347-99(R2009), Method of Test for Evaluation of Truss Plates Used in Lumber Joints.
 - .6 CSA W47.1-09, Certification of Companies for Fusion Welding of Steel.
 - .7 CAN/CSA-Z809-08, Sustainable Forest Management.
- .2 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .3 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber 2010.
- .4 National Research Council (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC)
 - .1 CCMC-on-line edition, Registry of Product Evaluations.
- .5 Truss Plate Institute of Canada (TPIC)
 - .1 TPIC - 2007, Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design).
- .6 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.

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 trusses and include product characteristics, performance criteria, physical size, finish and limitations.
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- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of New Brunswick, Canada.
 - .2 Include on drawings:
 - .1 Each shop drawing submission showing connection details.
 - .2 Indicate special structural application and specification as according to local authorities having jurisdiction.
 - .3 Indicate TPIC Truss Design Procedure and CSA 086 Engineering Design in Wood and specific CCMC Product Registry number of the truss plates
 - .4 Indicate species, sizes, and stress grades of lumber used as truss members. Show pitch, span, camber, configuration and spacing of trusses. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details. Indicate design load for members.
 - .5 Submit stress diagram or print-out of computer design indicating design load for truss members. Indicate allowable load and stress increase.
 - .6 Indicate arrangement of webs or other members to accommodate ducts and other specialties.
 - .7 Show location of lateral bracing for compression members.
 - .8 Test reports: submit certified test reports for prefabricated wood trusses from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.
 - .9 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .10 Instructions: submit manufacturer's installation instructions.

1.4 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Fabricator for trusses to show evidence of quality control program such as provided by regional wood truss associations, or equivalent.
 - .2 Fabricator for welded steel connections to be certified in accordance with CSA W47.1.
 - .2 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with FSC.
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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 and in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect wood trusses from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
 - .4 Provide bearing supports and bracings. Prevent bending, warping and overturning of trusses.
- .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 DESIGN REQUIREMENTS

- .1 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for wood truss chords and webs in accordance with engineering properties in CSA 086.
 - .2 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for truss joint designs to test engineering properties in accordance with CSA S347 and listed in CCMC Registry of Product Evaluations.
 - .3 Design trusses, bracing bridging in accordance with CSA 086.1 for loads indicated for building locality as ascertained by NBC, Climatic Information for Building Design in Canada and minimum uniform and minimum concentrated loadings stipulated in NBC commentary.
 - .4 Limit live load deflection to 1/360th of span where gypsum board ceilings are hung directly from trusses.
 - .5 Limit live load deflections to 1/360th of span unless otherwise specified or indicated.
 - .6 Provide camber for trusses if indicated.
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2.2 MATERIALS

- .1 Lumber: SPF species, No. 1 grade, softwood, S4S, with maximum moisture content of 19% at time of fabrication and to following standards:
 - .1 CSA 0141.
 - .2 NLGA (National Lumber Grading Association), Standard Grading Rules for Canadian Lumber.
 - .3 FSC certified.
- .2 Fastenings: to CSA 086.

2.3 FABRICATION

- .1 Fabricate wood trusses in accordance with reviewed shop drawings.
- .2 Provide for design camber and roof slopes when positioning truss members.
- .3 Connect members using metal gussets, metal connector plates.

2.4 SOURCE QUALITY CONTROL

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.

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.
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3.2 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.3 ERECTION

- .1 Erect wood trusses in accordance with reviewed shop drawings.
- .2 Handling, installation, erection, bracing and lifting in accordance with manufacturers instructions.
- .3 Make adequate provisions for handling and erection stresses.
- .4 Exercise care to prevent out-of-plane bending of trusses.
- .5 Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing and decking are installed.
- .6 Install permanent bracing in accordance with approved reviewed shop drawings, prior to application of loads to trusses.
- .7 Do not cut or remove any truss material without approval of Departmental Representative.
- .8 Remove chemical and other surface deposits on treated wood, in preparation for applied finishes.

3.4 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 in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 08 54 13 - Febreglass Awning and Fixed Windows.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.1-09, Particleboard.
 - .2 ANSI A208.2-09, Medium Density Fibreboard (MDF) for Interior Applications.
 - .3 ANSI/HPVA HP-1-10, American National Standard for Hardwood and Decorative Plywood.
 - .2 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
 - .1 Architectural Woodwork Quality Standards, 1st edition, 2009.
 - .3 ASTM International
 - .1 ASTM A 123/A 123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3-M87, Hardboard.
 - .5 CSA International
 - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
 - .2 CSA O121-08, Douglas Fir Plywood.
 - .3 CSA O141-05(R2009), Softwood Lumber.
 - .4 CSA O151-09, Canadian Softwood Plywood.
 - .5 CSA O153-M1980(R2008), Poplar Plywood.
 - .6 CAN/CSA-Z809-08, Sustainable Forest Management.
 - .6 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
 - .7 Sustainable Forestry Initiative (SFI)
 - .1 SFI-2010-2014 Standard.
 - .8 Underwriters Laboratories of Canada (ULC)
 - .1 CAN/ULC-S104-10, Standard Method for Fire Tests of Door Assemblies.
 - .2 CAN/ULC-S105-09, Standard Specification for Fire Door Frames.
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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 plywood, particleboard, OSB, MDF 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 - Health and Safety Requirements.
 - .3 Shop Drawings:
 - .1 Submit drawings in accordance with section 01 33 00 - Submittal Procedures.
 - .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 finished wood panel assembly.
 - .5 Certifications: submit certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical properties.
 - .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.
 - .7 Wood Certifications:
 - .1 Wood Certification: submit manufacturer's Chain-of-Custody Certificate number for FSC certified wood.
 - .1 Submit manufacturer's FSC Chain-of-Custody Certificate number.
 - .2 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants used in building, showing compliance with VOC and chemical component limits or restrictions requirements.
 - .2 Submit listing of composite wood products used in building, stating that they contain no added urea-formaldehyde resins, and laminate adhesives used in building, stating that they contain no urea-formaldehyde.
-

1.4 QUALITY ASSURANCE

- .1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).
- .2 Sustainable Standards Certification:
 - .1 Certified Wood: submit listing of wood products and materials used in accordance with FSC.
- .3 Plywood, particleboard, OSB and wood based composite panels to CSA and ANSI standards.
- .4 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.

1.5 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, indoors and 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 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
-

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Softwood lumber: S4S, moisture content 19% or less in accordance with following standards:
 - .1 CSA 0141.
 - .2 CAN/CSA-Z809 or FSC or SFI certified.
 - .3 NLGA Standard Grading Rules for Canadian Lumber.
 - .4 AWMAC premium grade, moisture content as specified.
 - .5 Machine stress-rated lumber is acceptable.
 - .6 Hardwood lumber: moisture content 7% or less in accordance:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 AWMAC premium grade, moisture content as specified.
 - .3 FSC certified.
- .2 Panel Material: urea-formaldehyde free
 - .1 FSC certified.
 - .2 Douglas fir plywood (DFP): to CSA 0121, standard construction.
 - .3 Canadian softwood plywood (CSP): to CSA 0151, standard construction.
 - .4 Hardwood plywood: to ANSI/HPVA HP-1.
 - .5 Poplar plywood (PP): to CSA 0153, standard construction.
 - .6 Particleboard: to ANSI A208.1.
 - .7 Hardboard: to CAN/CGSB-11.3.
 - .8 Medium density fibreboard (MDF): to ANSI A208.2, density 640-800 kg/m³.
 - .9 Low density fibreboard: to CSA-A247M.

2.2 ACCESSORIES

- .1 Nails and staples: to CSA B111; galvanized to ASTM A 123/A 123M for exterior work, interior humid areas and for treated lumber; stainless steel finish elsewhere.
 - .2 Wood screws: plain stainless steel , type and size to suit application.
 - .3 Splines: wood.
 - .4 Adhesive and Sealants: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 VOC limit 70 g/L maximum.
-

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 and Consultant.
 - .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 Quality Standards of (AWMAC).
- .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 Stairs:

.1 Install stairs to location and details as indicated.

.4 Shelving:

.1 Install shelving as indicated.

3.4 INSTALLATION OF TRIM

.1 Standing and running trim and window sills:

.1 Interior:

.1 Grade: Paint grade.

.2 Solid stock: Birch species.

3.5 INSTALLATION OF STAIRS

.1 Stair and handrails:

.1 Treads, Risers, Stringers and Skirts: Spruce/Hemlock #2 grade or better.

3.6 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 in accordance with Section 01 74 11 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.7 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by finish carpentry installation.

Architectural Woodwork Standards

DESIGN IDEAS

DESIGN IDEAS

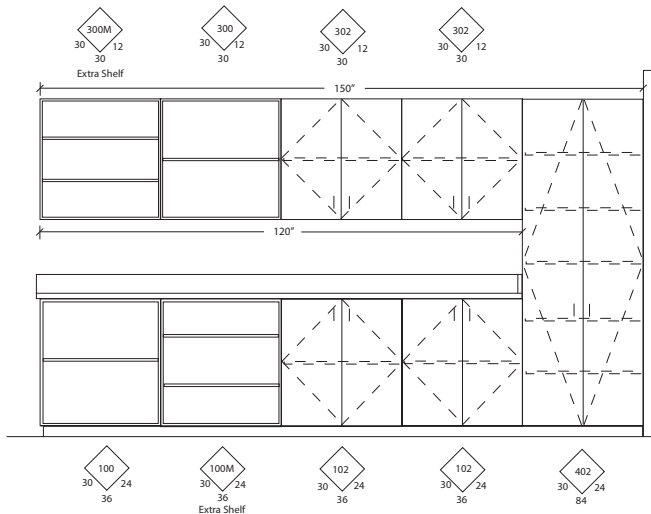
cabinet design series (CDS)

CDS illustrations are provided to assist design professionals and casework users in selecting typical designs. These illustrations are not intended to limit or restrict creativity, or to be all inclusive.

When utilizing the CDS numbering system, it is not necessary to show casework elevations in your contract documents. However, it is necessary to show a plan view with each CDS number indicated along with the width, height, and depth in inches or millimeters (example: 102-36"x 30"x 18" [102-914 mm x 762 mm x 457 mm]). Cabinet dimensions indicate the nominal outside dimension (floor to top of countertop for height and face of finished wall to face of cabinet door for depth). Manufacturers are permitted a tolerance of plus/minus 1/2" (12.7 mm) in width only.

When designs other than those provided for in the CDS system are desired, they may be indicated by selecting the CDS number most closely representing the desired design, followed by the letter "M" and a description or illustration of the design modification (example: 102M - 2 shelves - 36"x 30"x 18" [102M - 2 shelves - 914 mm x 762 mm x 457 mm] or 102M - no shelves - 36"x 30"x 18" [102M - no shelves - 914 mm x 762 mm x 457 mm]). It is suggested that a standard number/dimension convention similar to that shown below, is used.

If the CDS numbering system is used in conjunction with cabinet elevations on contract documents, the cabinet elevations shall govern on any conflict between the requirements of the elevation and the CDS number.



CDS cabinets are intended for TYPE A construction with integral finished ends and scribes at wall to wall installations not exceeding 1-1/2" (38.1 mm) in width. Hardware and accessories shall be as provided for in these standards.

CDS are subdivided as follows:

- Base Cabinets w/o Drawers 100 Series
- Base Cabinets w/ Drawers 200 Series

- Wall Hung Cabinets 300 Series
- Tall Storage Cabinets 400 Series
- Tall Wardrobe Cabinets 500 Series
- Library Cabinets 600 Series
- Moveable Cabinets 700 Series

GENERAL NOTES:

- 100 or 200 Series cabinets may be converted into moveable cabinets by prefixing a "7" to the number. (Example: 7-102-36"x 30"x 18" [7-102-914 mm x 762 mm x 457 mm]).
- Moveable cabinets shall be equipped with adequate approved casters for the intended load capacity.
- CDS #'s 728, 729, 735, 736, 737, 738, and 739 require metal angle reinforced corners.
- Carts and rolling tall storage cabinets with doors, lacking any horizontal and/or vertical stabilizing dividers, require a diaphragm bottom; specifically CDS #'s 702, 712, 716, 722, 743, 744, 746, 747, 750, and 751.
- Wardrobe cabinets (500 Series) with doors require a framed mirror on one door, and cabinets # 533 and 534 require a paper roller/cutter and slide out tilting paper shelves.
- Cart storage cabinets are required to have hardwood side guides, specifically CDS #'s 160, 161, and 162.
- Ceramics drying cabinets are required to have galvanized metal frame shelves with wire mesh, specifically CDS #'s 198 199, and 459.
- File drawers require full extension slides and a file hanging system, specifically CDS #'s 223, 224, 230, 231, 240, 242, 253, 255, 531, 532, and 533.
- Wardrobe cabinets are required to have a shelf, pole, and framed mirror when closed with hinged doors, specifically CDS #'s 501, 511, 512, 522, 530, 531, 532, and 552.

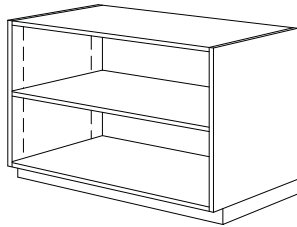
SPECIAL BASE CASEWORK HEIGHTS, the following are recommended for various school grades, subject to ADA requirements:

- Kindergarten - Grade 1 24" (610 mm)
- Grades 2 - 3 27" (686 mm)
- Grades 4 - 6 30" (762 mm)
- Grades 7 - 9 33" (838 mm)
- Grades 10 and above 36" (914 mm)

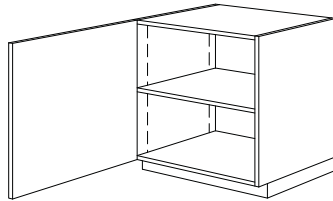
DESIGN IDEAS

cabinet design series (CDS)

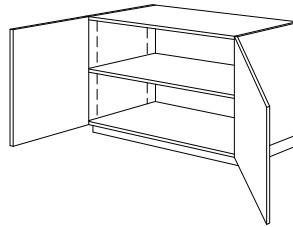
100 SERIES - BASE CABINETS w/o DRAWERS



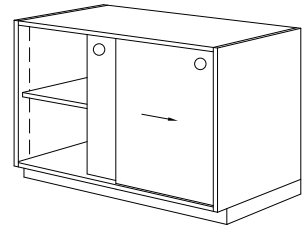
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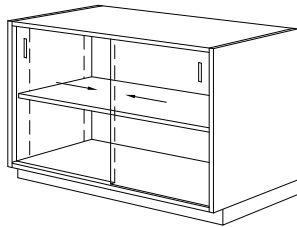
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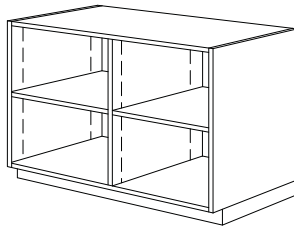
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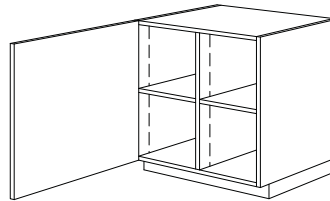
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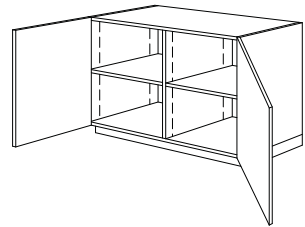
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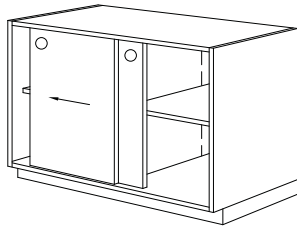
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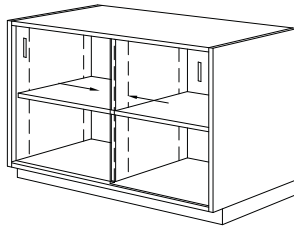
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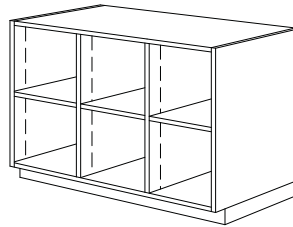
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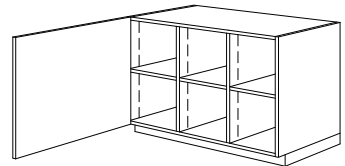
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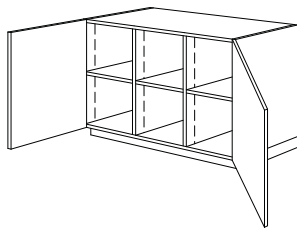
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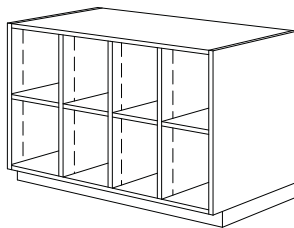
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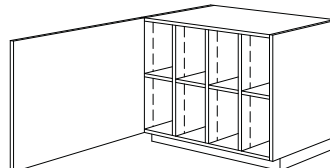
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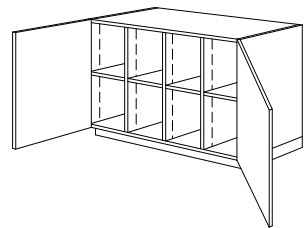
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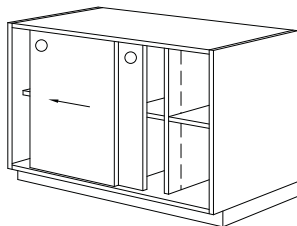
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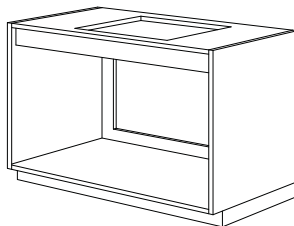
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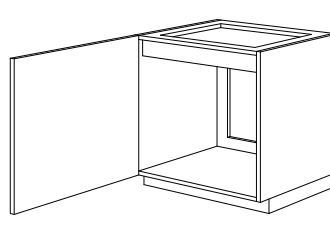


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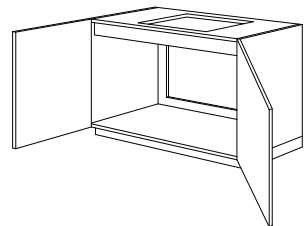
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Removable Back



141

Removable Back



142

Removable Back

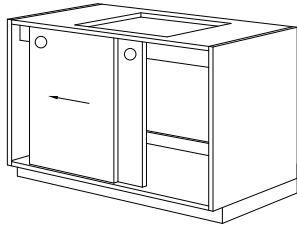
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DESIGN IDEAS

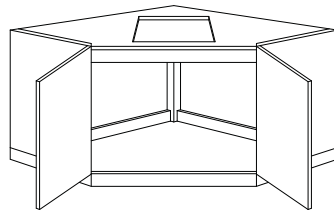
cabinet design series (CDS)

100 SERIES - BASE CABINETS w/o DRAWERS

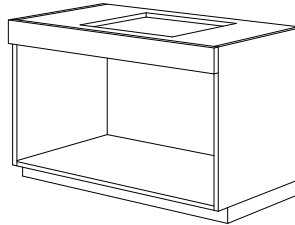
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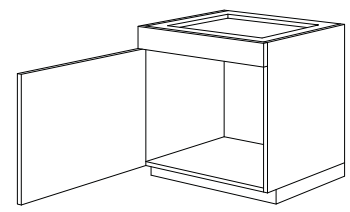
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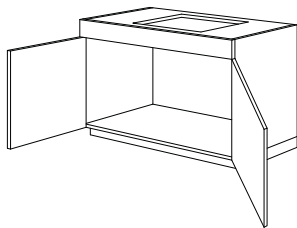
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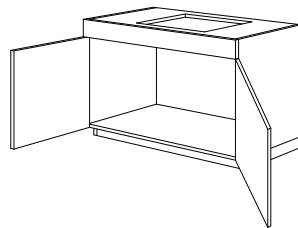
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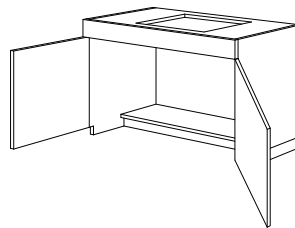
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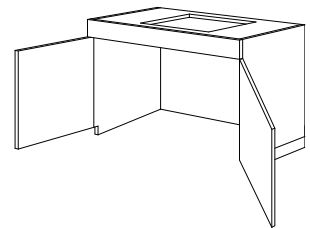
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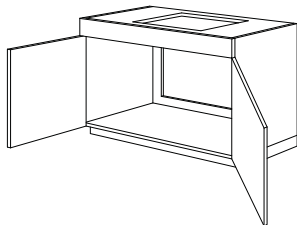
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Removable Base/Toe



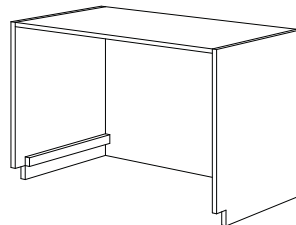
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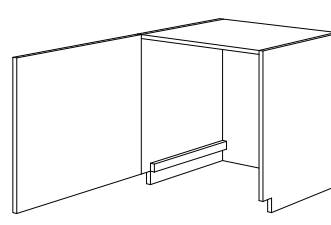
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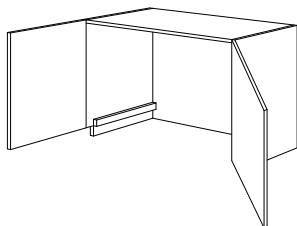
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Removable Back



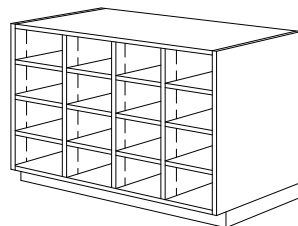
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Cart Storage



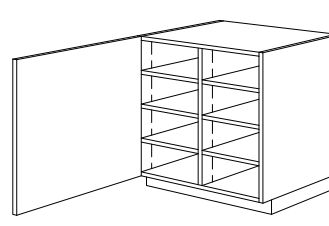
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Cart Storage



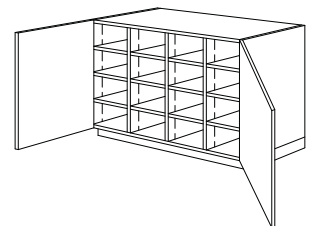
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Cart Storage



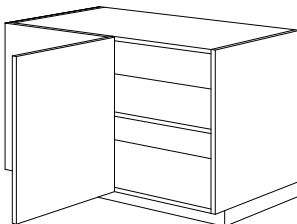
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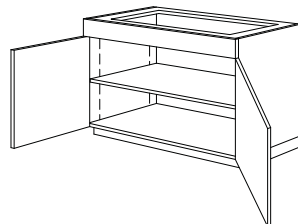
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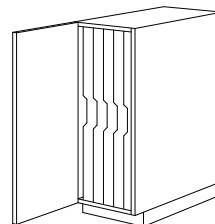
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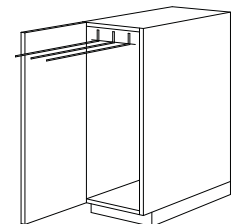
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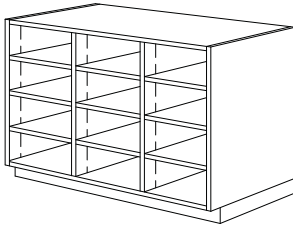
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Retractable Towel Rack

D

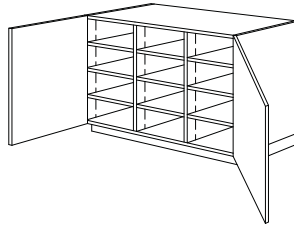
DESIGN IDEAS

cabinet design series (CDS)

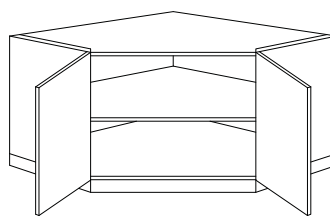
100 SERIES - BASE CABINETS w/o DRAWERS (continued)



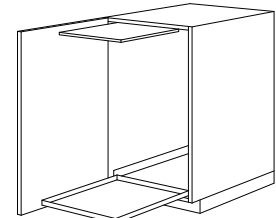
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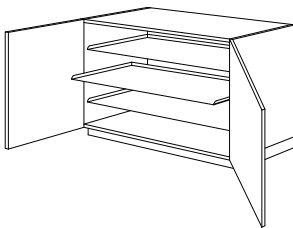


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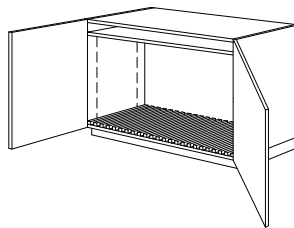


187

Sliding Tray & Lift Shelf

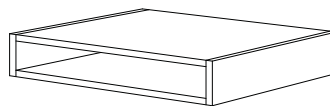


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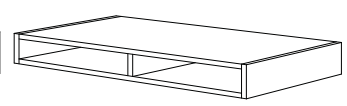


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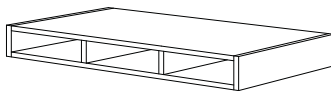
Drawing Board Rack



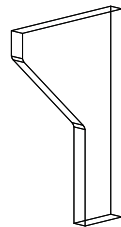
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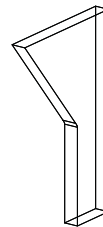
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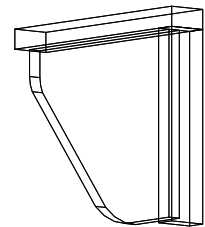
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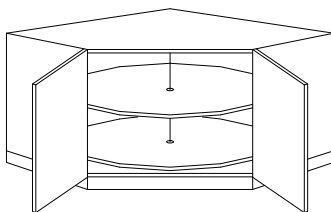
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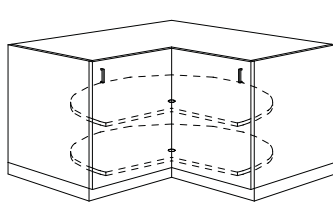
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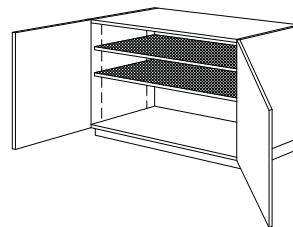
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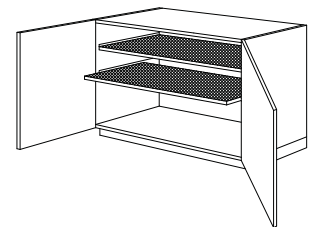
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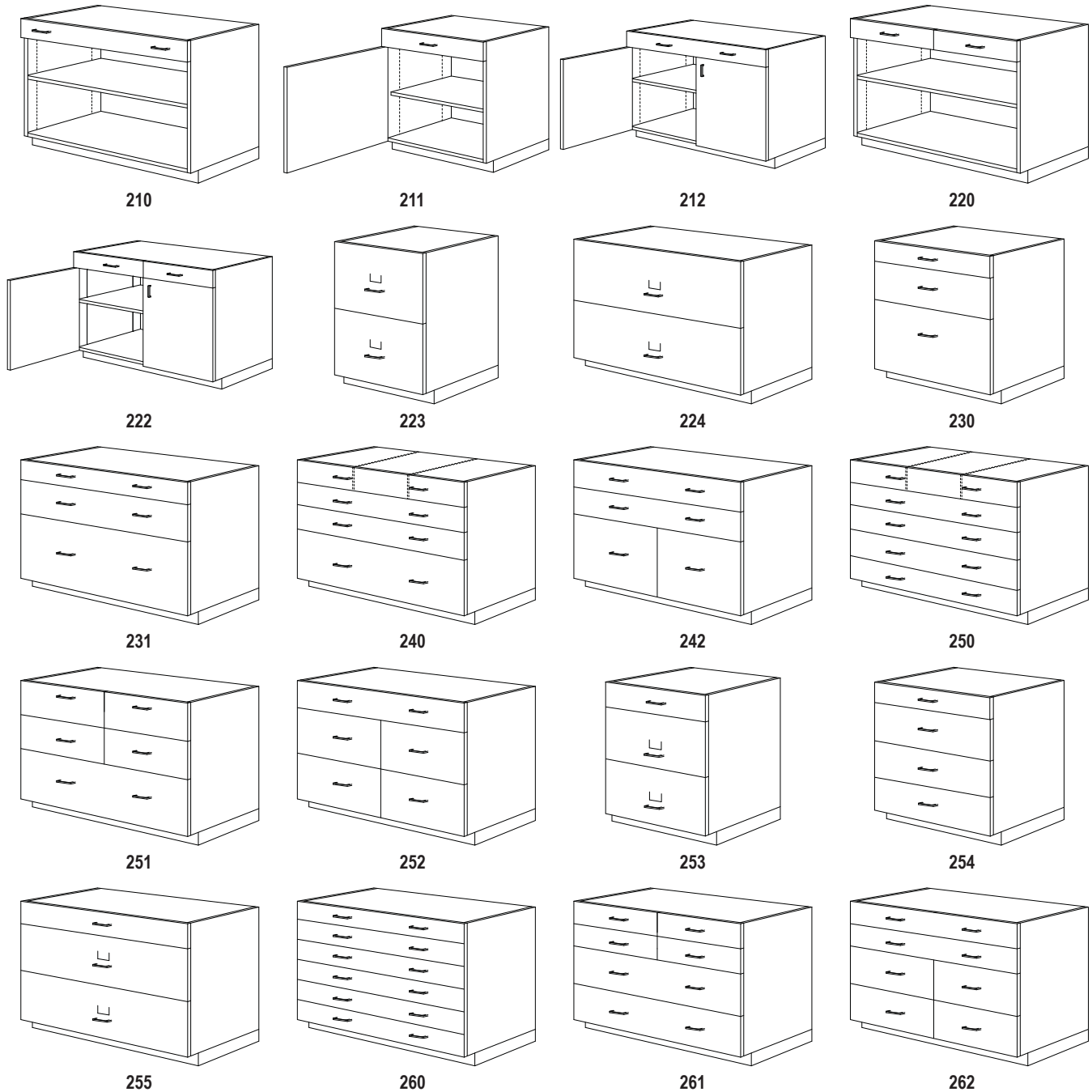


199

DESIGN IDEAS

cabinet design series (CDS)

200 SERIES - BASE CABINETS w/ DRAWERS



D

DESIGN IDEAS

cabinet design series (CDS)

200 SERIES - BASE CABINETS w/ DRAWERS (continued)



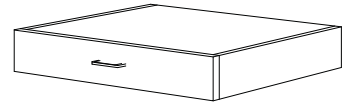
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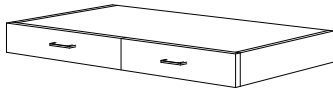
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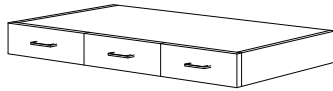
272



290



291

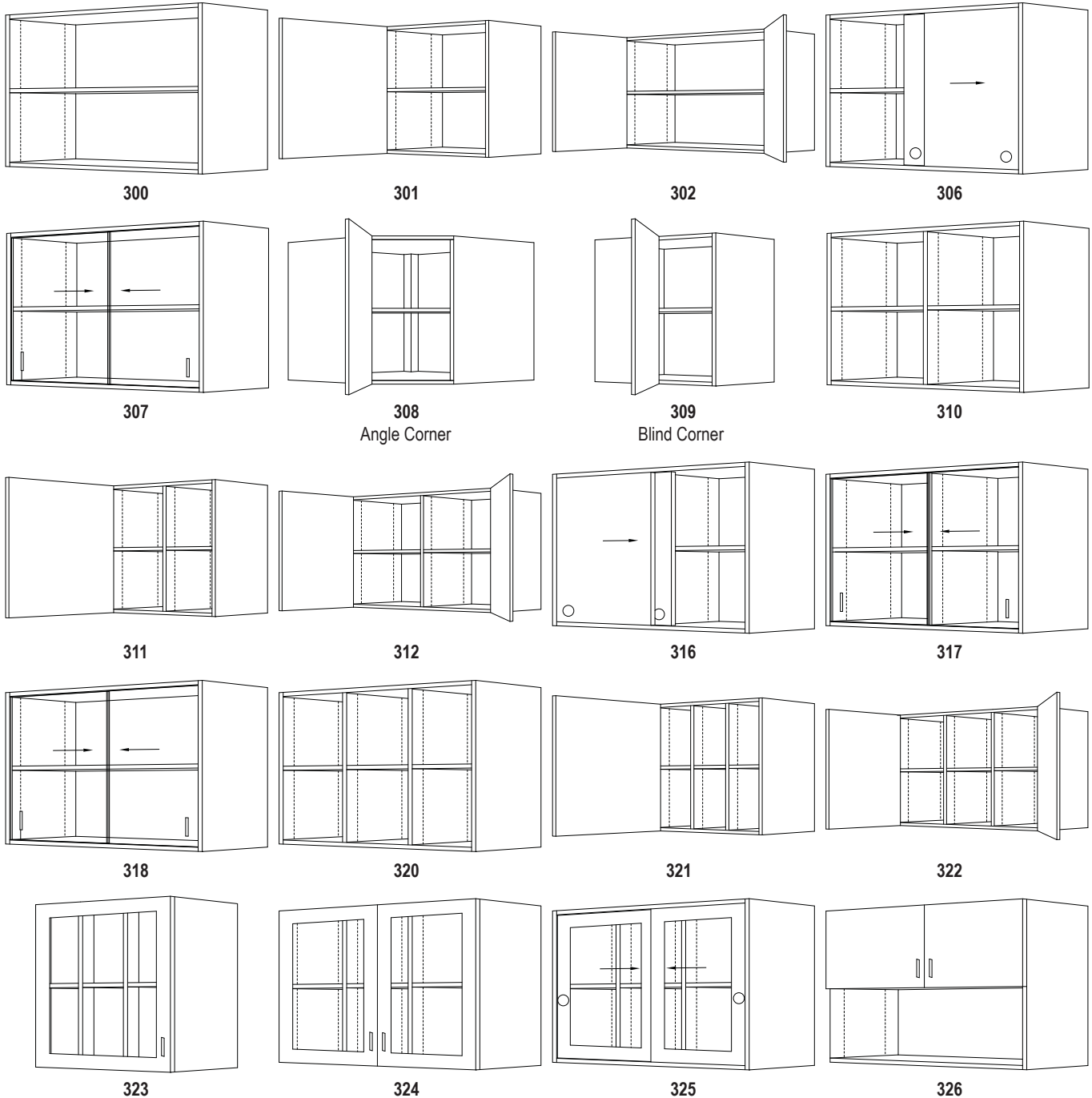


292

DESIGN IDEAS

cabinet design series (CDS)

300 SERIES - WALL HUNG CABINETS

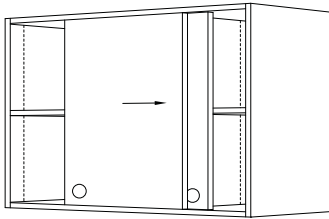


D

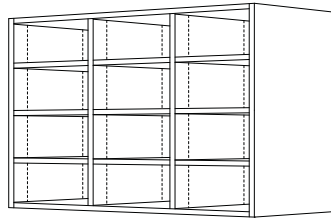
DESIGN IDEAS

cabinet design series (CDS)

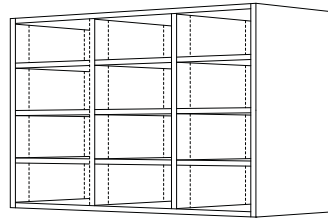
300 SERIES - WALL HUNG CABINETS (continued)



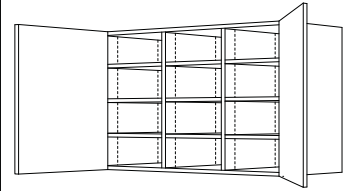
336



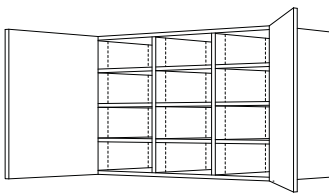
340



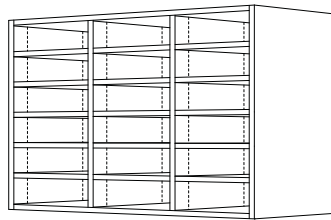
341
Open Back



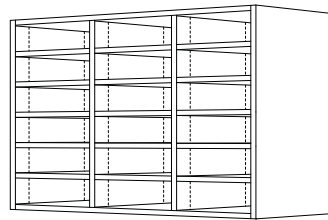
342



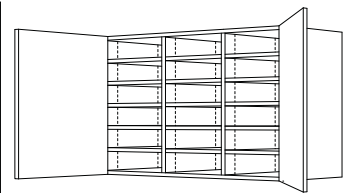
343
Open Back



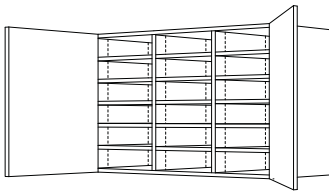
350



351
Open Back



352

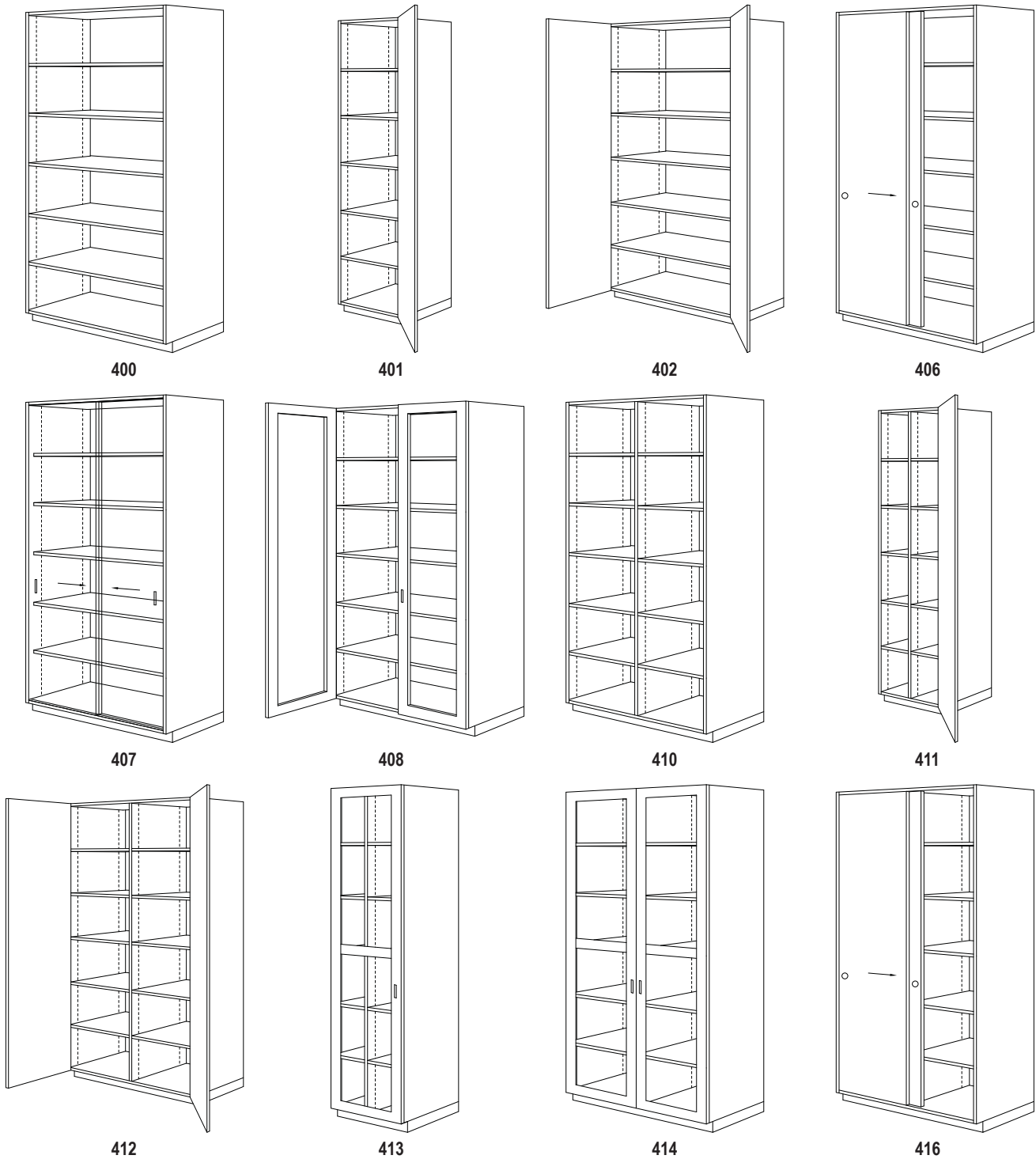


353
Open Back

DESIGN IDEAS

cabinet design series (CDS)

400 SERIES - TALL STORAGE CABINETS



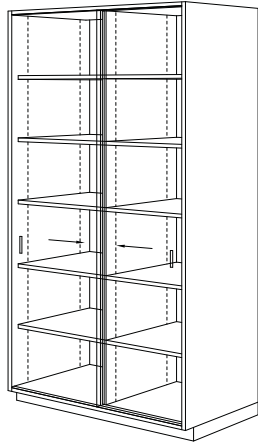
D

DESIGN IDEAS

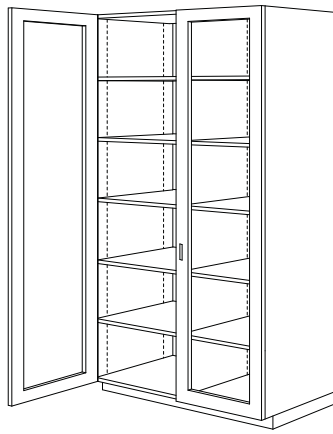
cabinet design series (CDS)

400 SERIES - TALL STORAGE CABINETS

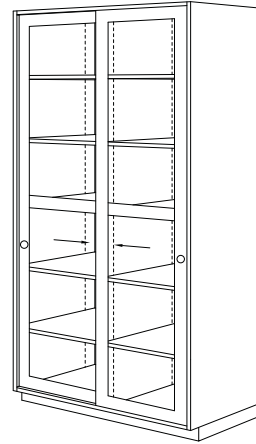
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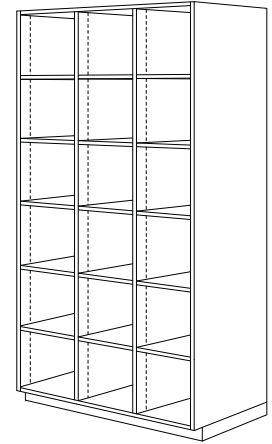
417



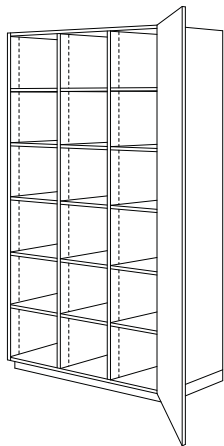
418



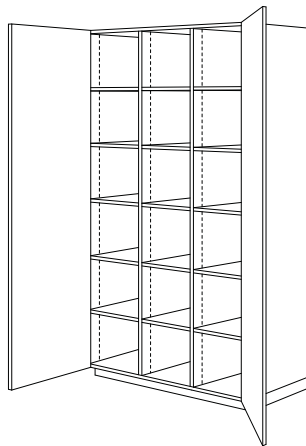
419



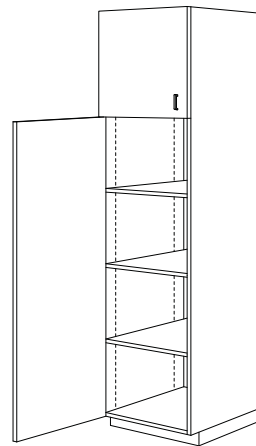
420



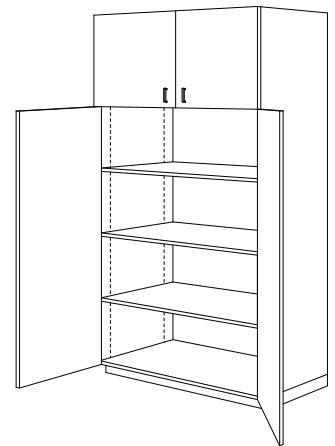
421



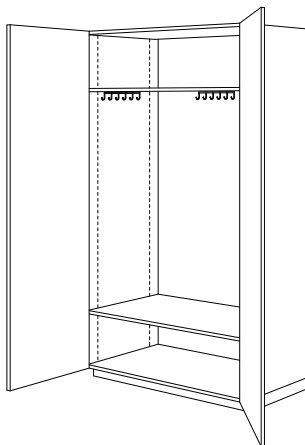
422



423

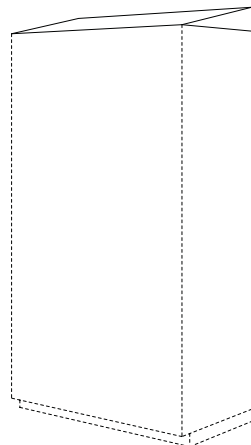


424

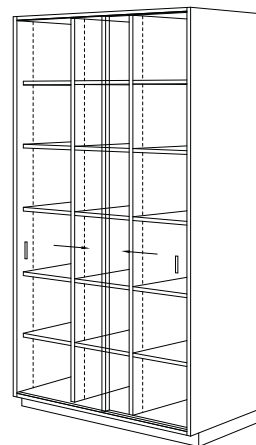


425

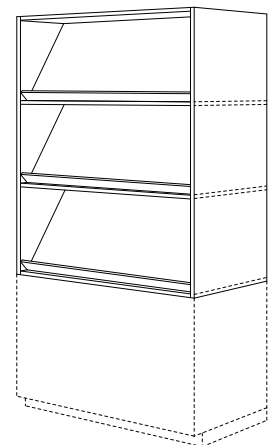
Dust Panel, Integral or Separate



426



427



429

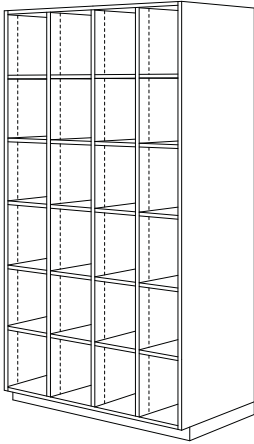
Hutch w/ Fixed Shelves

D

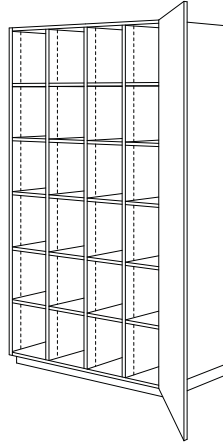
DESIGN IDEAS

cabinet design series (CDS)

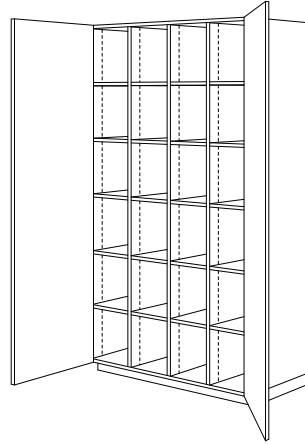
400 SERIES - TALL STORAGE CABINETS (continued)



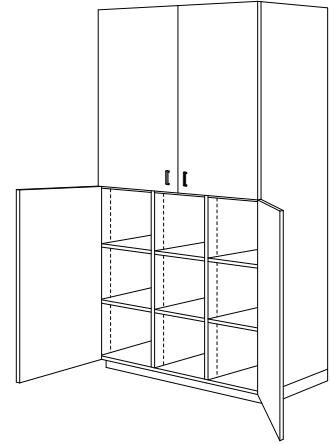
430



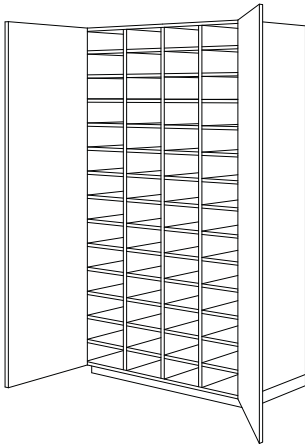
431



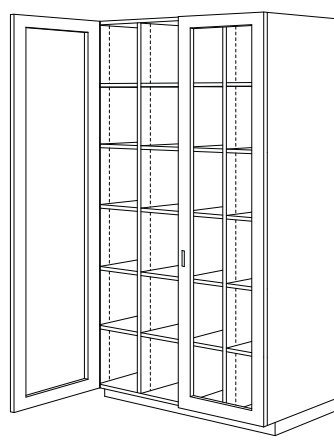
432



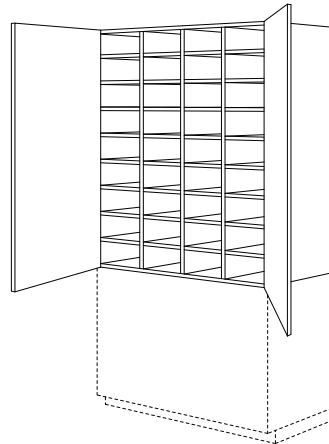
434



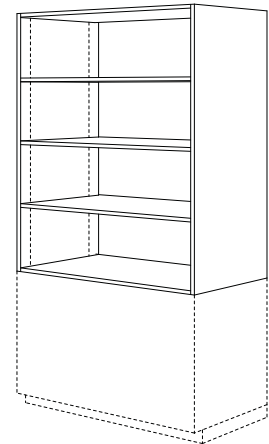
435



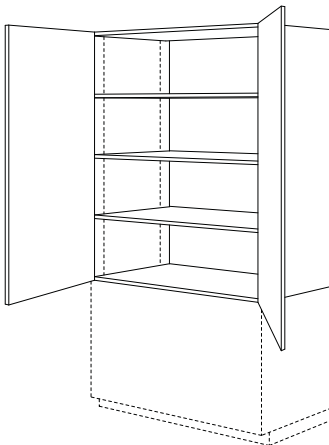
438



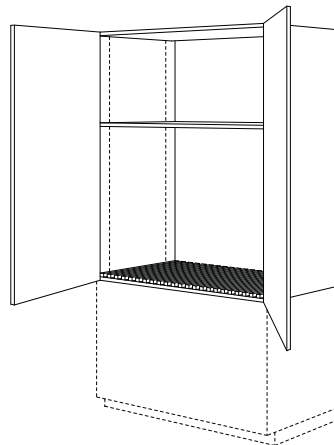
439
Hutch



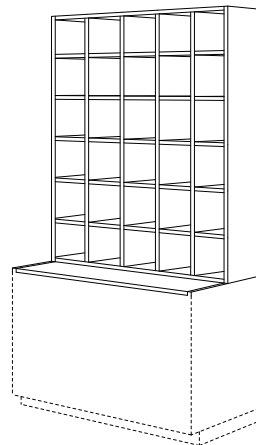
440
Hutch



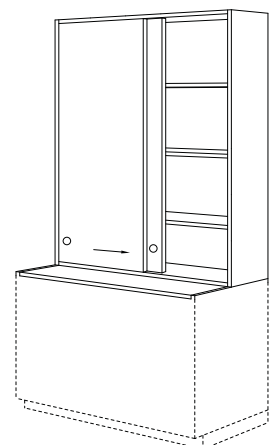
441
Hutch



443
Hutch



444
Hutch



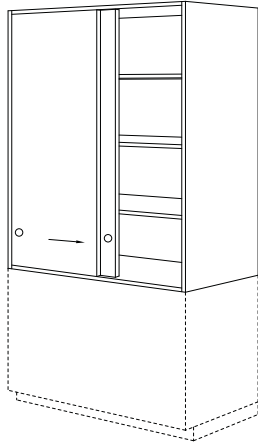
445
Hutch

D

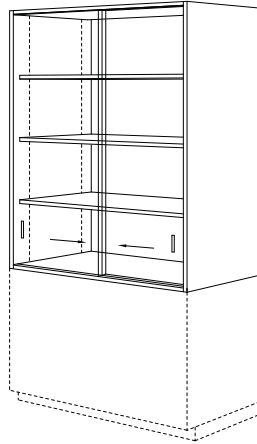
DESIGN IDEAS

cabinet design series (CDS)

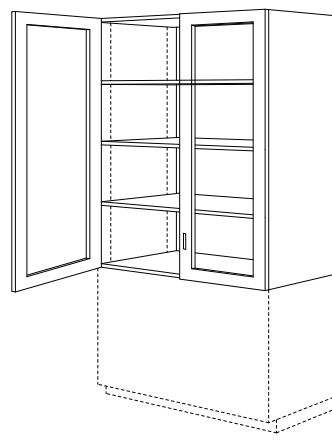
400 SERIES - TALL STORAGE CABINETS (continued)



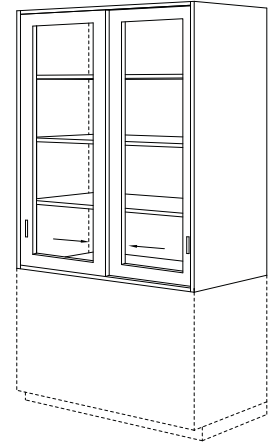
446
Hutch



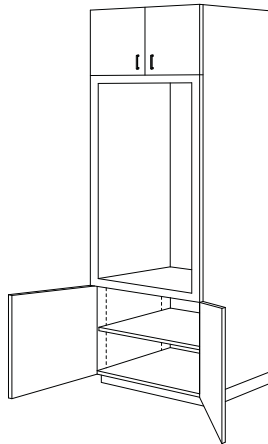
447
Hutch



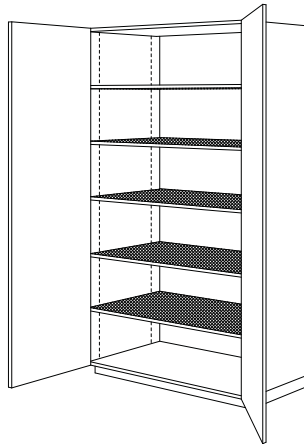
448
Hutch



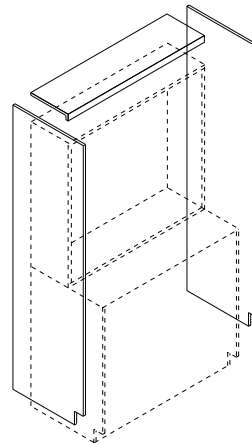
449
Hutch



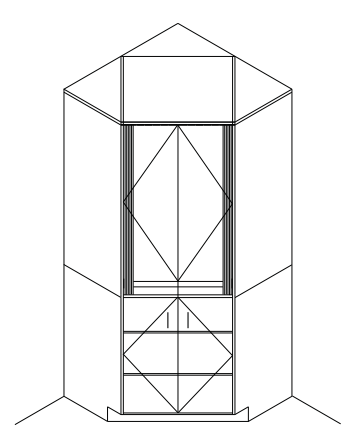
454



459



460

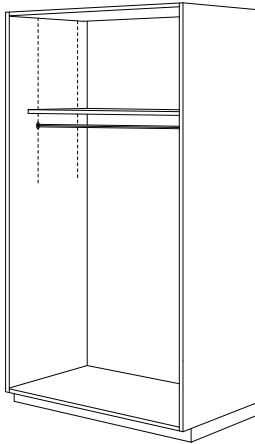


461

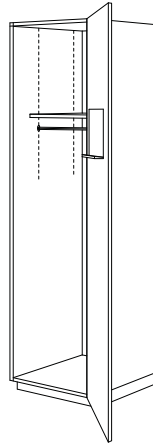
DESIGN IDEAS

cabinet design series (CDS)

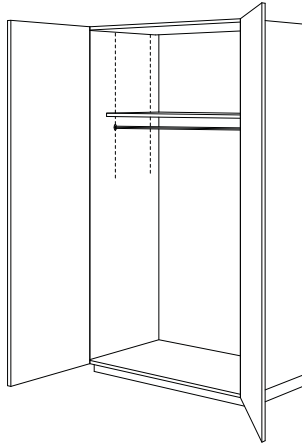
500 SERIES - WARDROBE CABINETS



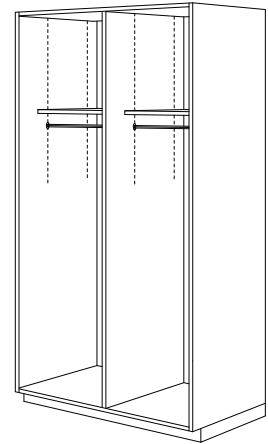
500



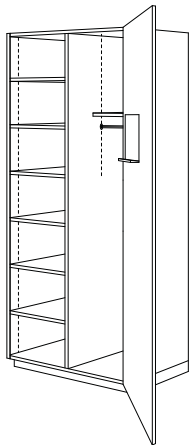
501



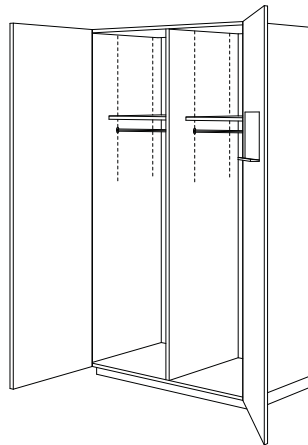
502



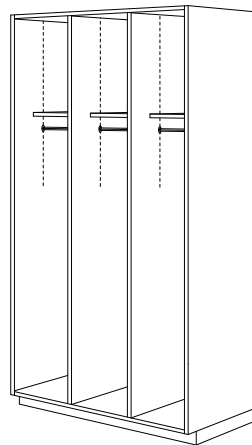
510



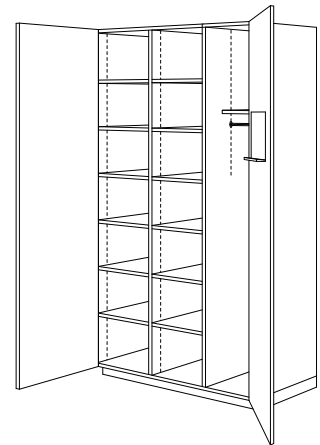
511



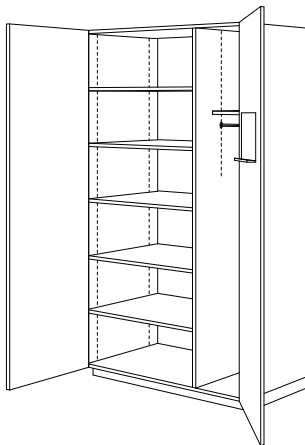
512



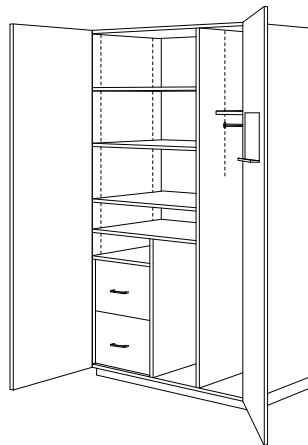
520



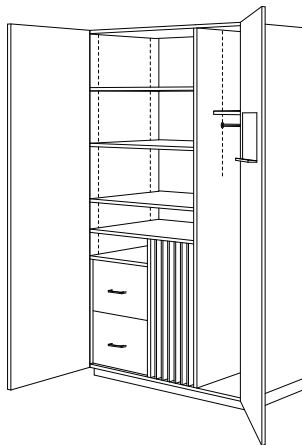
522



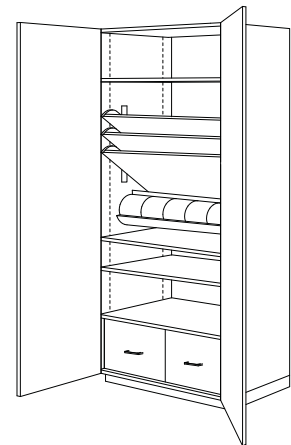
530



531



532



533

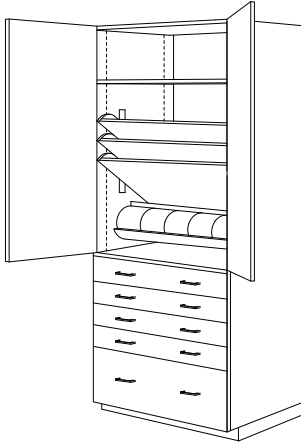
See General Notes

D

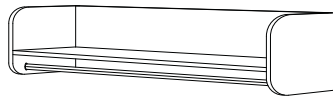
DESIGN IDEAS

cabinet design series (CDS)

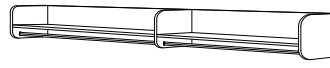
500 SERIES - WARDROBE CABINETS (continued)



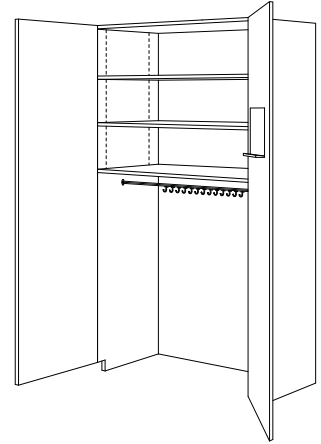
534
See General Notes



540



541

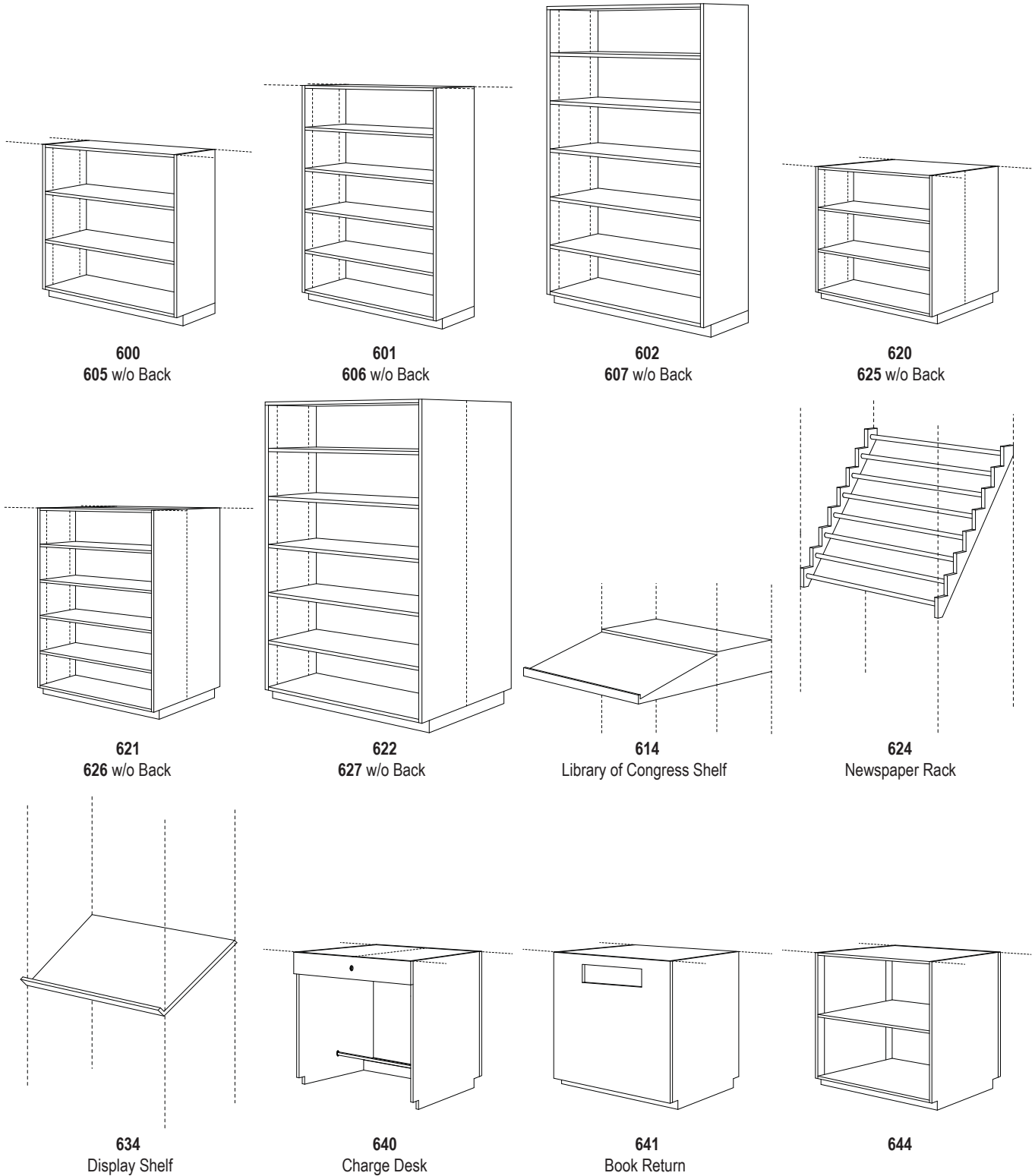


552
Pole w/ Wall Hooks

DESIGN IDEAS

cabinet design series (CDS)

600 SERIES - LIBRARY CABINETS

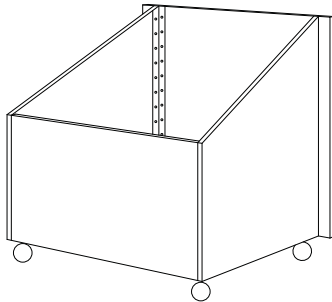


D

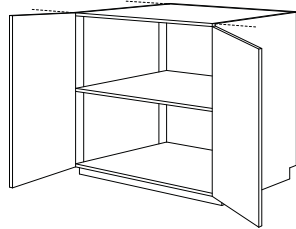
DESIGN IDEAS

cabinet design series (CDS)

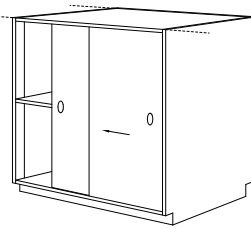
600 SERIES - LIBRARY CABINETS (continued)



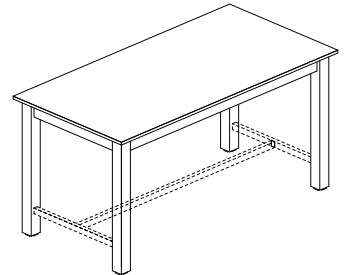
651
Book Cart



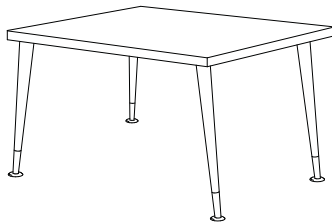
654



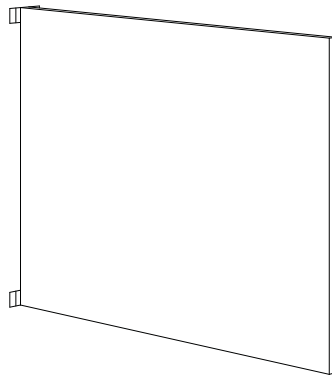
664



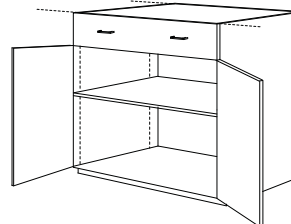
671a
671b w/ Lateral Bracing



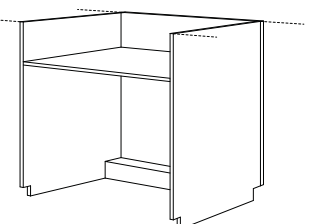
672



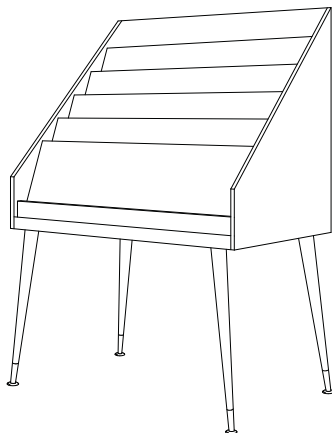
673
Gate



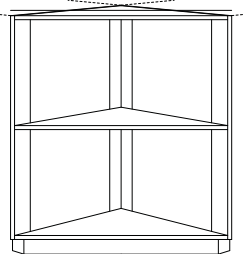
674



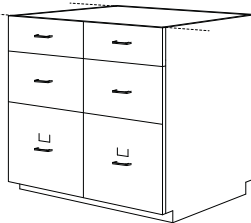
681



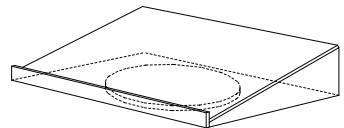
682 / 692
Magazine Rack



683



684



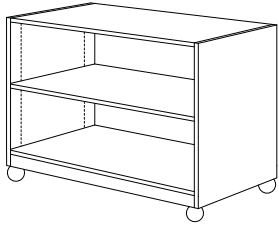
693
Dictionary Stand

D

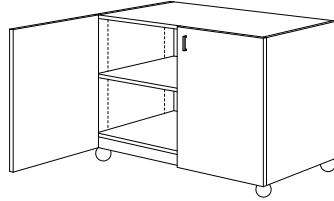
DESIGN IDEAS

cabinet design series (CDS)

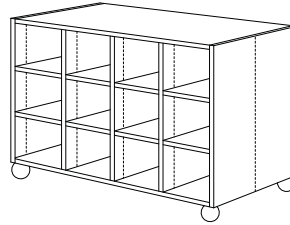
700 SERIES - MOVEABLE CABINETS



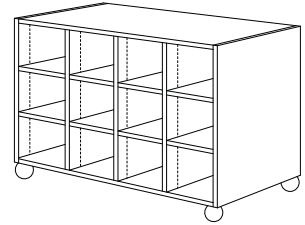
700



702



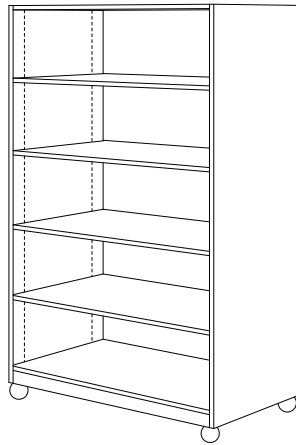
703



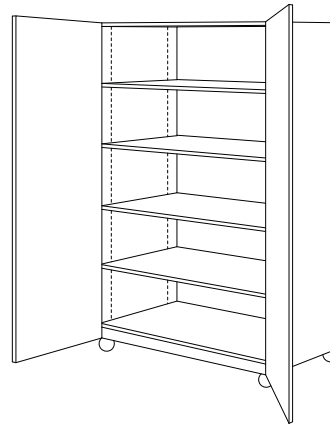
704



707



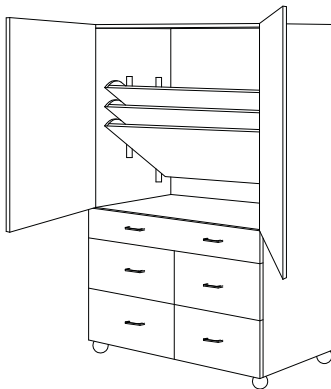
710



712

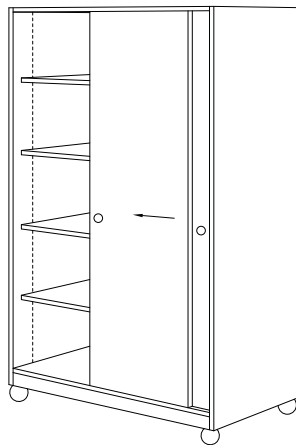


714

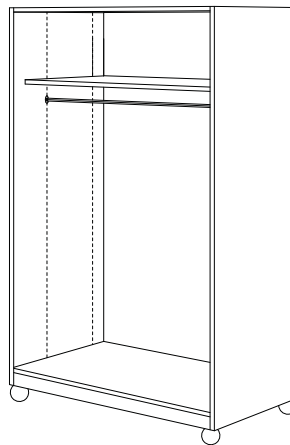


715

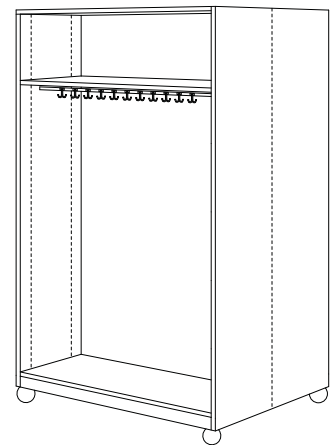
Slide Out Tilting Paper Shelves



716



720

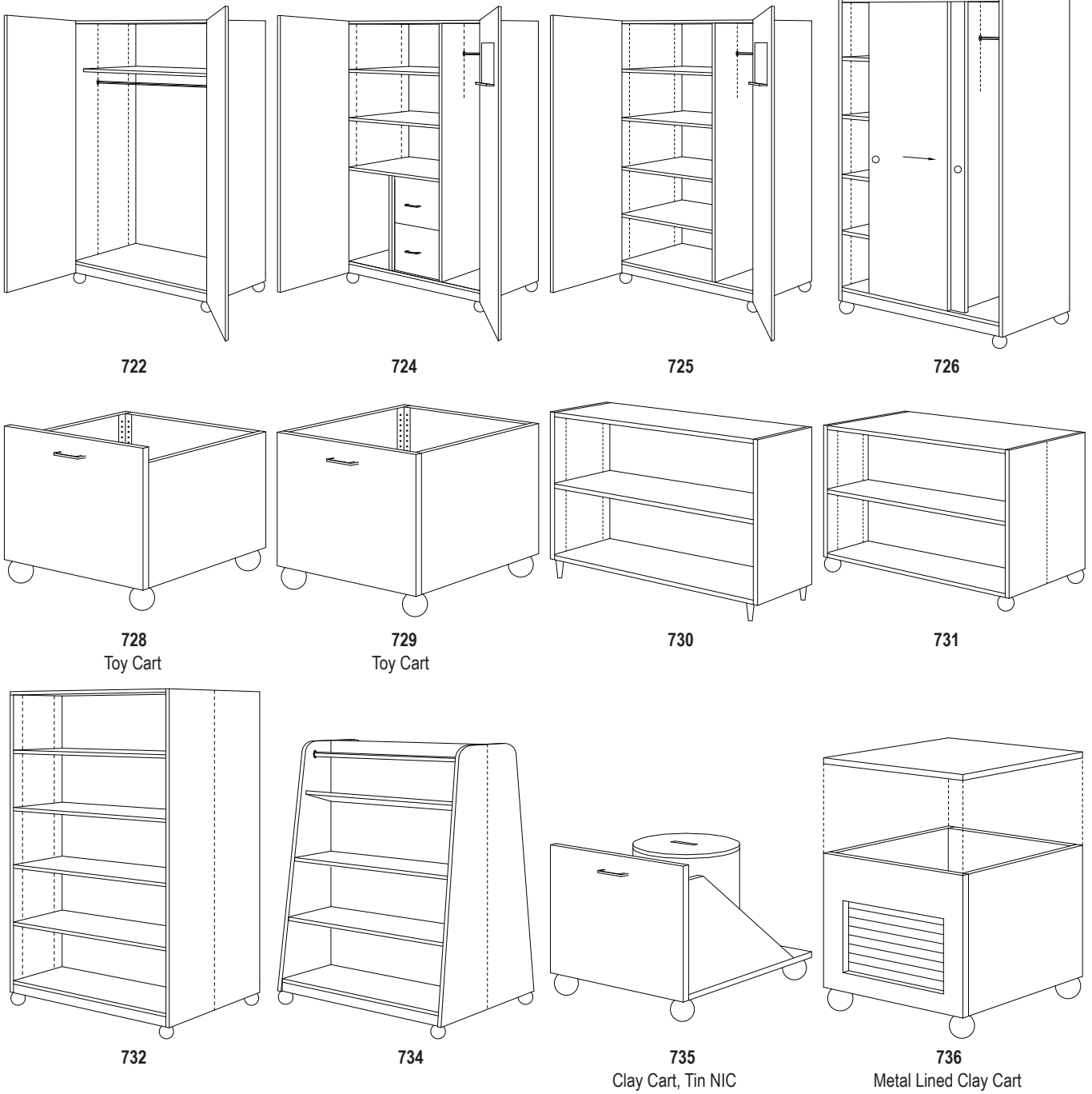


721

DESIGN IDEAS

cabinet design series (CDS)

700 SERIES - MOVEABLE CABINETS (continued)

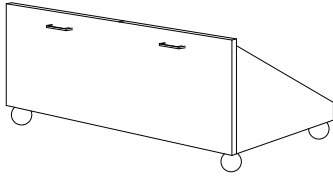


D

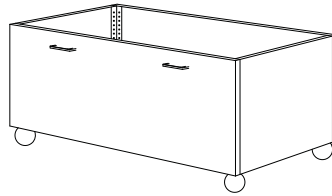
DESIGN IDEAS

cabinet design series (CDS)

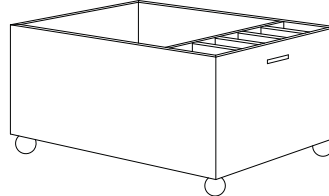
700 SERIES - MOVEABLE CABINETS (continued)



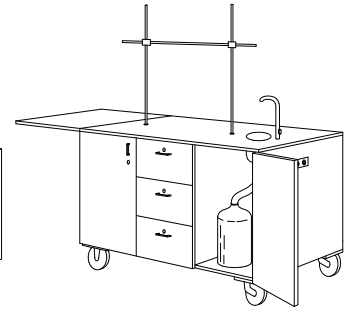
737
Block Cart



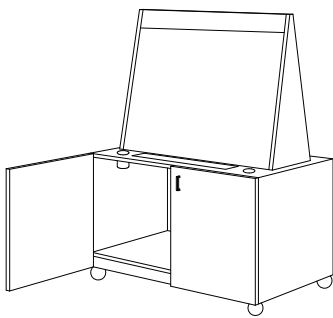
738
Block Cart



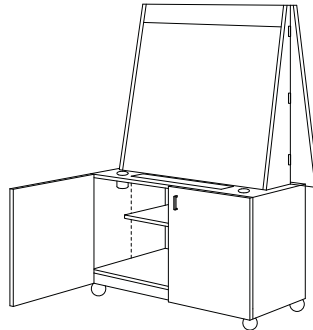
739
Ball & Bat Cart



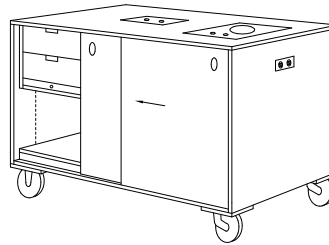
742
Lab Demonstration Cart



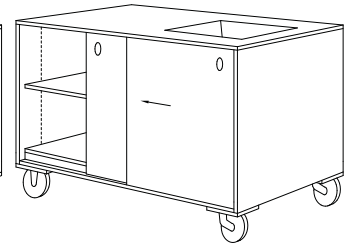
743
Two Sided Easel



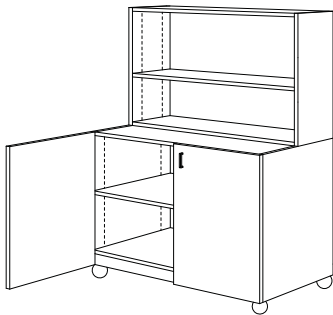
744
Single Sided Easel



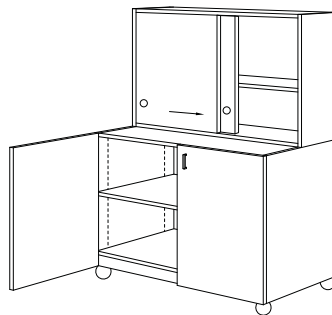
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Cooking Demonstration Cart



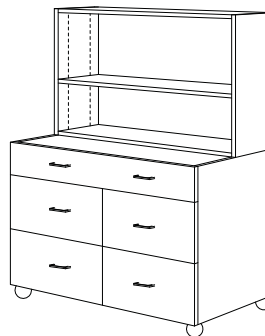
747
Nature Demonstration Cart



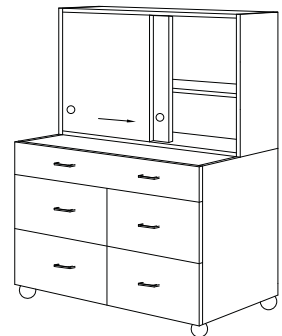
750



751



752

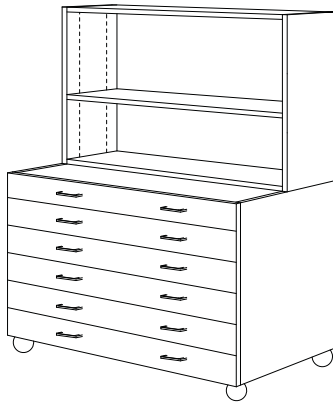


753

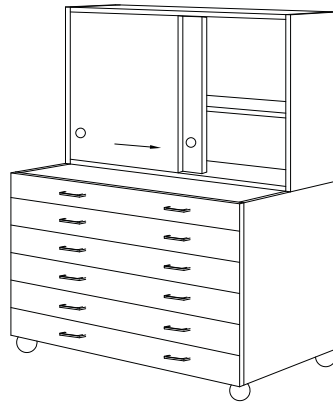
DESIGN IDEAS

cabinet design series (CDS)

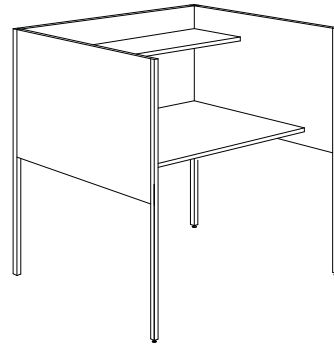
700 SERIES - MOVEABLE CABINETS (continued)



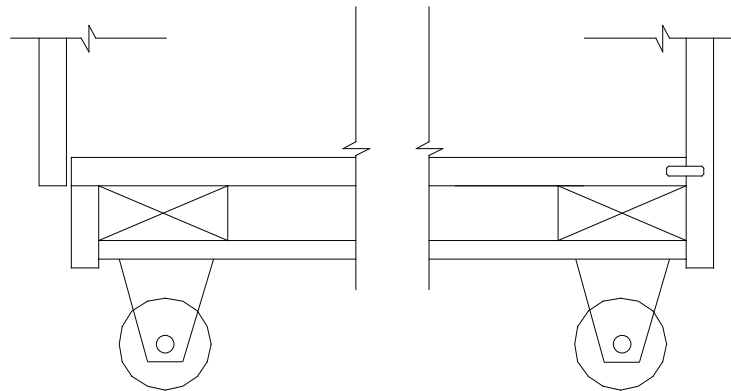
754



755



760
 Study Carrel



Typical Diaphragm Bottom Detail

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 09 91 99 - Painting for Minor Works.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.1-09, Particleboard.
 - .2 ANSI A208.2-09, Medium Density Fiberboard (MDF) for Interior Applications.
 - .3 ANSI/HPVA HP-1-10, Standard for Hardwood and Decorative Plywood.
 - .2 ASTM International
 - .1 ASTM E 1333-10, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates From Wood Products Using a Large Chamber.
 - .2 ASTM D 2832-92(R2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
 - .3 ASTM D 5116-10, Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.
 - .3 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
 - .1 Architectural Woodwork Quality Standards Illustrated, 8th edition, Version 1.0 (2009).
 - .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
 - .5 CSA International
 - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
 - .2 CSA O112.10-08, Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure).
 - .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.
 - .7 CAN/CSA-Z809-08, Sustainable Forest Management.
 - .6 Forest Stewardship Council (FSC)
 - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
 - .7 Green Seal Environmental Standards (GS)
 - .1 GS-11-11, Paints and Coatings.
 - .2 GS-36-11, Commercial Adhesives.
-

- .8 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .9 International Organization for Standardization (ISO)
 - .1 ISO 14040-2006, Environmental Management-Life Cycle Assessment - Principles and Framework.
 - .2 ISO 14041-98, Environmental Management-Life Cycle Assessment - Goal and Scope Definition and Inventory Analysis.
- .10 National Electrical Manufacturers Association (NEMA)
 - .1 ANSI/NEMA LD-3-05, High-Pressure Decorative Laminates (HPDL).
- .11 National Hardwood Lumber Association (NHLA)
 - .1 Rules for the Measurement and Inspection of Hardwood and Cypress 2011.

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 architectural woodwork 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 - Health and Safety Requirements.
 - .3 Shop Drawings:
 - .1 Submit drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Indicate details of construction, profiles, jointing, fastening and other related details.
 - .1 Scales: profiles full size, details half 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.
 - .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate samples of hardwood softwood plywood fibreboard OSB particleboard: sample size 300 x 300 mm.
 - .4 Submit duplicate samples of laminated plastic for colour selection.
 - .5 Submit duplicate samples of laminated plastic joints, edging, cutouts and postformed profiles.
-

- .5 Certifications: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .6 Sustainable Design Submittals:
 - .1 Wood Certification: submit manufacturer's Chain-of-Custody Certificate number for FSC certified wood.
 - .1 Submit manufacturer's FSC Chain-of-Custody Certificate number.
 - .2 Low-Emitting Materials:
 - .1 Submit listing of adhesives and sealants and paints and coatings used in building, comply with VOC and chemical component limits or restrictions requirements.
 - .2 Submit listing of composite wood products used in building, stating that they contain no added urea-formaldehyde resins, and laminate adhesives used in building, stating that they contain no urea-formaldehyde.

1.4 QUALITY ASSURANCE

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

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.
 - .1 Protect millwork against dampness and damage during and after delivery.
 - .2 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.
 - .3 Storage and Handling Requirements:
 - .1 Store materials indoors and in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect architectural woodwork from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
-

- .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Softwood lumber: unless specified otherwise, S4S, moisture content 15% or less in accordance with following standards:
 - .1 CSA 0141.
 - .2 CAN/CSA-Z809 or FSC or SFI certified.
 - .3 NLGA Standard Grading Rules for Canadian Lumber.
 - .4 AWMAC premium grade, moisture content as specified.
 - .2 Machine stress-rated lumber is acceptable for all purposes.
 - .3 Ensure manufacturing process adheres to Lifecycle Assessment (LCA) Standards to ISO 14040/14041 LCA Standards, CSA Z760-94 Life Cycle Assessment.
 - .4 Hardwood lumber: moisture content 7 % or less in accordance with following standards:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 CAN/CSA-Z809 or FSC or SFI certified.
 - .3 AWMAC premium grade, moisture content as specified.
 - .5 All wood and wood composite products to be FSC Certified.
 - .6 All panel resins to contain no added urea-formaldehyde.
 - .7 Laminated plastic for flatwork: to NEMA LD3, Grade VGL, Type HD S LD, 1.1 mm thick; based on solid woodgrain printed pattern metallic, integral colour throughout, multilayered colour range with gloss satin furniture matt textured embossed finish.
 - .8 Solid Surfacing Materials: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2. Eased edge treatments, radius corners and edges. Colors and patterns, as selected by Consultant from manufacturer's full range. See finish schedule for colors.
 - .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: stainless steel plain, type and size to suit application.
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- .12 Splines: wood.
- .13 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.
- .14 Finishes:
 - .1 Clear Wood Finishes: VOC limit 350 g/L maximum to GS-11
 - .2 Paints: VOC limit 50 g/L maximum to GS-11.

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.
 - .4 Urea-formaldehyde free.
 - .3 Framing Maple species, NLGA grade.
 - .4 Case bodies (ends, divisions and bottoms).
 - .1 Hardwood plywood:
 - .1 Thickness: 19 mm.
 - .2 Number of plies: 6.
 - .3 Face veneer: Maple species, select white grade or better, rotary cut.
 - .4 Back veneer: Maple species, select white grade or better, rotary cut.
 - .5 Core: Hardwood.
 - .6 Bond: Type II.
 - .7 Sanding: regular sanding.
 - .8 Grain direction: As indicated on drawings.
 - .5 Backs:
 - .1 Hardwood plywood:
 - .1 Thickness: 13 mm.
 - .2 Number of plies: 4.
 - .3 Face veneer: Maple species, select white grade, rotary cut, matching requirement.
 - .4 Back veneer: Maple species, select white grade, rotary cut, matching requirement.
 - .5 Core: Hardwood.
 - .6 Bond: Type II.
 - .7 Sanding: regular sanding.
 - .8 Grain direction As per drawings.
 - .6 Shelving:
 - .1 Particleboard, laminated with thermofused melamine HPL grade M2, 19 mm thick.
 - .2 Edge banding: Matching colour in 3 mm PVC.
-

- .2 Drawers:
 - .1 Fabricate drawers to AWMAC premium grade supplemented as follows:
 - .2 Sides and Backs.
 - .1 Hardwood plywood:
 - .1 Thickness: 13 mm.
 - .2 Number of plies: 9.
 - .3 Face veneer: Baltic Birch species, BB grade.
 - .4 Back veneer: Baltic Birch species, BB grade.
 - .5 Sanding: regular sanding.
 - .6 Grain direction: Horizontal.
 - .3 Bottoms:
 - .1 Softwood and poplar plywood PP grade, square edge, 12 mm thick.
 - .4 Fronts:
 - .1 Solid wood: Maple species, Premium grade, 19 mm thick.
- .3 Casework Doors:
 - .1 Fabricate doors to AWMAC premium grade supplemented as follows:
 - .2 Solid wood: Maple species, premium grade, 19 mm thick.

2.3 FABRICATION

- .1 Set nails and countersink screws apply 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.

2.4 FINISHING

- .1 Finish in accordance with Section 09 91 99 - Painting For Minor Works.
-

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for architectural woodwork installation in accordance with manufacturer's 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 architectural woodwork to Quality Standards of AWMAC.
 - .2 Install prefinished millwork at locations shown on drawings.
 - .1 Position accurately, level, plumb straight.
 - .3 Fasten and anchor millwork securely.
 - .1 Supply and install 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 in accordance with Section 07 92 00 - Joint Sealants.
 - .7 Apply water resistant building paper 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 Install hardware as indicated below:
 - .1 Hinges: To be 110 degree flush overlay concealed European type
 - .2 Pulls: 100mm long contemporary metal door edge pulls in stainless steel finish.
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- .3 Drawer Slides: All drawers to be fitted with self-closing door slides with 100lb capacity
- .4 Shelf Supports: To be recessed type steel pilasters with 25mm adjustment increments fitted with matching steel shelf clip with matching steel shelf clips.
- .5 Locks: Millwork to be fitted with cylindrical type locksets countersunk into the interior face. Location of locks to be confirmed with Departmental Representative. Allow for supply and installation of 10 units. Deliver 2 keys for each unit.
- .6 Grommets: 2 piece Plastic break-away type in colour to be determined.
- .7 Keyboard Tray:
 - .1 One piece phenolic keyboard platform with dual mouse surfaces.
 - .2 Overall platform size of 635mm W x 260mm D.
 - .3 Slim profile for maximum leg clearance and ease of adjustment.
 - .4 Lycra gel palm rest.
 - .5 Non-skid surface pads keep keyboard stationary.
 - .6 Arm mechanism has a lever free adjustment for both height and tilt.
 - .7 6" height adjustment.
 - .8 360° swivel; 15 + 1 - tilt.
 - .9 18" track.
 - .10 Cable management system.
 - .11 Steel construction with durable powder coat finish.
 - .12 Surpasses ANSI/BIFMA standards.
 - .13 Optional pull options available same flitch of veneer.
 - .14 Standard of acceptance:
 - .1 Idea @ Work.
- .8 Door/Drawer Bumpers: All doors and drawers to be fitted with clear nylon silencer bumpers (Felt not acceptable).

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 in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean millwork and cabinet work inside cupboards and drawers and outside surfaces.
 - .2 Remove excess glue from surfaces.
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- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 22 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 PROTECTION

- .1 Protect millwork and cabinet work from damage until final inspection.
- .2 Protect installed products and components from damage during construction.
- .3 Repair damage to adjacent materials caused by architectural woodwork installation.