

**Part 1 General**

**1.1 REFERENCES**

- .1 Architectural Woodwork Manufacturers Association of Canada (AWMAC)
  - .1 Architectural Woodwork Standards, Edition 2, 2014.
- .2 Canadian Standards Association (CSA)
  - .1 CSA A440.2-14, Fenestration Energy Performance.
  - .2 CAN/CSA O132.2 Series-90 (R1998), Wood Flush Doors.
  - .3 CAN/CSA O132.5-M1992 (R1998), Stile and Rail Wood Doors.

**1.2 SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications, data sheets and installation instructions. Include door core materials, thickness, construction, and face species.
  - .2 Submit WHMIS Material Safety Data Sheets. Indicate VOC content for door materials and adhesives.
- .3 Shop Drawings:
  - .1 Indicate door types, sizes, core construction, locations, swings, undercuts, hardware locations and preparation requirements, blocking for, finishes, and other pertinent data.
- .4 Samples:
  - .1 Submit one 300 x 300 mm corner sample of each type of wood door.
  - .2 Show door construction, faces, and core detail representative of specified door types.
  - .3 Provide samples of stained face materials for colour selection.

**1.3 QUALITY ASSURANCE**

- .1 Perform work to custom grade in accordance with requirements of AWMAC Architectural Woodwork Standards.

**1.4 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver, store, protect, and handle products in compliance with AWMAC Architectural Woodwork Standards.
- .2 Arrange for delivery after work causing abnormal humidity has been completed.
- .3 Accept doors on site in manufacturer's packaging. Inspect for damage.
- .4 Storage and Protection:
  - .1 Protect doors from dampness.

- .2 Store doors in well ventilated room, off floor, in accordance with manufacturer's recommendations.
- .3 Protect doors from scratches, handling marks, and other damage.
- .4 Store doors away from direct sunlight.

## **1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

## **Part 2 Products**

### **2.1 WOOD FLUSH DOORS**

- .1 Manufacture doors to AWMAC Custom grade standard.
- .2 Doors: To CAN/CSA O132.2, stile and rail frame, 3-ply laminated veneer lumber core.
- .3 Stiles and rails: Structural composite lumber.
- .4 Face Panels, Door Type A, B, and D:
  - .1 Thickness: 12.7 mm minimum.
  - .2 Vertically oriented bevels routed into face panel at 150 mm spacing.
  - .3 Species: White oak.
  - .4 Finish: Factory-applied, colour as selected from manufacturer's full range by Departmental Representative.
- .5 Face Panels, Door Type C:
  - .1 Six panel face, thickness minimum 12.7 mm.
  - .1 Species: White oak.
  - .2 Finish: Factory-applied, colour as selected from manufacturer's full range by Departmental Representative.
- .6 Edges: Square.
- .7 Adhesive: Type I (waterproof).

### **2.2 FABRICATION**

- .1 Vertical edge strips to match face veneer.

## **Part 3 Execution**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

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

**3.2            INSTALLATION**

- .1      Unwrap and protect doors in accordance with CAN/CSA O132.2 Series.
- .2      Install doors and hardware in accordance with CAN/CSA O132.2 Series.
- .3      Provide thermal isolation where components penetrate or disrupt building insulation. Fill with low-expanding foam insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- .4      Adjust hardware for correct function.

**3.3            ADJUSTMENT**

- .1      Re-adjust doors and hardware just prior to completion of building to function freely and properly.

**3.4            CLEANING**

- .1      Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .2      Remove traces of primer and caulking; clean doors and frames.
- .3      Clean glass and glazing materials with approved non-abrasive cleaner.
- .4      On completion of installation, remove surplus materials, rubbish, tools, and equipment barriers.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 AAMA/WDMA/CSA/101/I.S.2/A440-08 – NAFS – North American Fenestration Standard/Specification for Windows, Doors, and Unit Skylights.
- .2 AAMA/WDMA/CSA/101/I.S.2/A440-07 - Canadian Supplement to Standard/Specification for Windows, Doors, and Unit Skylights.
- .3 ASTM E283-04 - Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- .4 ASTM E330-02 - Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- .5 ASTM E331-00 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- .6 ASTM E1105-00(2008) - Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform or Cyclic Static Air Pressure Difference.
- .7 ASTM F588-07 - Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.
- .8 CSA-A440.2-04/A440.3-04 - Energy Performance of Windows and Other Fenestration Systems / User Guide to CSA A440.2-04, Energy Performance of Windows and Other Fenestration Systems.
- .9 CSA-A440.4-07 - Window, Door, and Skylight Installation.
- .10 WDMA I.S.4-07A - Water Repellent Preservative Treatment for Millwork.

**1.2 SYSTEM DESCRIPTION**

- .1 Windows: Wood sections, factory fabricated, related flashings, anchorage and attachment devices.
- .2 Configuration:
  - .1 Fixed.
  - .2 Double hung sash.

**1.3 PERFORMANCE REQUIREMENTS**

- .1 System Design: Design and size components to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of wall as calculated in accordance with National Building code.

- .2 Deflection: Limit member deflection to 1/200 with full recovery of glazing materials.
- .3 Assembly: System to accommodate, without damage to components or deterioration of seals, movement between window and perimeter framing.
- .4 Air tightness to CSA A440:
  - .1 Fixed windows: 0.2 L/s/m<sup>2</sup> at 75 Pa.
  - .2 Operable windows: 0.5 L/s/m<sup>2</sup> at 75 Pa.
- .5 Water penetration resistance test pressure to CSA A440: 400 Pa.
- .6 System Internal Drainage: Drain water entering joints, condensation occurring in glazing channel, or migrating moisture occurring within system, to the exterior by a weep drainage network.
- .7 Air and Vapour Seal: Maintain continuous air and vapour barrier throughout assembly.

#### **1.4 SUBMITTALS**

- .1 Section 01 33 00: Submittal Procedures.
- .2 Product Data: Provide component dimensions, anchorage and fasteners, glass, and internal drainage details.
- .3 Shop Drawings: Indicate materials and details in scale full size for head, jamb and sill, profiles of components, interior and exterior trim. Junction between combination units, elevations of unit, anchorage details, description of related components and exposed finishes fasteners, and caulking. Indicate location of manufacturer's nameplates.
- .4 Samples:
  - .1 Submit two (2) samples 200 x 200 mm in size illustrating window frame section, factory finished surfaces, glass units, glazing materials.
  - .2 Submit 150 mm long samples of head, jamb, sill, meeting rail, mullions to indicate profile.
- .5 Test Reports: Submit substantiating engineering data, test results of previous tests by independent laboratory which purport to meet performance criteria, and other supportive data.

#### **1.5 QUALITY ASSURANCE**

- .1 Perform Work in accordance with AAMA/WDMA/CSA/101/I.S.2/A440.

#### **1.6 DELIVERY, STORAGE, AND PROTECTION**

- .1 Section 01 61 00: Transport, handle, store, and protect products.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Wood: Clear pine species, preservative treated to WDMA I.S.4, suitable for transparent or opaque exterior finish.
  - .1 Finger joints not permitted.

### **2.2 ACCESSORIES**

- .1 Operable Sash Weather Stripping: Nylon pile or resilient PVC; permanently resilient, profiled to effect weather seal.
- .2 Fasteners: Stainless steel.
- .3 Weathering and glazing gaskets: Extruded closed cell or dense elastomer, black colour.
- .4 Glazing tapes: Macro-isobutylene, highly adhesive and elastic.

### **2.3 GLASS AND GLAZING MATERIALS**

- .1 Insulated Glass Units: CAN/CGSB-12.8, double pane, outer and inner panes of 6 mm clear tempered glass; interpane space filled with argon gas, with low conductivity spacer; total unit thickness of 25 mm minimum.
  - .1 Spacers: EPDM base with desiccant fill.
    - .1 Desiccant: 3A molecular sieve, 40% minimum by weight.
    - .2 Adhesive: High performance acrylic.

### **2.4 SEALANT MATERIALS**

- .1 Sealant and Backing Materials: Manufacturer's standard.
- .2 Frame shim sealant: Low-expanding one-part polyurethane foam sealant.
- .3 Exterior caulking: High grade neutral cure silicone, approved by window manufacturer.
- .4 Verify compatibility of sealant material with substrates being sealed.

### **2.5 HARDWARE**

- .1 Double Hung Sash:
  - .1 Balance: Concealed block and tackle.
  - .2 Seal: Concealed non-compression jamb liner forming compression seal with dual durometer bulb seal against sash stiles and between top and bottom rails of sash and frame, bulb seal between top rail and header and between sash meeting rails.
  - .3 Counter balance: Stainless steel coil balance hardware.

- .4 White bronze camlocks.

## **2.6 FABRICATION**

- .1 Fabricate framing and sash members with mortise and tenon joints. Glue and steel pin joints to hairline fit, weather tight.
- .2 Form sills in one piece. Slope sills for wash.
- .3 Form glass stops of solid wood, sloped for wash.
- .4 Provide weather stop flange for perimeter of unit.
- .5 Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.
- .6 Arrange fasteners to be concealed from view.
- .7 Permit internal drainage weep holes and channels to migrate moisture to exterior. Provide internal drainage of glazing spaces to exterior through weep holes.
- .8 Double weatherstrip operable units.
- .9 Factory glaze window units in accordance with CSA A440.
- .10 Brace frames to maintain squareness and rigidity during shipping and installation.
- .11 Manufacturer nameplates are not permitted.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Verify existing conditions before starting work.
- .2 Verify wall openings and adjoining air and vapour seal materials are ready to receive work of this section.

### **3.2 INSTALLATION**

- .1 Install window assembly to CSA-A440.4.
- .2 Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- .3 Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

- .4 Provide thermal isolation where components penetrate or disrupt building insulation. Fill with low-expanding foam insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- .5 Coordinate attachment and seal of perimeter air and vapour barrier materials.
- .6 Install operating hardware.
- .7 Install perimeter sealant to method required to achieve performance criteria; backing materials, and installation criteria in accordance with Section 07 92 00.

### **3.3 ERECTION TOLERANCES**

- .1 Maximum Variation from Level or Plumb: 1.5 mm/m.

### **3.4 ADJUSTING**

- .1 Adjust hardware for smooth operation and secure weathertight closure.

### **3.5 CLEANING**

- .1 Section 01 74 00: Cleaning installed work.
- .2 Remove protective material from factory-finished surfaces.
- .3 Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.
- .4 Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

**END OF SECTION**



**Part 1 General**

**1.1 REFERENCES**

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
  - .1 ANSI A117.1-2009, Standard for Accessible and Usable Buildings.
  - .2 ANSI/BHMA A156.1-2000, American National Standard for Butts and Hinges.
  - .3 ANSI/BHMA A156.2-2003, Bored and Preamsembled Locks and Latches.
  - .4 ANSI/BHMA A156.4-2000, Door Controls - Closers.
  - .5 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.
  - .6 ANSI/BHMA A156.6-2010, Architectural Door Trim.
  - .7 ANSI/BHMA A156.13-2002, Mortise Locks and Latches Series 1000.
  - .8 ANSI/BHMA A156.16-2002, Auxiliary Hardware.
  - .9 ANSI/BHMA A156.19-2002, Power Assist and Low Energy Power - Operated Doors.
  - .10 ANSI/BHMA A156.31-2013, Electric Strikes and Frame Mounted Actuators.
  - .11 ANSI/BHMA A156.115W-2006 – Hardware Preparations in Wood Doors.
- .2 Canadian Standards Association (CSA)
  - .1 CSA B651-12 – Accessible Design for the Built Environment.
- .3 Canadian Steel Door and Frame Manufacturers' Association (CSDMA)
  - .1 CSDMA Recommended Dimensional Standards for Commercial Steel Doors and Frames - 2009.
- .4 National Fire Protection Association (NFPA)
  - .1 NFPA (Fire) 80 - Standard for Fire Doors and Other Opening Protectives, 2007 edition.
  - .2 NFPA (Fire) 252 - Fire Tests of Door Assemblies, 2012 edition.

**1.2 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 door hardware; include product characteristics, performance criteria, physical size, finish, and limitations.
- .3 Samples:
  - .1 Submit for review and acceptance of each unit.

- .2 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
- .3 After approval, samples will be returned for incorporation in Work.
- .4 Hardware List:
  - .1 Submit contract hardware list.
  - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.
- .5 Manufacturer's Instructions: Submit manufacturer's installation instructions.
- .6 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- .7 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### **1.3 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: Submit operation and maintenance data for door hardware for incorporation into manual.

### **1.4 QUALITY ASSURANCE**

- .1 Regulatory Requirements:
  - .1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

### **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 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.
- .4 Storage and Handling Requirements:
  - .1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, well-ventilated area.
  - .2 Store and protect door hardware from nicks, scratches, and blemishes.
  - .3 Protect prefinished surfaces with wrapping or strippable coating.
  - .4 Replace defective or damaged materials with new.

**Part 2        Products**

**2.1           DOOR HARDWARE**

- .1    Provide hardware with dark oxidized satin bronze finish.
- .2    Locks and latches:
  - .1    Mortise locks and latches: To BHMA A156.13, series 1000 mortise lock, Grade 1.
    - .1    Case: Wrought steel, zinc dichromate plated, 3 mm thick.
    - .2    Lever: As selected by Departmental Representative from manufacturer's full range.
    - .3    Latchbolt: Minimum 19 mm throw.
    - .4    Normal strikes: Box type, lip projection not beyond jamb.
- .3    Hinges: To BHMA A156.1, five-knuckle, standard weight, 0.134 gauge steel.
- .4    Door closers: To BHMA A156.4, Grade 1, and ANSI A117.1, rack and pinion operation, cast aluminum body, adjustable backcheck intensity.
- .5    In-floor door closer: To ANSI/BHMA A156.19, barrier-free, handicap speed.
  - .1    Actuators: Wireless.
- .6    Door operators:
  - .1    Power assist and low energy power operated doors: To BHMA A156.19, ANSI BHMA A156.4, and ANSI A117.1, rack and pinion design contained within cast aluminum housing, 170° swing.
- .7    Mounting post for door operator actuator plate: Extruded aluminum, square 152 x 152 mm profile, dark bronze anodized finish, steel mounting base; designed to contain wireless transmitter.
- .8    Floor stops: To BHMA A156.16, solid cast brass, heavy duty casting with solid pin, complete with rubber bumper.
- .9    Wall stops: Brass, bronze, and stainless steel with rubber bumper, 63 mm diameter, 19 mm projection, concealed mounting.
  - .1    Bumper: Convex or concave as indicated in schedule.
- .10   Gasketing: Extruded tempered aluminum with black sponge silicone insert.

**2.2           FASTENINGS**

- .1    Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.
- .2    Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .3    Exposed fastening devices to match finish of hardware.
- .4    Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

- .5 Use fasteners compatible with material through which they pass.

## **2.3 KEYING**

- .1 Contact Departmental Representative for Keying Strategy.
- .2 Stamp keying code numbers on keys and cylinders.

## **Part 3 Execution**

### **3.1 INSTALLATION**

- .1 Manufacturer's Instructions: Comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 Supply door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Supply manufacturers' instructions for proper installation of each hardware component.
- .4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction) and CSA B651.
- .5 Where doorstop contacts door pulls, mount stop to strike bottom of pull.
- .6 Use only manufacturer's supplied fasteners.
  - .1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
- .7 Remove temporary cores when directed by Departmental Representative.
  - .1 Install permanent cores and ensure locks operate correctly.

### **3.2 ADJUSTING**

- .1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.
- .2 Lubricate hardware, operating equipment and other moving parts.
- .3 Adjust door hardware to ensure tight fit at contact points with frames.

### **3.3 CLEANING**

- .1 Progress Cleaning: in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
  - .2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer's instructions.
  - .3 Remove protective material from hardware items where present.
  - .4 Final Cleaning: Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

- .2 Waste Management: Remove waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

### **3.4 PROTECTION**

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

### **3.5 SCHEDULE**

- .1 To be provided.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 ASTM International
  - .1 ASTM C542-05 (2011), Standard Specification for Lock-Strip Gaskets.
  - .2 ASTM D2240-05 (2010), Standard Test Method for Rubber Property - Durometer Hardness.
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB 12.1-M90, Tempered or Laminated Safety Glass.
- .3 Glass Association of North America (GANA)
  - .1 GANA Glazing Manual – current edition.
  - .2 GANA Laminated Glazing Reference Manual - 2009.

**1.2 ADMINISTRATIVE REQUIREMENTS**

- .1 Pre-Installation Meetings:
  - .1 Convene pre-installation meeting 1 week prior to beginning on-site installation, with Contractor's Representative, in accordance with Section 01 31 19 - Project Meetings, to:
    - .1 Verify project requirements.
    - .2 Review installation and substrate conditions.
    - .3 Co-ordination with other building subtrades.
    - .4 Review manufacturer's written installation instructions and warranty requirements.
- .2 Hold project meetings every week.
- .3 Ensure key personnel attend.
- .4 Departmental Representative will submit written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

**1.3 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 glass, sealants, and glazing accessories. Include product characteristics, performance criteria, physical size, finish, and limitations.
- .3 Shop Drawings:
  - .1 If required, submit drawings stamped and signed by professional engineer registered or licensed in Province of Manitoba.
- .4 Samples:

- .1 Submit duplicate 200 x 200 mm size samples of proposed glazing materials.
- .5 Certificates: Submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

#### **1.4 QUALITY ASSURANCE**

- .1 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver, store, and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect glazing and frames from nicks, scratches, and blemishes.
  - .3 Protect prefinished aluminum surfaces with strippable coating.
  - .4 Replace defective or damaged materials with new.

#### **1.6 AMBIENT CONDITIONS**

- .1 Ambient Requirements:
  - .1 Install glazing when ambient temperature is 10°C minimum. Maintain ventilated environment for 24 hours after application.
  - .2 Maintain minimum ambient temperature before, during, and 24 hours after installation of glazing compounds.

### **Part 2 Products**

#### **2.1 GLASS**

- .1 Safety glass: To CAN/CGSB 12.1, tempered and laminated, transparent, 12 mm thick, edges machined to smooth finish.

#### **2.2 ACCESSORIES**

- .1 Washers and grommets: Rubber, neoprene, or EPDM, in sizes required to isolate and cushion glass installation from metal.

**Part 3 Execution**

**3.1 EXAMINATION**

- .1 Verify conditions of substrates are acceptable for glazing installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate.
  - .2 Verify openings for glazing are correctly sized and within tolerance.
  - .3 Inform Departmental Representative of unacceptable conditions.
  - .4 Proceed with installation only after unacceptable conditions have been remedied.

**3.2 PREPARATION**

- .1 Clean contact surfaces with solvent and wipe dry.

**3.3 INSTALLATION**

- .1 Install to manufacturer's written instructions and approved shop drawings.

**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.
    - .1 Remove labels.
    - .2 Clean glass using approved non-abrasive cleaner in accordance with manufacturer's instructions.
  - .2 Final Cleaning: Upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: Remove waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Removal.

**3.5 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 After installation, mark each light with an "X" by using removable plastic tape or paste.
  - .1 Do not mark heat absorbing or reflective glass units.
- .3 Repair damage to adjacent materials caused by glazing installation.

**END OF SECTION**