

This Specifications Sheet utilizes the Construction Specifications Institute (CSI) MasterFormat™. The 1995 edition numbers are listed first; *numbers in italics are from the 2004 edition*. Options and dimensions are indicated by brackets []. Specifier Notes precede specification text; edit for project requirements or delete in final copy. Metric conversion is calculated by multiplying: Number of Inches x 25.4 = Millimeters, rounded off. Manufactured by Kolbe & Kolbe Millwork Co., Inc., Wausau, Wisconsin.

Note: Entrance exterior units are sized for entrance door applications. Entrance exterior units sizes are 6-8, with a box height of 82-19/32 inches (2098mm); 7-0, with a box height of 86-19/32 inches (2199mm); and 8-0, with a box height of 98-19/32 inches (2504mm). Entrance Patio unit sizes are 6-6, with a box height of 79-3/8 inches (2016mm); and 8-0, with a box height of 95-15/32 inches (2425mm). Most other specifications are the same for both models.

SECTION 08212A or 08 14 23.02

ULTRA SERIES OUTSWING ENTRANCE DOORS, SIDELITES AND TRANSOMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. [4-17/32 inch (115mm) wide stile] [6 inch (152mm) extra wide stile] Outswing Entrance [Exterior] [Patio] doors complete with [hardware,] glazing, weatherstripping, [jamb extensions] [removable grilles] [grilles-in-the-air-space] [performance divided lites] [stationary panel] [operating sidelite] [stationary sidelite] and standard or specified anchorages, trim, attachments, and accessories. [Mulled Transoms] [Stand alone Transoms] are also available.

1.02 RELATED SECTIONS

SPECIFIER NOTE: Revise sections below to suit project requirements and to include desired options.
Consult state and local building codes for specific requirements.

The MasterFormat 1995 edition numbers are listed first; *numbers in italics are from the 2004 edition*.

- Section 01330 or 01 33 00 – Submittal Procedures.
- Section 01620 or 01 62 00 – Product Options.
- Section 01630 or 01 25 00 – Product Substitution Procedures.
(2004 title: *Substitution Procedures.*)
- Section 01650 or 01 65 00 – Product Delivery Requirements.
- Section 01660 or 01 66 00 – Product Storage and Handling Requirements.
- Section 01730 or 01 73 00 – Execution.
- Section 01740 or 01 74 00 – Cleaning.
(2004 title: *Cleaning and Waste Management.*)
- Section 01760 or 01 76 00 – Protecting Installed Construction.
- Section 06100 or 06 10 00 – Rough Carpentry.
- Section 06200 or 06 20 00 – Finish Carpentry.
- Section 07210 or 07 21 00 – Building Insulation.
(2004 title: *Thermal Insulation.*)
- Section 07900 or 07 92 00 – Joint Sealants.
- Section 08800 or 08 80 00 – Glazing.
- Section 09900 or 09 90 00 – Paints and Coatings.
(2004 title: *Painting and Coating.*)

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. ASTM E283-04 - Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
 2. ASTM E330-02 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 3. ASTM E547-00. - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
 4. ASTM E1425-99 or AAMA 1801-97 - Certification of Acoustical Performance.
 5. ASTM F588-04 (Windows).
 6. ASTM E 1996-04 "Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes".
 7. ASTM E 1886-04 "Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials".
 8. ASTM E2190-02 "Standard Specification for Insulating Glass Unit Performance and Evaluation."
 9. ASTM E774-97 "Standard Specification for the Classification of the Durability of Sealed Insulating Glass."
- B. American Architectural Manufacturers Association/Window and Door Manufacturers Association (AAMA/WDMA), American National Standards Institute/Window and Door Manufacturers Association (ANSI/WDMA).
1. ANSI/AAMA/NWDA 101/I.S.2-97, 101/I.S.2/NAFS-02, or 101/I.S.2/A440-05 Voluntary Specifications for Aluminum, Vinyl (PVC), and Wood Windows and Doors.
 2. ANSI/WDMA I.S. 4-2005 - Standard for Water-Repellent Preservative Non-Pressure Treatment for Millwork.
- C. National Fenestration Rating Council (NFRC)
1. NFRC 100-2001 & 2004 - Determining Fenestration U-Factor.
 2. NFRC 100-2001 & 2004 - Test Procedure for Thermal Transmittance of Fenestration.
 3. NFRC 200-2001 - Determining Fenestration SHGC & Tv.
 4. ASTM E1423-99 - Determining Thermal Transmittance of Fenestration Systems.
 5. AAMA 1503.1-98 - Test Derived CRF.
- D. WDMA Hallmark Program
1. WDMA Hallmark Program Procedural Guide C.S.-1.
- E. Consumer Product Safety Commission (CPSC)
1. CPSC 16 CFR 1201 - Safety Glazing Standards.
 2. ANSI Z-97.1 - Safety Glazing Standards for Tempered Glass.

1.04 SYSTEM DESCRIPTION

See the Technical Information section at the beginning of this manual for Air, Water, Structural Test Reports and Energy Rating Reports. For updated reports, please visit our website at <http://www.kolbe-kolbe.com>.

A. Design and Performance Requirements

1. Applications of windows include:
 - a. Residential application (design pressure required _____ psf).
 - b. Light commercial application (design pressure required _____ psf).

2. Air, water, structural, and forced entry resistance shall be at levels which meet the specified design pressure as per ANSI/AAMA/NWDA 101/I.S. 2-97, 101/I.S.2/NAFS-02, or AAMA/WDMA/CSA 101/I.S.2/A440-05.
 3. Unique, non-listed unit's performance, when not tested, may be addressed by a manufacturer's Statement of Qualification.
 4. Mullion design can be adequate for specified design pressure.
- B. Energy Ratings
- All units tested are one-lite, residential, H[°]K, argon filled, with Kolbe ID No. as listed on the NFRC label adhered to each unit. Values are certified per NFRC and units are labeled per state requirements.
1. Unique, non-listed units may have U & SHGC determined by NFRC procedures and listed on a manufacturer's Statement of Qualification.

1.05 SUBMITTALS

- A. Shop Drawings: Submit shop drawings in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.
- B. Product Data: Submit catalog data in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.
- C. Samples:

Submit corner section in accordance with Section 01330 Submittal Procedures or Section 01 33 23 – Shop Drawings, Product Data, and Samples.

Include glazing system, quality of construction, specified finish, and color.
- D. Installation Instructions.
- E. Quality Control Submittals:

Certificates: Submit performance test results reported by independent laboratory or manufacturer's Statement of Qualification indicating compliance with specified performance and design requirements.

1.06 QUALITY ASSURANCE

- A. Insulating Glass – two certification programs: IGCC and IGMAC. Possible IGMA Certification (harmonized IGMAC & SIGMA).
- B. NFRC Certification Program for Energy Rating of Fenestration.
- C. WDMA Hallmark Program. Be sure to check the Air-Water-Structural Test Reports Manual on our website at <http://www.kolbe-kolbe.com>.
- D. IGMAC-Insulating Glass Manufacturer's Association Canada.
- E. [If required: Mock Up: Provide sample installation for field testing unit performance requirements for approval - Contractor to perform tests in accordance with AAMA 502-02 using Method A and/or Method B.]

1.07 DELIVERY, STORAGE AND HANDLING

- A. Proceed in accordance with Section 01650 or 01 65 00 – Product Delivery Requirements, Section 01660 or 01 66 00 – Product Storage and Handling Requirements, and Installation Instructions.
- B. Deliver in original packaging, store in an upright position off the ground in a clean, dry area. Protect from weather and construction activities.
- C. Prime or seal wood surfaces, including surfaces to be concealed by wall construction if more than 30 days will expire between delivery and installation.

1.08 WARRANTY

- A. Glass: See Kolbe & Kolbe Glass Warranty for details and exclusions.
- B. Pre-finishing: See Kolbe & Kolbe Finish Warranty for details and exclusions.
- C. Product Defects: See Kolbe & Kolbe Product Warranty for details and exclusions.

- D. International: See Kolbe & Kolbe International Warranty for details and exclusions.
- A. These warranties are available on our website at <http://www.kolbe-kolbe.com>.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

- A. Description: Doors and Sidelites are factory assembled as manufactured by Kolbe & Kolbe Millwork Co., Inc., Wausau, Wisconsin.
- B. Units available: [Standard Performance] [High Performance] [Impact Performance].
For Transoms Only:
- A. Description: Transoms, factory assembled window units as manufactured by Kolbe & Kolbe Millwork Co., Inc., Wausau, Wisconsin.

2.02 MATERIALS

<i>Edit for Project Requirements.</i>

- A. Frame: Constructed of kiln-dried pine, with pine interior stops, water repellent, preservative treated in accordance with ANSI/WDMA I.S. 4-2005. Ultra assembled frames have factory installed heavy vinyl nailing fins at head and side jambs. Nailing fin at head has integral drip cap. Transom head drip cap to be field applied to frame. Units are available with [1-15/16 inch (49mm) brickmould] [3-1/2 inch (89mm) profiled brickmould] [3-1/2 inch (89mm) flat casing] [3-1/2 inch (89mm) flat casing with backband, 4-1/4 inch (108mm) overall face dimension] [3/4 inch (19mm) Ogee casing] [1-15/16 inch (49mm) bull nose casing]. [13/16 inch (21mm) Historic Brickmould] [1-1/4 inch (31mm) Chicago brickmould]. Units with brickmould or casing do not have a vinyl nailing fin factory applied as standard.
 1. Jamb Thickness: Two piece assembled frame is 1-1/16 inch (27mm) thick at side jambs and head with a 1/2 inch (13mm) rabbeted-in interior stop for a total of 1-9/16 inch (40mm). Sash Set Transom Jamb Thickness: 3/4 inch (19mm). Direct Set Transom Jamb Thickness: 11/16 inch (17mm).
 2. Basic jamb width: 4-9/16 inch (116mm). [5-1/4 inch (135 mm) jamb width at 2-1/4 inch thick door panels]
 3. Standard overall jamb with sill extensions applied: 5-5/32 inch (131mm).
 4. Sill thickness: 1-63/64 inch (50mm). Handicap sill with bumper is 1/2 inch (13mm). Handicap sill with thermal break is 1/4 inch (6mm).
 5. Sill: Bumper sill is made of [Bronze anodized 1/8 inch (3.2mm) thick 6063 extruded aluminum alloy 4-9/16 inch (116mm) wide with an oak interior threshold.] [4-9/16 inch (116mm) wide oak.] [6-7/16 inch (164mm) wide oak.] [Mahogany sill is 8-5/8 inch (219mm) wide.] [Handicap sill with bumper is 8 inch (203mm) wide.] [Handicap sill is 8-1/8 inch (206mm) wide with thermal break,] made of bronze anodized 1/8 inch (3.2mm) thick 6063 extruded aluminum alloy.
 6. Exterior: All frame parts are .050 inch (1.3mm) thick 6063 extruded aluminum alloy, with accessory grooves, press fit onto press fit onto the wood frame.
 7. Corner Construction: Mitered corners use internal corner key and sealer.
 8. Other wood species available.
 9. [FSC Certified wood requiring Chain of Custody (COC) label].
- B. Panels: Direct set sidelites are constructed of glass directly set into frame. Sash set sidelites are constructed of kiln dried pine, water repellent, preservative treated in accordance with ANSI/WDMA I.S.4-2005.
 1. Thickness: 1-23/32 inch (44mm). [2-1/4 inch (58mm)] For direct set Sidelites, thickness is 2-1/8 inch (54mm).

2. Top Rails: Face dimension is [4-17/32 inch (115mm)] [6 inch (152mm) for extra wide stile units] [1-1/8 inch (29mm) for direct set sidelite].
 3. Stiles: All lock stiles, and hinge stiles on both high performance and impact performance units, are constructed of laminated veneer lumber (LVL) with solid wood edge banding. Face dimension is [4-17/32 inch (115mm)] [6 inch (152mm) for extra wide stile units] [2-5/8 inch (67mm) for narrow stile sash set sidelites] [1-1/8 inch (29mm) for direct set sidelite].
 4. Sash Set Transom stile and rail face dimensions are [2-7/16 inch (62mm) for narrow stile units] [4-17/32 inch (115mm) for wide stile units] [6 inch (152mm) for extra wide stile units].
 5. Bottom Rail: Face dimension is [7-9/16 inch (192mm) or 12-5/8 inch (321mm)] [1-1/8 inch (29mm) for direct set sidelite].
 6. Exterior: [Panel parts on doors are completely covered by a .062 inch (1.6mm) thick 6063 extruded aluminum alloy with all corners coped and sealed.] [Sash parts on transoms are completely covered by a .019 inch (0.5mm) thick 5052 roll formed aluminum alloy with all corners lap jointed and sealed.]
 7. Raised Panels: [Single] [Double] panels and sidelites are fabricated in-house of .040 inch (1.1mm) thick 1100 stamped aluminum alloy. Crossrail face dimension is 4-5/8 inch (117mm). Crossrail standard height is 30 inch (762mm) from bottom of door to daylight opening.
 8. Corner Construction: Joined by wood dowels and glue.
 9. Other wood species available.
 10. [FSC Certified wood requiring Chain of Custody (COC) label].
 11. Interior glazed.
 12. Fixed panels are installed with panel spacers to ensure proper margin.
 13. Prep for [locks] [hinges] [handle boring] [no prep].
 14. French door comes standard with astragal – Note the following are ADA compliant options: [no astragal] [double pile closure] [adjustable double pile closure] [field-applied Dark Bronze aluminum center seal].
- C. Surface Finish:
1. Exterior Coating: 70% fluoropolymer based coating meets performance requirements AAMA 2605-05 specifications. (Some limitations apply for radius PDL bars.) Color: Manufacturers [Standard] [Pre-selected] [Custom]. [Optional Anodized Aluminum Clad Finish] colors as selected from manufacturers color spectrum.
 2. Interior Finish: Interior is bare wood [One of the manufacturer's standard 9 stain colors] [prime coat] [acrylic type paint in White, Beige, Sand, Rustic or Hartford Green] [Custom].
- D. Hardware:
1. Handles and escutcheon plates: Active handle, inactive handle, interior and exterior escutcheon plates are made of solid brass with protective lacquer, except Bright Brass which has a Resista[®] finish. Gasket is made of Black Neoprene. All handles are shipped for field installation. Toronto handle is standard on Patio units and optional on Entrance units. Color options: standard is Bright Brass [Antique Brass] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Rustic Umber] [Matte Black]. [Optional keyed cylinder.] Optional München handle is available in [Bright Brass] [Antique Brass] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Rustic Umber] [Matte Black]. [Optional Schlage[®]keyed cylinder.]
 2. Locking hardware has a 1 inch (25mm) throw deadbolt with Schlage[®] key lock cylinder. Color options: [Bright Brass] [Antique Brass] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Rustic Umber] [Matte Black]. [Double keyed cylinder is available in Bright Brass.]

3. Locking System Options: All components are corrosion resistant. Available as [Single Point] [Two Point] [Three Point] [Five Point] [Two Point Flush Bolt] [6 inch (152mm) Flush Bolt] or [12 inch (305mm) Flush Bolt].
- Single Point: On single door, made of stainless steel. [Standard Tongue Strike] [Extended Tongue Strike for heavy architectural trim] [Extended Tongue Strike for standard trim] is available in [Brass] [Stainless Steel] [Oil Rubbed].
 - Two Point: On secondary active panels only. Made of stainless steel. Head and sill strike plates are made of Light Bronze Anodized aluminum. On High Performance units: Channel Euro Multipoint is made of Champagne anodized aluminum and "U" Channel is made of stainless steel.

For Three Point and Five Point Locks: Lock strikes are color coordinated as indicated, to compliment handle and escutcheon color. Please indicate color of lock strike if a different color is required.

- Three Point: On primary active panels. Center Gear Strike [Standard Tongue Strike] [Extended Tongue Strike for heavy architectural trim] [Extended Tongue Strike for standard trim] made of solid Brass. Color Options: Lacquer coated [Brass with Brass strike] [Antique Brass with Oil Rubbed Finish strike] [White with Brass strike] [Bright Chrome with Stainless Steel strike] [Dull/Brushed Chrome with Stainless Steel strike] [Oil Rubbed Finish with Oil Rubbed strike].
- Five Point: On primary active panels of High and Impact Performance units. Made of stainless steel. Head and sill strike plates are made of Light Bronze Anodized aluminum. Color Options: Lacquer coated [Brass with Brass strike] [Antique Brass with Oil Rubbed Finish strike] [White with Brass strike] [Bright Chrome with Stainless Steel strike] [Dull/Brushed Chrome with Stainless Steel strike] [Oil Rubbed Finish with Oil Rubbed strike].
- [Seven point: On French units, for both High and Impact Performance options, locking system consists of the five point lock on the active panel and the two point lock on the secondary active panel.]
- Two Point Flush Bolt: On secondary active panel. Top and bottom threaded shoot rods are made of steel and die cast parts. Lever Face Plate has a lacquer coated Bright Brass finish. Head and sill strike plates are made of Light Bronze anodized aluminum.
- [6 inch (152mm) flush bolt: For sizes up to 6'-8" in height will receive 6 inch on both top and bottom, on secondary active panel. Top and bottom flush bolt is made of solid brass with a lacquer coated Bright Brass finish. Head and sill strike plates are lacquer coated solid Brass. Color options: [Antique Brass] [Dull Chrome] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Matte Black].
- [12 inch (305mm) flush bolt: For sizes 7'-0" and taller in height will receive 6 inch flush bolt at the bottom and 12 inch at the top, on secondary active panel. Solid Brass top strike plate, main latch and head jamb strike plate. Extension rod, head, and top flush bolt cover are made of steel. Standard color is lacquer coated Bright Brass.] Color options: [Brushed Chrome] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Black].

For Operating Sidelites:

- Lever Lock: Made of high-pressure die cast zinc and steel. Color Options: [White] [Beige] [Rustic].
- Panel Lock and Keeper: Made of high-pressure die cast zinc and E-Gard® steel. Color Options: [White] [Brass] [Rustic].
- Panel Centerhook: Made of E-Gard® or stainless steel.

4. Adjustable Shoot Bolt Strike: Made of [Solid Brass] [Stainless Steel] [Brass with Oil Rubbed Finish].
 5. Hinge options:
 - Optional adjustable set hinge: 4" x 3-5/8" (102 x 92mm) hinge with 5/8 inch (16mm) radius corners [with removable pin] [with non-removable pin] is standard. Steel reinforced and corrosion resistant. Color Options: Gold painted is standard. [Bright Brass] [Rustic Umber] [Stainless Steel] [Antique Brass] [Antique Nickel] [Matte Black] [Oil Rubbed Finish] [Satin Nickel].
 - Optional adjustable guide hinge: 4" x 3-5/8" (102 x 92mm) with 5/8 inch (16mm) radius corner with removable pin. Steel reinforced and corrosion resistant. Color Options: Gold painted is standard. [Bright Brass] [Rustic Umber] [Stainless Steel] [Antique Brass] [Antique Nickel] [Matte Black] [Oil Rubbed Finish] [Satin Nickel].
 - Standard residential hinges: non-adjustable solid Brass base 4" x 4" (102 x 102mm) with 1/4 inch (6mm) radius corner in Bright Brass [with removable pin] [with non-removable pin]. Hinges with non-removable pin are also available in [Antique Brass] [Stainless Steel] [Oil Rubbed Finish] [Satin Nickel] [Antique Nickel] [Matte Black].
 - Optional commercial grade hinges: solid Brass 4" x 4" (102 x 102mm) ball bearing square corner with non-removable pin. Color Options: [Bright Brass] [Antique Brass] [Stainless Steel] [Oil Rubbed] .
 - Optional commercial grade hinges: available for Entrance doors only. Solid Brass 4-1/2" x 4-1/2" (114 x 114mm) ball bearing square corner with non-removable pin in [Bright Brass] [Stainless Steel] [Oil Rubbed Finish].
 - Optional construction (commercial type) hinges: 4" x 4" (102 x 102mm) primed steel with square corners.
- E. Weatherstripping: On all units except transoms.
1. Frame head and side jambs: use a Beige bulb-fin weatherstrip made of glass filled polypropylene/santoprene/arloc slip coat.
 2. Sill: Beige [Brown] vistaflex skin/santoprene foam/polypropylene rigid and flex kerf-mounted weatherstrip.
 3. Panels: Along bottom panel is a Beige leaf-type weatherstrip made of rigid and flexible PVC. Beige leaf weatherstripping used on top of panels is made of rigid and flexible PVC.
 4. Operating panel bumper: made of Beige rigid PVC.
 5. Sweep: on oak and handicap sill. Made of Beige santoprene.
 6. Weatherstrip backer rod: made of Black PVC foam.
 7. Panel seal corner support: made of Grey santoprene foam.
 8. Stationary panel filler: made of Beige rigid and flexible PVC.
 9. Margin cover: Made of .050 inch (1.3mm) thick 6063 extruded aluminum alloy.
- Additional Weatherstrip for French Doors:
10. Astragal: uses a Black rigid PVC leaf weatherstrip on stationary units and a bulb-fin weatherstrip made of glass filled Beige polypropylene/santoprene/arloc slip coat on active units.
 11. Astragal end pad: made of closed cell foam.
 12. Astragal wedge pad: made of Grey closed cell foam.

<p><i>The following are optional materials and accessories. Edit for project requirements.</i></p>

- F. Jamb Extensions: Provide factory installed jamb extensions up to 12 inches (305mm) for wall thickness indicated or required. Jamb extensions over 12 inches (305mm) are field installed.
1. Finish: match exterior frame finish.

2. Other wood species available.
 3. Factory installed extension jambs [5-9/16 inch (141mm)] [6-9/16 inch (167mm)] [6-11/16 inch (171mm)] [7 inch (178mm)] wide.
- H. Removable Grilles:
1. Surround: full, constructed of kiln-dried pine [7/8 inch (22mm)] [1-1/8 inch (29mm)].
 2. Pattern: [rectangular] [custom lite layout].
 3. Finish: bare wood.
 4. Profile: [standard] [ovolo].
 5. Other wood species available.
- I. Grilles-in-the-Airspace: Installed inside the hermetically sealed glass unit.
1. Material: aluminum Profile (Contoured) bars are standard, 3/4 inch (19mm) wide for units with 7/8 inch (22mm) insulating glass and 18mm wide for units with 9/16 inch (14mm) insulating glass. [Option: aluminum flat bars, 5/8 inch (16mm) wide available for units with 7/8 inch (22mm) & 9/16 inch (14mm) insulating glass] [Option: 25mm aluminum Profile (contoured) bar] [Option: Brass pencil bars, 5/16 inch (8mm) wide, available for units with 7/8 inch (22mm) only].
 2. Color options: The standard 3/4 inch (19mm) wide bars are available in [White] [Beige] [Sand] [Rustic] [Hartford Green] [Chutney] [Light Wood Faux finish] [Dark Wood Faux finish] . [Optional 5/8 inch (16mm) wide bars are available in [White] [Beige] [Sand] [Rustic] [Hartford Green] [Chutney] [Brass] [Light Wood Faux finish] [Dark Wood Faux finish] or two-toned with [Light Wood Faux finish] [Dark Wood Faux finish] with White to the exterior] [Optional 25mm wide bars are available in [White] [Beige]].
- J. Performance Divided Lites (PDL): PDL system utilizes a permanently adhered wood grille bar to the interior and a permanently adhered aluminum grille bar to the exterior glass.
1. Material: Muntin is constructed of .050 inch (1mm) thick 6063 extruded aluminum alloy on exterior, pine on interior [5/8 inch (16mm) wide] [7/8 inch (22mm) wide] [1-1/8 inch (29mm) wide] [1-3/4 inch (44mm) wide] [2-1/4 inch (57mm) wide]. On some radius units and units with special grid patterns, muntin is made of composite material; this is optional on other units.
 2. Pattern: [rectangular] [custom lite cuts subject to approval of Kolbe & Kolbe Millwork Co., Inc.].
 3. Spacer bar between the glass. Finish: Standard [Champagne]. Optional [Aluminum mill-finish] [Bronze finish].
 4. Exterior surface finish: To match frame and sash exterior. (Some limitations apply for radius and special grid patterns PDL bars.)

2.03 GLAZING

- A. Glass:
1. Standard one-lite IG is 7/8 inch (23mm) with tempered H^oK LoE²-270, argon filled.
 2. Standard TDL is 5/8 inch (16mm) tempered with H^oK LoE²-270, argon filled.
 3. Standard IG or single glazed has standard design pressure of 20 psf (DP 20). See Website www.kolbe-kolbe.com for high and impact performance ratings.
 4. High altitude IG has open breather tube.
 5. All glass is select quality complying with FS-DD-G-451D.
 6. IG complies with IGCC and ASTM E774-97 and ASTM E2190-02.
- For Individual and Muller Units Only:**
7. For operating and fixed units with insulating glass, Standard Impact Resistant Laminated Glass is Lami 22 and 27. For single glazed units, Standard Impact Resistant Laminated Glass is Lami 13
- B. Glazing Methods:

1. Single glazed units are all silicone-glazed.
2. Operating units and fixed units have K-Glaze with 3/16 inch (5mm) wide glazing tape and primary silicone on #1 surface along sight line paired with latex sealant on #4 surface at wood glazing bead.

For Individual and Mullled Units Only:

3. Impact glazed units are interior glazed using silicone and EPDM shims or tape glaze, with vinyl bracket secured with additional silicone. Wood glazing bead are mitered on the corners and fastened with brads.
- C. Glass Options:
1. [H^oK LoE² 240 –Glare Control - tempered] [LoE³ 366 - tempered]. [ThermaPlus LoE glass has a [LoE²-270] [LoE²-366] option on surface 2 and a LoE hard coat on surface 4 plus permanent coating (interior pane)-tempered].
 2. Tempered Pattern 62, bronze-, or gray-lite.
 3. Laminated glass.
 4. Protective film.
 5. Other options: Standard to the industry. [With] [Without] argon gas. (Argon gas may not be included in units to be installed in or shipping through high altitude areas. Smaller TDL glass may not have argon gas.)
- For Individual and Mullled Units Only:**
6. Large missile impact [single glazed] [insulated unit] laminated [LoE²] [Gray tint] [Bronze tint].
- D. Glazing Bead Options:
1. Beveled profile is standard [ovolo] [Modified for Impact Certified Units.]

2.04 ACCESSORIES AND TRIM

<i>Edit for project requirements.</i>

A. Installation Accessories:

For Individual, Mullled Units, and Transoms:

1. Galvanized steel installation clips (number required to meet DP20 may be factory applied to unit). Kolbe & Kolbe recommends that all units with exterior casing be installed using installation clips. Units without exterior casing are shipped with a factory applied nailing fin.
2. Mull anchors.
3. Strip mull anchors.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Before installation, verify that openings are plumb and square and of proper dimension. Report frame defects or unsuitable conditions to the General Contractor before proceeding.
- B. Acceptance: Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION

- A. Install windows according to manufacturer's installation instructions, reviewed shop drawings and in accordance with Section 01730 – Execution or Section 01 73 19 – Installation.
Note: Certain codes require the use of pressure-treated lumber to line rough openings. Corrosion-resistant materials, such as stainless steel or hot-dip galvanized

steel, must be used for fasteners and anchors having direct contact with pressure-treated lumber.

- B. Install sealant and related flashing materials at perimeter of assembly in accordance with Section 07900 Joint Sealers or 07 92 00 – *Joint Sealants*.
- C. Install accessory items as required.

3.03 ADJUSTING AND CLEANING

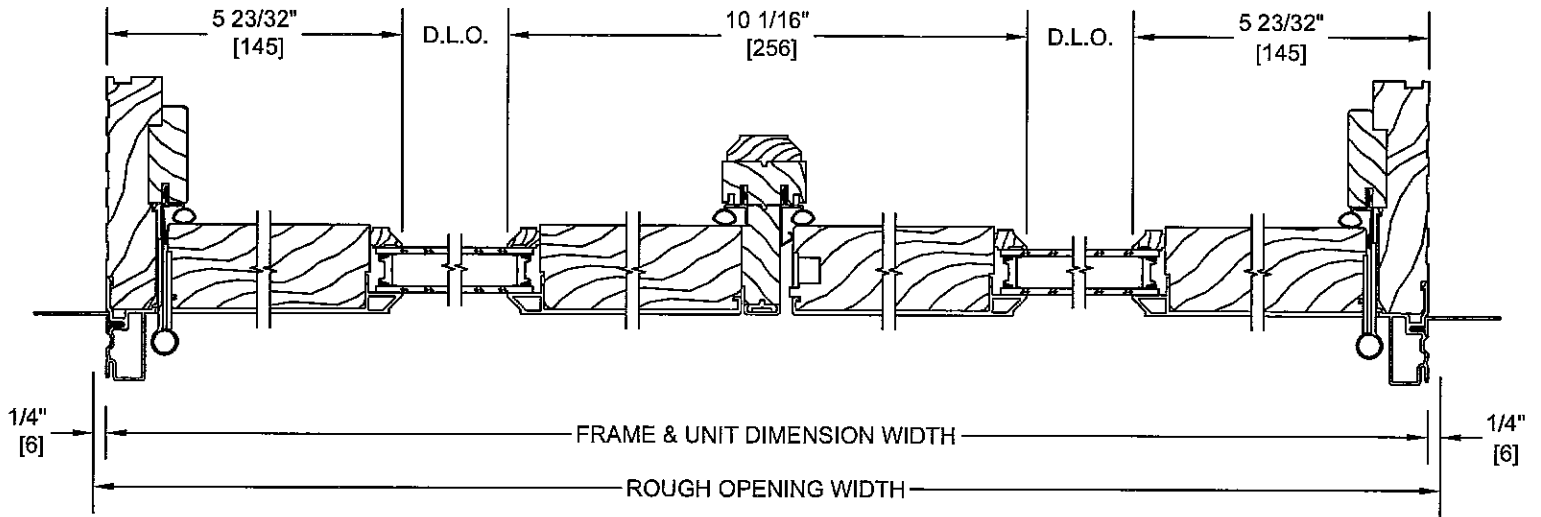
- A. Adjust operable sash to work freely with hardware functioning properly. Re-adjust at completion of the project if directed.
- B. Remove visible labels.
- C. Leave windows in a job clean condition. Final cleaning of glass will be done in accordance with Section 01740 – *Cleaning* or Section 01 74 00 - *Cleaning and Waste Management*.

3.04 PROTECTION

- A. A. Cover windows, in accordance with Section 01760 or 01 76 00 – *Protecting Installed Construction*, during spray painting or other construction operations (such as muratic acid washing after completion of masonry) that might cause damage

END OF SECTION

ULTRA OUTSWING DOOR
Operating Horizontal Cross Section
Two Wide French Door with Handicap Sill



Kolbe® windows & doors
07/02/2009

ULTRA OUTSWING DOOR

Operating Vertical Cross Section

