**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.**

###### SECTION 08261A *or 08 32 19.01*

**ULTRA SERIES MULTI-SLIDE DOOR**

##### PART 1 GENERAL

**1.01 SECTION INCLUDES**

A. Multi-slide door(s) complete with [hardware], [glazing], weatherstripping, [screens] [jamb extensions] [removable grilles] [grilles-in-the-airspace] [performance divided lites] and standard or specified anchorages, trim, attachments, and accessories.

**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.***

1. Section 01330 *or 01 33 00* – Submittal Procedures.
2. Section 01620 *or 01 62 00* – Product Options.
3. Section 01630 *or 01 25 00* – Product Substitution Procedures.

 *(2004 title: Substitution Procedures.)*

1. Section 01650 *or 01 65 00* – Product Delivery Requirements.
2. Section 01660 *or 01 66 00* – Product Storage and Handling Requirements.
3. Section 01730 *or 01 73 00* – Execution.
4. Section 01740 *or 01 74 00* – Cleaning.

 *(2004 title: Cleaning and Waste Management.)*

1. Section 01760 *or 01 76 00* – Protecting Installed Construction.
2. Section 06100 *or 06 10 00* – Rough Carpentry.
3. Section 06200 *or 06 20 00* – Finish Carpentry.
4. Section 07210 *or 07 21 00* – Building Insulation.

 *(2004 title: Thermal Insulation.)*

1. Section 07900 *or 07 92 00* – Joint Sealants.
2. Section 08800 *or 08 80 00* – Glazing.
3. Section 09900 *or 09 90 00* – Paints and Coatings.

 *(2004 title: Painting and Coating.)*

**1.03 REFERENCES**

1. American Society for Testing and Materials (ASTM):
2. ASTM E283-04’ - Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
3. ASTM E330-02’ - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
4. ASTM E547-00’ - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
5. ASTM E1425-07’ or AAMA 1801-97 - Certification of Acoustical Performance.
6. ASTM F588-07’ (Windows).
7. ASTM E 1996-04’ - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.
8. 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.
9. ASTM E2190-08’ - Standard Specification for Insulating Glass Unit Performance and Evaluation.
10. American Architectural Manufacturers Association/Window and Door Manufacturers Association (AAMA/WDMA), American National Standards Institute/Window and Door Manufacturers Association (ANSI/WDMA), Canadian Standards Association (CSA).
11. AAMA/WDMA/CSA 101/I.S.2/A440-05’, 101/I.S.2/A440-08’ - Standard / Specification for Windows, Doors and Skylights.
12. WDMA I.S. 4-07’A Water Repellant Preservative Treatment for Millwork.

C. National Fenestration Rating Council (NFRC)

1. NFRC 100-2004’ & 2010’ - Determining Fenestration U-Factor.
2. NFRC 100-2004’ & 2010’ - Test Procedure for Thermal Transmittance of Fenestration.
3. NFRC 200-2004’ & 2010’ Determining Fenestration SHGC & Tv.
4. ASTM E1423-06’ - Determining Thermal Transmittance of Fenestration Systems.
5. NFRC 500-2010’ - Determining Fenestration Product Condensation Resistance.
6. WDMA Hallmark Program
7. 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.kolbewindows.com.

A. Design and Performance Requirements

1. Applications of windows include:
	1. Residential application (design pressure required \_\_\_\_\_\_ psf).
	2. 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 perAAMA/WDMA/CSA 101/I.S.2/A440-05’, 101/I.S.2/A440-08’.
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, LoE2-270, 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.kolbewindows.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**

1. 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.
2. Deliver in original packaging, store in an upright position off the ground in a clean, dry area. Protect from weather and construction activities.
3. 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.

These warranties are available on our website at http://www.kolbewindows.com.

##### PART 2 PRODUCTS

**2.01 MANUFACTURED UNITS**

1. Description: Multi-slide door, as manufactured by Kolbe & Kolbe Millwork Co., Inc., Wausau, Wisconsin. Units are shipped knocked down (KD), prepped for assembly.
2. Units available: [Standard Performance]

**2.02 MATERIALS**

*Edit for Project Requirements*.

1. Frame: Constructed of Dark Bronze anodized aluminum with pine interior stops. Thermally broken frame with folding aluminum nailing fin applied as standard.
2. Jamb thickness: 1-1/2 inch (38mm) at the side jambs and 1-7/8 inch (48mm) at the head jamb.
3. Sill thickness: 3/4 inch nominal (19mm).
4. Sill: Continuous full-width thermally broken sill. Dark Bronze anodized weep sill with stainless steel roller cap, and Dark Bronze anodized aluminum trim nosing. Sill trim nosing is 6063 extruded aluminum alloy. Roller cap height is 3/16 inch (5mm).
5. Exterior: Head and side frame nosing parts are .090 inch (1.3mm) thick 6063 extruded aluminum alloy, attached with a unique dovetail joint to the aluminum base frame.
6. Corner Construction: Frame corners are mitered or profile cut.
7. Panels: Multi-slide door panels are constructed of kiln dried pine, water repellent, preservative treated in accordance with WDMA I.S. 4-07’A. Both operating and stationary panels have extruded aluminum cladding to the exterior.
	1. Thickness: 1-23/32 inch (44mm). [Optional: 2-1/4 inch (58mm)]
	2. Top Rails: Extruded aluminum face dimension is 4-5/8 inch (115mm) for standard units. [Optional: 3 inch (76mm)] [Optional: 6 inch (152mm)]
	3. Stiles: All stiles are constructed of laminated veneer lumber (LVL) with solid wood edge banding. Extruded aluminum face dimension is 4-5/8 inch (115mm) for standard units. [Optional: 3 inch (76mm)] [Optional: 6 inch (152mm)]
	4. Bottom Rails: Extruded aluminum face dimension is 7-9/16 inch (192mm) for standard units. [Optional: 4-5/8 inch (115mm)] [Optional: 6 inch (152mm)] [Optional: 12-5/8 inch (321mm)]
	5. Exterior: Panel parts are completely covered by a .063 inch (1.6mm) thick 6063 extruded aluminum alloy with all corners coped and sealed.
	6. Corner Construction: [Mortise-and-tenon for narrow stiles, fastened with screws.] [Doweled together for wider stiles.]
	7. Other wood species available: [Pine (standard)] [Alder] [Fir] [Maple] [Oak] [Cherry] [Mahogany] [Walnut] [Bamboo] [other] on exposed wood sash components.
	8. [FSC Certified wood requiring Chain of Custody (COC) label].
	9. Interior glazed.
	10. Prep for [lock] [handle boring] [no prep].
8. Surface Finish:
9. Exterior Finish – Aluminum
10. Standard Paint Colors: Exterior aluminum frame and sash components, and PDL bars are to have a 70% fluoropolymer based coating in compliance with AAMA 2605-13 specifications. Color is to be [Abalone] [Alabaster] [Anchor Gray] [Basil] [Beige] [Bronze] [Camel] [Castlerock] [Chutney] [Cider] [Cloud] [Coal Black] [Coastal Storm] [Copper Canyon] [Corbeau] [Emerald Isle] [Gingersnap] [Green Tea Leaf] [Hartford Green] [Khaki] [Lunar] [Maize] [Mediterranean] [Midnight] [Mudpie] [Mystic Ivy] [Natural Cotton] [Nutmeg] [Onyx] [Papaya] [Roma] [Rustic] [Sahara] [Sapphire] [Shadow] [Shale] [Slate] [Smokestack] [Spiced Vinegar] [Steel Gray] [Timberwolf] [Truffle] [Ultra Pure White] [White].
11. Mica Paint Colors: Exterior aluminum frame and sash components, jambliner flanges, and PDL bars are to have a 70% fluoropolymer based coating in compliance with AAMA 2605-13 specifications. Color is to be [Cosmic Gray] [Galaxy Silver] [Night Sky] [Silverstorm].
12. Aluminum Anodized: Exterior Components: Exterior aluminum frame and sash components are to have an anodized finish in compliance with AAMA 611-98 specifications. The anodized finish is to be [Black] [Champagne] [Clear] [Dark Bronze].
13. [Specify a custom paint color.]
14. Interior Finish - Wood:
15. [Interior wood is to be treated bare wood without stain or top coat.]
16. [Interior wood is to be treated bare wood with an acrylic based double clear coat.]
17. [Interior wood is to have a water based stain with a clear water based top coat. Stain color is to be [Cherry] [Chestnut] [Coffee Bean] [Ebony] [Library Red] [Light Oak 998] [Red Wheat] [Spiced Walnut] [Sunset Oak] [Wheat].
18. [Specify a custom stain color]
19. [The interior wood is to have a primer coat only] [High-performance urethane primer]
20. [Interior wood is to have acrylic type paint applied. The interior paint color is to be [Abalone] [Bright White] [Coal Black] [Graystone] [Ivory Tusk] [Misty Gray] [Natural Cotton] [Silk] [Ultra Pure White].]
21. [Specify a custom paint color.]

D. Hardware:

1. Locks: Standard dual point locking system.
2. Narrow Flush Pull with keyed cylinder: Handles are shipped loose, for field application. Options: [Bright Brass PVD] [Dull Brushed Chrome PVD] [Matte Black] [Rustic Umber] [Satin Nickel PVD] [White].
3. Madison handle. Handles are shipped loose, for field application. Options: [Antique Brass] [Bright Brass PVD] [Dull Brushed Chrome PVD] [Matte Black] [Rustic Umber] [Satin Nickel PVD] [White]. [Optional: keyed cylinder lock]
4. Lever Handle Sets: Optional multi-point locking system. Handles are shipped loose, for field application. Options: [Bright Brass PVD] [Antique Brass] [Satin Nickel PVD] [Antique Nickel PVD] [Oil-Rubbed Finish] [Rustic Umber] [Matte Black] [Smoky Gray PVD]. [Optional: keyed cylinder lock]
5. Edge Pull: Satin Chrome, to match multi-pt hardware.
6. Sliding Panels: Bottom rolling system with polypropylene-sealed precision bearing wheels.

E. Weatherstripping:

1. Frame Head and Side Jambs: Black pile with Black Ultra Soft Touch Fin.
2. Panels: Black High bulb gasket made of rigid and flexible black PVC.
3. Sill: Black pile with Black Ultra Soft Touch Fin.
4. Interlock: Fin-seal weatherstrip between meeting stiles, made of weatherable rigid PVC with flexible alcyrn bulb. Active panels have rigid Black PVC cap. Outboard edge interlock panels have rigid Black PVC cap and Black pile with Black Ultra Soft Touch Fin. [Optional: Beige interlock and weather strip.]
5. Air Block: Black foam block at head jamb.

*The following are optional materials and accessories. Edit for project requirements*.

F. Screens: Interior Black pleated sliding screens available up to 177 inches (4496mm) wide by 102 inches (2591mm) tall. (screen opening size; screens sent loose)

G. Jamb Extensions: Jamb extensions are shipped loose to be field installed.

1. Finish: match interior frame finish.

2. Other wood species available: [Pine (standard)] [Alder] [Fir] [Maple] [Oak] [Cherry] [Mahogany] [Walnut] [Bamboo] [other]

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: [beveled-standard] [ovolo].
5. Other wood species available: [Pine (standard)] [Alder] [Fir] [Maple] [Oak] [Cherry] [Mahogany] [Walnut] [Bamboo] [other]

I. Grilles-in-the-Airspace: Installed inside the hermetically sealed glass unit.

1. Material: [standard: aluminum profiled bars, 3/4 inch (19mm) wide, available for units with 7/8 inch (22mm) insulating glass] [aluminum flat bars, 5/8 inch (16mm) wide] [Brass pencil bars, 5/16 inch (8mm) wide, available for units with 7/8 inch (22mm) insulating glass] [Pewter pencil bars, 5/16” (8mm) wide, available for units with 7/8 inch (22mm) insulating glass].
2. Color options: [3/4 inch Profiled bars: White, Beige, Sand, Rustic, Hartford Green, Chutney, Light Wood & Dark Wood faux finishes] [5/8” Flat bars: White, Beige, Sand, Rustic, Hartford Green, Chutney, Light Wood & Dark Wood faux finishes, Brass] [Two-tone contour or flat grilles available with light or dark wood faux finishes to the interior and White to the exterior.

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] [1-3/8 inch (35mm) wide] [1-3/4 inch (44mm) wide] [2-1/4 inch (57mm) wide] [4-1/2 inch (114 mm)]. On some 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] [Black finish].

4. Exterior surface finish: To match frame and sash exterior. (Some limitations apply for PDL bars on special grid patterns.)

**2.03 GLAZING**

1. Glass:
2. Standard one lite IG is 7/8 inch (23mm) with tempered LoE2-270, argon filled.

[Triple Glaze option: standard one lite IG is 1-3/8 inch (35mm) with tempered LoE2-270, argon filled.]

1. Standard IG has standard design pressure of \_\_ psf (DP \_\_). See Website www.kolbewindows.com for ratings.
2. High altitude IG has open breather tube.
3. All glass is select quality complying with FS-DD-G-451D.
4. IG complies with IGCC and ASTM E2190-08’.
5. Glazing Methods:
6. 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 bottom wood glazing bead.

C. Glass Options:

1. [LoE3 340 – Glare Control - tempered] [LoE3 366 - tempered]. [ThermaPlus LoE glass has a [LoE²-270] [LoE³-366] option on surface 2 and a LoE hard coat on surface 4 plus permanent coating (interior pane)-tempered].
2. Tempered Patterned, 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.)

D. Glazing Bead Options:

1. Beveled profile is standard. Options: [ovolo] [square]

**2.04 ACCESSORIES AND TRIM**

*Edit for project requirements.*

1. Installation Accessories:

**For Individual, Door Units:**

1. Galvanized steel installation clips.
2. Mull anchors.
3. Strip mull anchors.

##### PART 3 EXECUTION

**3.01 EXAMINATION**

1. 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.
2. 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**

1. 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