SECTION 08 88 59 – INSULATING GLASS UNITS WITH INTEGRATED BLINDS

 GENERAL

 ADMINISTRATIVE REQUIREMENTS

 Pre-Installation Conference:

 Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] [Design/Builder,] installer, and related trades.

 Review: Project conditions, manufacturer requirements, delivery and storage, staging and sequencing, and protection of completed work.

 SUBMITTALS

 Action Submittals:

 Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.

 Product Data: Descriptive data and performance attributes for vision control glass.

 Samples: [8-1/2 x 13-1/2] [\_\_ x \_\_] inch [216 x 343] [\_\_ x \_\_] mm vision control glass samples.

 Informational Submittals:

 Certificate of Compliance: Certification that installed products meet specified design and performance requirements.

 Closeout Submittals:

 Operation and Maintenance Data.

 QUALITY ASSURANCE

 Regulatory Requirements:

 Provide [tempered] [laminated] safety glass for locations subject to human impact as required by [Building Code.] [\_\_\_\_.]

 Safety glass: Tested and labeled to CPSC 16 CFR 1201.

 Installer Qualifications:

 Firm specializing in work of this Section, with minimum [2] [\_\_] years’ experience.

 Fire Rated Glass Assemblies: Conform to ASTM E119 and [ANSI/UL 9] [ANSI/UL 10B] [ANSI/UL 10C] [CAN4-S106].

 Mockup:

 Provide mockup of insulating glass unit.

 Locate [where directed.] [\_\_\_\_.]

 Approved mockup may [not] remain as part of the Work.

 WARRANTY

 Insulating Glass Units with Integrated Blind Assemblies: Provide glass assembly manufacturer’s [5] [10] year warranty providing coverage against material obstruction of glass units by dust or film formation due to failure of hermetic seal.

 Fire-Rated Glass: Provide glass manufacturer’s 5 year warranty providing coverage against manufacturing defects resulting in material obstruction through glass, glass edge separation, and changes in properties of interlayer.

 PRODUCTS

 MANUFACTURERS

 Contract Documents are based on ViuLite by Unicel Architectural Corp., 800-668-1580, [www.unicelarchitectural.com.](http://www.unicelarchitectural.com.)

 Substitutions: [Under provisions of Division 01.] [Not permitted.]

 MATERIALS – GLAZING

 Clear Tempered Glass: ASTM C1048, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select, Kind FT fully tempered.

 Tinted Tempered Glass:

 Type: ASTM C1048, Type 1 transparent flat, Class 2 tinted heat absorbing and light reducing, Quality q3 glazing select, Kind FT fully tempered.

 Color: [Blue.] [Green.] [Bronze.] [Gray.] [\_\_\_\_.]

 Fire-Rated Glass:

 Source: Pilkington Pyrostop manufactured by Pilkington Group and distributed by Technical Glass Products.

 Composition: Multiple sheets of Optiwhite high visible light transmission glass laminated with intumescent interlayer.

 Fire rating and thickness: [45 minute rating, [3/4 inch] [19 mm] thick.] [60 minute rating, [7/8 inch] [1-1/6 inches] [22] [27] mm thick.] [90 minute rating, [1-7/16 inches] [37 mm] thick.

 [\_\_\_\_] Glass: [\_\_\_\_].

 Clear Tempered Glass: ASTM C1048, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select, Kind FT fully tempered.

 Clear Heat Strengthened Glass: ASTM C1048, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select, Kind HS heat strengthened.

 Tinted Glass:

 Type: ASTM C1036, Type 1 transparent flat, Class 2 tinted heat absorbing and light reducing, Quality q3 glazing select.

 Color: [Blue.] [Green.] [Bronze.] [Gray.] [\_\_\_\_.]

 Tinted Tempered Glass:

 Type: ASTM C1048, Type 1 transparent flat, Class 2 tinted heat absorbing and light reducing, Quality q3 glazing select, Kind FT fully tempered.

 Color: [Blue.] [Green.] [Bronze.] [Gray.] [\_\_\_\_.]

 Tinted Heat Strengthened Glass:

 Type: ASTM C1048, Type 1 transparent flat, Class 2 tinted heat absorbing and light reducing, Quality q3 glazing select, Kind HS heat strengthened.

 Color: [Blue.] [Green.] [Bronze.] [Gray.] [\_\_\_\_.]

 Laminated Glass:

 Comply with ASTM C1172 and ANSI Z97.1.

 Laminate two layers of glass with laminating film by manufacturer's standard heat and pressure process.

 Leaded Glass:

 [Laminated leaded,] [Annealed leaded with applied security film,] nominally [1/4] [3/8] [1/2] [3/4] inch [6] [10] [13] [19] mm thick.

 Lead equivalency: [1.6 mm Pb.] [2.0 mm Pb.] [3.0 mm Pb.] [3.2 mm Pb.]

 Low-Emissivity Coated Glass: Clear glass with hard coat low-emissivity coating applied to No. [2] [3] glass surface.

 Fire-Rated Glass: Pyrostop by Pilkington.

 Polycarbonate Sheet:

 Type: ANSI Z97.1; plastic compound, ultraviolet stabilized, abrasion resistant coated.

 Color: [Clear.] [Translucent.] [Grey tint.] [Bronze tint.] [Light green tint.] [\_\_\_\_.]

 MATERIALS - BLINDS

 Head Rail:

 Description: Extruded aluminum, 0.8 inch 20 mm wide x 2.2 inches 55 mm high, with 0.24 inch 5 mm pelmet to reduce light passing between first slat and head rail.

 Finish: Powder coated to coordinate with slats.

 Color: [White.] [Silver.] [Beige.] [To be selected from manufacturer’s full color range.]

 Slats:

 Description: Aluminum, 0.5 inch 12.5 mm wide x 0.008 inch 0.2 mm thick.

 Finish: High-resistance polyester paint, non-fogging.

 Color: [White.] [Silver.] [Beige.] [To be selected from manufacturer’s full color range.]

 Bottom Rail:

 Description: Extruded aluminum, two interlocking profiles, 0.56 inch 14 mm wide x 0.4 inch 10 mm high.

 Finish: High-resistance powder coated.

 Color: [White.] [Silver.] [Beige.] [To be selected from manufacturer’s full color range.]

 Ladder Tape:

 Description: Thermo-fixed 100 percent polyester, 0.4 inch 10 mm pitch, treated to prevent release of chemical products inside insulating glass.

 Color: Coordinated with slats.

 Internal Cord: Thermo-fixed 100 polyester, 0.04 inch 1.0 mm diameter, with high resistance internal core, white.

 MATERIALS - GLASS SPACER BARS

 Spacer Bars: Extruded aluminum.

\*\*\*\* OR \*\*\*\*

 Warm Edge Spacer Bars: Co-extruded stainless steel and polypropylene.

 MATERIALS - OPERATORS AND CONTROLS

 Wand: Rotation of wand activates rotation of magnet, resulting in rotation of blinds.

 Cord: Closed-loop cord activates rotation of magnet, resulting in rotation and lifting of blinds.

 Frontal Knob: Rotation of knob activates rotation of magnet, resulting in rotation of blinds.

 ABS Anti-Ligature Knob: Rotation of knob activates blind rotation.

 Removable Key Operator: Rotation of key activates blind rotation.

 Aluminum Knurled Knob: Rotation of knob activates blind rotation.

 Chromed Brass Anti-Ligature Knob: Rotation of knob activates blind rotation.

 Zinc Crank Handle: Rotation of crank handle activates blind rotation.

 ABS Slider: Movement of slider activates blind rotation and lifting.

 Externally Mounted Motor: Activation of wall switch or remote control activates blind rotation [and lifting].

 Internally Mounted Motor: Activation of wall switch or remote control activates blind rotation [and lifting].

 MOTORS

 Internal Motor:

 Power supply voltage: 24 VDC, maximum consumption 0.45A.

 Motor: Brushless slotted sensored rotor with four rare-earth magnet poles.

 Planetary reducer:

 Steel, High-resistance, hardened and self-lubricated sintered gears.

 Satellite holder with rolls in steel, external rim in steel broach; double bearing at outlet.

 Corner keys: Patented corner keys; corner key fitted on motor side equipped with integrated contacts.

 External connector: Three-pole connector, gold-plated terminals.

 Electronic card: Minus 4 to plus 194 degrees F Minus 20 to plus 90 degrees C operating range; control encoder, speed limiter, and motor safety function.

 Accessories:

* + - * 1. Dedicated switching power supplier.
				2. Control unit.
				3. Control unit with radio receiver.
				4. Radio remote control; [white.] [gray.]
				5. Control unit with KNX interface.

 External Motor:

 Power supply voltage: 24 V DC.

 Include support unit and removable body.

* + - * 1. Support unit contains external connection contacts and is applied onto magnet of integral blind.
				2. Removable body incorporating motor and electrical board.

 Operation LED and dip-switch for board configuration accessed from external glass cover.

 Rotating-case brushless motor mounted on bearings, directly coupled with external motor magnet.

 Electrical board controls functions of motor, including blind stops, recognizing natural end stops and memorizing them.

 End stops manually adjustable.

 ACCESSORIES

 Glazing Accessories: Specified in Section [08 80 00.] [\_\_ \_\_\_\_.]

 FABRICATION

 Sealed Insulating Glass: Factory assembled, consisting of sealed glass panes separated by dehydrated interspaces, to ASTM E2190.

 Glass Identification:

 Apply manufacturer's label indicating type and thickness to each light of glass. Show position of exterior face when installed.

 Etch manufacturer's label on each light of tempered glass.

 EXECUTION

 INSTALLATION

 Install in accordance with glass manufacturer's instructions, approved Shop Drawings, and GANA Manual.

 SCHEDULES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BLINDDESIGNATION | EXTERIOR LITE | INTERIOR PANE  | OPERATOR | FUNCTION |
|  |  |  |  |  |
| BL1 | 0.4 inch 10 mm thick, gray tinted, tempered | 0.24 inch 6 mm thick, clear, tempered | Internal motor, wall switch | Tilt only, argon filled |
| BL2 | 0.4 inch 10 mm thick, laminated, clear color interlayer | 0.4 inch 10 mm thick, laminated, clear | Slider  | Tilt and raise |
| BL3 | 0.24 inch 6 mm thick, clear, tempered | 0.24 inch 6 mm thick, clear, tempered | Frontal knob | Tilt only |

END OF SECTION