**SECTION 08 88 62 – IMPACT-RATED VISION CONTROL GLASS UNITS (EXTERIOR)**

1. 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:

 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.

 Closeout Submittals:

 Maintenance Instructions.

 SYSTEM DESCRIPTION

 Vision Control Glass: Control vision through insulating glass unit assemblies by means of rotating, cordless, interlocking, [horizontal,] [vertical,] extruded aluminum louvers with rotation controlled [manually.] [by means of electric motor.]

 Design Requirements:

 Design wind pressure: In accordance with [ASCE 7.] [Building Code.] [\_\_\_\_.]

 Movement: Ambient temperature range of [120] [\_\_] degrees F and a surface temperature range of [160] [\_\_] degrees F.

 System design to be performed by qualified professional engineer licensed in [\_\_\_\_].

 Performance Requirements:

 Air infiltration: Average of 0.02 CFM per square foot, tested to ASTM E283/E283M at static air pressure differential of 6.27 PSF.

 Water penetration: No water penetration as defined in AAMA 501, tested to ASTM E331 at static air pressure differential of 42 PSF.

 Uniform structural loading: No glass breakage or permanent damage to fasteners or system components, tested to ASTM E330/E330M at 100 PSF.

 QUALITY ASSURANCE

 Impact-Rated Vision Control Glass Units: Certified to AAMA 501.8 for 2000 foot-pound human impact resistance.

 Regulatory Requirements:

 Provide impact-resistant glazing for locations subject to human impact as required by [Building Code.] [\_\_\_\_.]

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

 Installer Qualifications: Minimum [2] [\_\_] years’ experience in work of this Section.

 Electrical Components: Listed by [UL.] [ULC.]

 Mockup:

 Provide mockup of vision control glass unit.

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

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

 WARRANTIES

 Framing System: Manufacturer’s 5 year warranty against defects in materials including bending, warping, and sagging and deterioration of metals under normal weathering, use, and service.

 Vision Control Glass Units: Manufacturer’s 10 year warranty against malfunction, mechanism failure and premature wear of internal parts, and material obstruction of vision control glass units by dust or film formation due to failure of hermetic seal.

 PRODUCTS

 MANUFACTURERS

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

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

 MATERIALS

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

 Polycarbonate Sheet:

 Type: ANSI Z97.1; plastic compound, ultraviolet stabilized, non-yellowing [, abrasion resistant coated].

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

 Aluminum Extrusions: ASTM B221.

 MANUFACTURED UNITS

 Impact-Rated Vision Control Glass Units

 Perimeter framing system: Tubular aluminum curtain wall profile, pressure glazed, sized to loading conditions.

 Sealed insulating glass units:

* + - * 1. Impact side: 1/2 inch 13 mm thick clear polycarbonate sheet.
				2. Airspace: [2-1/2] [2] [1-1/4] inches [63] [50] [31] mm.
				3. Non-impact side: 1/4 inch 6 mm thick clear tempered glass.

 Louvers: Cordless, hollow extruded aluminum, interlocking profile.

 Operator: [Removable hand crank.] [Removable knob.] [Ligature-resistant knob.] [[Somfy] [Baldor] [Pittman] motor operator with flexible shaft.]

 FABRICATION

 Sealed Insulating Glass Units: Comply with ASTM E2190.

 Laminated Glass: Comply with ASTM C1172 and ANSI Z97.1.

 FINISHES

 Aluminum Framing: AAMA 611, Architectural Class II anodized, [clear.] [[light] [medium] [dark] bronze] [black] [\_\_\_\_] color.]

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

 Aluminum Framing: AAMA 2603, PPG Duracron acrylic extrusion coating, [Glossy White K-1285 color,] [Metallic Gray K-20794 color.] [custom color to be selected.]

 Aluminum Framing:

 Type: AAMA 2603, thermosetting acrylic resin coating.

 Source: Duracron by PPG Industries, Inc. or equivalent.

 Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

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

 Aluminum Framing:

 Type: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins.

 Source: Duranar by PPG Industries, Inc. or equivalent.

 Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

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

 Aluminum Framing:

 Type: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins.

 Source: Duranar Powder Coating by PPG Industries, Inc. or equivalent.

 Color: [Custom] [\_\_\_\_] color.] [To be selected from manufacturer's full color range.]

 Louvers: AAMA 2603, PPG Duracron acrylic extrusion coating, [Glossy White K-1285 color,] [Metallic Gray K-20794 color.] [custom color to be selected.]

 EXECUTION

 INSTALLATION

 Install in accordance with vision control glass unit manufacturer's instructions and approved Shop Drawings.

END OF SECTION