

GUIDE

SPECIFICATION

Manufacturer:

U.S. Aluminum

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SECTION 08 44 13 GLAZED ALUMINUM CURTAIN WALLS

StormWall XL

This guide specification has been prepared by U.S. Aluminum in printed and electronic format as an aid to specifiers in preparing written construction documents for glazed aluminum curtain wall systems.

This section includes aluminum exterior curtain wall systems for multi-story cladding, shop fabricated, factory pre-finished.

Section 01 41 10 is intended for use along with this section; coordinate requirements accordingly.

Sealants are referenced in Section 07 92 00, Joint Sealants.

Glass and glazing are referenced in Section 08 81 00, Glass and Glazing.

Firestopping is referenced in Section 07 27 00.

Where a storefront or slope glazed system integrates with curtain wall system, carefully coordinate both sections to function together, or alternately include extracts from sections 08 41 13 and 08 44 13 in this section as appropriate.

Refer to AAMA Curtain Wall Design Guide Manual for description of the rain screen principle and pressure equalized wall design. Rain screen is usually used on sophisticated curtain walls in northern climates.

Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements.

Editor notes are included within the text of this section to assist the Specifier in knowledgeable decision-making.

This guide specification is written using imperial measurements with metric conversions in parentheses behind. These may be switched or one may be deleted to suit project requirements. The conversion to metric is "soft" in the fact that rounding was utilized to the nearest unit.

PART 1 - GENERAL

1.01 SUMMARY

A. Related Documents: Conditions of the Contract, Division 1 - General Requirements, and Drawings apply to Work of this Section.

. Edit this paragraph to briefly describe the contents of the section. After editing section, refer back to this paragraph to verify no conflicts exist.

B. Section Includes:

1. Aluminum curtain wall systems complete with reinforcing, shims, anchors, [operable concealed vents] and attachment devices.
2. Accessories necessary to complete Work.

C. Products Furnished But Not Installed Under this Section: Inserts and anchoring devices, which are to be built into structure.

This document incorporates CSI (Construction Specifications Institute) Manual of Practice and MasterFormat (2011 edition) principles of cross referencing to Division 1 sections and other sections. The cross references must be edited to retain only those other sections used. Other guide specifications for U.S. Aluminum products include:

Section 08 32 13 - Aluminum Framed Mall Sliding Doors

Section 08 41 13 - Aluminum - Framed Entrances and Storefronts

Section 08 42 36 – Aluminum Balanced Entrances

Section 08 43 29 – Aluminum Elephant Sliding Storefront System

Section 08 43 13 - Aluminum - Framed Window Walls

Section 08 05 13 – Aluminum Windows

Section 08 70 00 – Hardware

D. Related Sections:

1. Section 08 80 00 - Glazing
2. Section 08 41 13 – All Glass Entrances.
3. Section 08 42 33 – Revolving Entrance Doors.
6. Section 08 43 13 – Aluminum Framed Storefronts and Window Walls.
7. Section 08 71 00 – Door Hardware
8. Section 08 81 00 – Glass and Glazing
9. section 08 44 33 – Slope Glazed System
10. Section 12 51 00 – Horizontal Louvers

List reference standards that are included within the text of this section. Edit the following as required for project conditions.

1.2 REFERENCES

- A. Aluminum Association (AA):
 - 1. DAF-45 Designation System for Aluminum Finishes.
- B. American Architectural Manufacturers Association (AAMA):
 - 1. Aluminum Curtain Wall Design Guide Manual.
 - 2. 501.2 Field Check of Metal Curtain Walls for Water Leakage.
 - 3. 1503.1 Test Method for Condensation Resistance of Windows, Doors and Glazed Wall Systems.
 - 4. 2603,2604, 2605
Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - 5. 607.1 Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
 - 6. 608.1 Specification and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum.
 - 7. Manual #10 Care and Handling of Architectural Aluminum From Shop to Site.
- C. American National Standards Institute (ANSI):
 - 1. Z97.1 Specifications and Methods of Test for Safety Glazing Material Used in Buildings.
- D. American Society for Testing and Materials (ASTM):
 - 1. A36 Structural Steel.
 - 2. B209 Aluminum and Aluminum-Alloy Sheet and Plate.
 - 3. B221 Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
 - 4. B308 Aluminum-Alloy 6061-T6 Standard Structural Shapes, Rolled or Extruded.
 - 5. C509 Cellular Elastomeric Pre-formed Gasket and Sealing Material.
 - 6. C864 Dense Elastomeric Compression Seal Gaskets, Setting Blocks and Spacers.
 - 7. C920 Elastomeric Joint Sealants.
 - 8. E283 Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.
 - 9. E330 Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
 - 10. E331 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
- E. Federal Specifications (FS):
 - 1. TT-P-645A Primer, Paint, Zinc Chromate, Alkyd Type.
- F. Flat Glass Marketing Association (FGMA):
 - 1. Glazing Manual.

Use this article carefully; restrict statements to identify system performance requirements or function criteria only. Delete paragraphs not appropriate to project.

Performance specifying permits system manufacturers the latitude to adjust or redesign proprietary systems to achieve specified requirements. Rely on this article as the "anchor" for curtain wall system specifying and minimize the material and component statements so not to conflict with performance criteria.

Edit system requirements carefully and include only applicable performance criteria. Make sure there is no conflict with proprietary information listed in part 2.

1.3 SYSTEM REQUIREMENTS

- A. General Standard: In addition to requirements shown or specified, comply with applicable provisions of Florida Building Code Test Protocol TAS-201, TAS-202 and TAS-203, ASTM 1996 and 1886 and the Aluminum Curtain Wall Design Guide Manual for design, materials, fabrication and installation of component parts.
- B. Design Requirements: Based on specific project design load
 1. Metal stick framed systems with interior and exterior exposed metal framing.
 2. System manufacturer shall provide curtain wall systems, including necessary modifications to meet specified requirements and maintaining visual design concepts.
 3. Fabricate glazing systems for [interior] [exterior] glazing at vision areas and [interior] [exterior] glazing at spandrel areas.
 4. Perimeter conditions shall allow for installation tolerances, expansion and contraction of adjacent materials, and sealant manufacturer's recommended joint design.
 5. Drawings are diagrammatic and do not purport to identify nor solve problems of thermal or structural movement, glazing, anchorage or moisture disposal.
 6. Requirements shown by details are intended to establish basic dimension of unit, sight lines and profiles of members.
 7. Do not assume glass, sealants and interior finishes contribute to framing member strength, stiffness or lateral stability.
 8. Assemblies shall be free from rattles, wind whistles and noise due to thermal and structural movement and wind pressure.
 9. Attachment considerations are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.
 10. Anchors, fasteners and braces shall be structurally stressed not more than 50% of allowable stress when maximum loads are applied.
 11. Allow for expansion and contraction without detriment to appearance or performance.
 12. System shall drain to the exterior of system any water entering system.
 13. Provide concealed fastening.

14. Metal faces are required to be visually flat under all lighting conditions, subject to acceptance of Architect.
15. Provide uniform color and profile appearance at components exposed to view.

Retain item below when structural silicone glazing is utilized.

16. [Stresses placed on structural silicone sealants shall be kept within sealant manufacturer's recommended maximum.]
 17. Not Permitted: Vibration harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system.
- C. Performance Requirements:
1. Air infiltration: Air leakage through fixed light areas of storefront shall not exceed 0.02 cfm per square foot of surface area when tested in accordance with Florida Building Code Test Protocol (TAS-202) and ASTM E 283 at differential static pressure of 6.24 psf.
 2. Water infiltration: No uncontrolled leakage when tested in accordance with Florida Building Code Test Protocol (TAS-202) and ASTM E331 at test pressure of 15 psf.
- D. Thermal Requirements:
1. Framing systems shall accommodate expansion and contraction movement due to surface temperature differentials of 180F without causing buckling, stress on glass, failure of joint seals, excessive stress on structural elements, reduction of performance, or other detrimental effects.
 2. Ensure doors function normally within limits of specified temperature range.
- E. Hurricane Resistance Requirements
1. Small Missile Impact per Florida Building Code Test Protocol TAS-201 and ASTM E 1996
Large Missile Impact per Florida Building Code (TAS-201) and ASTM E 1996
 2. Cyclic Load Test per Florida Building Code Test Protocol (TAS-203) and ASTM E 1886 test requirements.
 3. Uniform Static Load Test per Florida Building Code Test Protocol (TAS-202) and ASTM E 330.

Coordinate wind loads with applicable building code, or appropriate wind loads may be determined by using ASCE 7-98, "Minimum Design Loads for Buildings and Other Structures". Edit following paragraph accordingly.

Boundary layer wind tunnel testing may be necessary for determining design wind loads when building shape is other than rectangular in plan, site location has unusual wind conditions, or building is critically located with respect to other nearby buildings.

- F. Structural Requirements, as measured in accordance with ANSI/ASTM E330:
1. Wind loads for exterior assemblies:
 - a. Basic loading:
 - 1) [+100 Maximum] psf acting inward for StormWall XL Captured Wet-Glazed Option
 - 2) [-100 Maximum] psf acting outward for StormWall XL Captured Wet-Glazed Option
 - 3) [+70 Maximum] psf acting inward for StormWall XL Captured Dry-Glaze Option
 - 4) [-70 Maximum] psf acting outward for StormWall XL Captured Dry-Glaze Option
 - 5) [+90 Maximum] psf acting inward for StormWall XL Structural Silicone Glazed Option
 - 6) [-90 Maximum] psf acting outward for StormWall XL Structural Silicone Glazed Option
- G. Laboratory Testing: In accordance with Florida Building Code Test Protocols TAS-201, TAS-202, TAS-203 and ASTM E 1886 and 1996 test procedures.

Include submittal requirements below, which are consistent with scope of project and extent of work of this section. Only request submittals, which are absolutely necessary.

1.01 SUBMITTALS

- A. General: Submit in accordance with Section 01300.
- B. Product Data:
 - 1. Submit manufacturer's descriptive literature for each manufactured products.
 - 2. Include information for factory finishes, accessories and other required components.

Retain item below when manufacturer's standard colors are specified for pigmented finishes; coordinate with finish article.

- 3. Include color charts for finish indicating manufacturer's standard colors available for selection.]
- C. Shop Drawings:
 - 1. Submit drawings indicating elevations, detailed design, dimensions, member profiles, joint locations, and arrangement of units, member connections, and thickness of various components.
 - 2. Show following items:
 - a. Details of special shapes.
 - b. Reinforcing.
 - c. Drainage details and flow diagrams.
 - d. Anchorage system.
 - e. Interfacing with building construction.
 - f. Provisions for system expansion and contraction
 - [g. Thermal breaks.]
 - 4. Indicate glazing details, methods, [locations of various types and thickness of glass] [, emergency breakout locations,] and internal sealant requirements.
 - 5. Clearly indicate locations of exposed fasteners and joints for Architect's acceptance.
 - 6. Clearly show where and how manufacturer's system deviates from Contract Drawings and these Specifications.
- D. Mock-up Drawings: Submit drawings for mock-ups; refer to Section 01430 for mock-up requirements.

Retain data within brackets in first subparagraph when pigmented finish is specified; coordinate with article 2.07.

- E. Samples:
 - 1. Submit manufactures samples indicating quality of finish in required colors.
 - 2. Where normal texture or color variations are expected, include additional samples illustrating range of variation.
 - 3. Submit samples of structural glazing gaskets, 12-inch lengths.
 - 4. Submit samples of sealants for color selection.

***** OR *****

Following paragraph permits option to submit results of pre-tested existing fixed window designs. Retain when applicable.

- F. Test Reports: Submit certified copies of previous tests reports by independent laboratory substantiating performance of system. Include other supportive data as necessary.
 - 1. Submit manufacturer's certification stating that installed system is in compliance with specified requirements
- I. Manufacturer's Instructions: Submit manufacturer's printed installation instructions. [Include detailed Instructions describing each step of re-glazing procedures.]

- J. Warranty: Submit specified warranties.

Include quality assurance requirements consistent with size and scope of project and extent of work of this section. Edit following article accordingly.

1.02 QUALITY ASSURANCE

CRL-U.S.Aluminum is unique in the industry in single source responsibility. First, system design, extrusion, fabrication, and finishing occur at the same facility, and under strict tolerances, assuring uniformity of profile and finishes between systems. Second, CRL-U.S.Aluminum products include a full array of storefront, curtain wall, all glass entrances, sliding mall fronts, sloped glazing, and flush faced aluminum framed doors, allowing the designer and specifier a single source of responsibility when combining products from any of these categories.

- A. Single Source Responsibility:
1. Provide curtain wall systems that are products of a single manufacturer.
- B. Engineer Qualifications: Professional Structural Engineer registered in State where Project is located.
- C. Installer Qualifications: Certified in writing by system manufacturer as qualified for specified systems.

Depending on scope of work, mock-ups may not be required; retain and edit following article accordingly. Ensure section 01430 includes details for each mock-up required.

Depending on scope of work, pre-installation conference may not be required. Retain article below when applicable and edit accordingly.

1.03 PREINSTALLATION CONFERENCE

- A. Conduct pre-installation conference in accordance with Section 01200.

Retain paragraph below when structural silicone glazing is required.

B.Conference Purpose and Agenda:

1. Arrange with Architect and representatives of window and sealant manufacturer to visit Project site [factory] before beginning glazing operations to analyze site conditions, and inspect surfaces and joints to be sealed in order that recommendations may be made should adverse conditions exist.
2. Discuss following items:
 - a. Weather conditions under which work will be done.
 - b. Anticipated frequency and extent of joint movement.
 - c. Joint design.
 - d. Glazing procedures.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Section 01600.
- B. Protect finished surfaces to prevent damage.
- C. Do not use adhesive papers or sprayed coatings, which become firmly bonded when exposed to sun.
- D. Do not leave coating residue on surfaces.

1.05 PROJECT CONDITIONS

- A. Ensure ambient and surface temperatures and joint conditions are suitable for installation of materials.

1.06 WARRANTY

- A. Provide warranties in accordance with Section 01700.

- B. Provide written warranty in form acceptable to Owner jointly signed by manufacturer, installer and Contractor warranting work to be watertight, free from defective materials, defective workmanship, glass breakage due to defective design, and agreeing to replace components which fail within 1 year from date of Substantial Completion.

- C. Warranty shall cover following:
 - 1. Complete watertight and airtight system installation within specified tolerances.
 - 2. Glass and glazing gaskets will not break or "pop" from frames due to design wind, expansion or contraction movement or structural loading.
 - 3. Glazing sealants and gaskets will remain free from abnormal deterioration or dislocation due to sunlight, weather or oxidation.

Delete paragraph below if high performance fluoropolymer finish not used.

- D. Provide written warranty stating organic coating finish will be free from fading more than 10%, chalking, yellowing, peeling, cracking, pitting, corroding or non-uniformity of color, or gloss deterioration beyond manufacturer's descriptive standards for 5 years from date of Substantial Completion and agreeing to promptly correct defects.

PART 2 - PRODUCTS

2.01 MANUFACTURERS AND PRODUCTS

In this article, list the manufacturers acceptable for this project.

- A. Subject to compliance with requirements indicated, provide products by one of the following:
 - 1. **U.S. Aluminum**
2450 E. Vernon Ave Los Angeles, California 90058-1802
Toll Free Phone: (800) 262-5151 Phone: (323) 268-4230
Toll Free Fax: (866) 262-3299
Email: usalum@crlaurence.com
www.usalum.com
- B. Substitutions: Submit under provisions of Section 01630, a minimum of 10 days prior to bid date.

U.S.Aluminum Curtain Wall systems included in this section are as follows:

StormWall XL IMPACT-RESISTANT SYSTEM - 2-1/2" x 7-1/2" mullion profiles; pressure glazed, front set, exterior glazed, stick wall system; available with vertical structural glazed mullion option, structural sealant-glazed and dry-glazed full gasket option; accommodates 1-5/16" laminated Insulating glass

2.02 FRAMING MATERIALS AND ACCESSORIES

- A. Aluminum:
 - 1. ASTM B221, alloy 6063-T6 for extrusions; ASTM B209, alloy 5005-H16 for sheets; or other alloys and temper recommended by manufacturer appropriate for specified finish.
 - 2. Minimum thickness of 0.094 inch for framing members and 0.050 inch for glazing stops and similar components.

- B. Internal Reinforcing:
 - 1. ASTM A36 for carbon steel; or ASTM B308 for structural aluminum.
 - 2. Shapes and sizes to suit installation.
 - 3. Shop coat steel components after fabrication with alkyd type zinc chromate primer complying with FS TT-P-645.

- C. Inserts and Anchorage Devices:

1. Manufacturer's standard formed or fabricated assemblies, steel or aluminum, of shapes, plates, bars or tubes.
2. Hot-dip galvanize steel assemblies after fabrication; comply with ASTM A123, 2.0 ounce minimum coating.

***** OR *****

- [3. Shop coat steel assemblies after fabrication with alkyd type zinc chromate primer complying with FS TT-P-645.]
- D. Fasteners:
1. Non-magnetic stainless steel or cadmium plated steel coated with yellow or silver iridescence plating, compatible with materials being fastened.
 2. Series 300 stainless steel for exposed locations. Cadmium plated steel with 0.0005 inch plating thickness and color chromate coated for concealed locations.
 3. Provide nuts or washers of design having means to prevent disengagement; deforming of fastener threads is not acceptable.
 4. Provide concealed fasteners wherever possible.
 5. For exposed locations, provide countersunk flathead fasteners with finish matching item fastened.
- E. Expansion Anchor Devices: Lead-shield or toothed-steel, drilled-in, expansion bolt anchors.
- F. Shims: Non-staining, non-ferrous, type as recommended by system manufacturer.
- G. Protective Coatings: Cold applied asphalt mastic complying with SSPC-Paint 12, compounded for 30 mil thickness for each coat; or alkyd type zinc chromate primer complying with FS TT-P-645.
- H. Glazing Gaskets:
1. Compression type design, exterior replaceable, extruded EPDM. Interior is dense EPDM gasket.
 2. Comply with ASTM C509 or C864.
 3. Profile and hardness as necessary to maintain uniform pressure for watertight seal.
 4. Manufacturer's standard black color.

The following is an option with this system.

- I. Internal Sealants: Types recommended by system manufacturer to remain permanently elastic, tacky, non-drying, non-migrating and weather-tight.
- J. Curtain Wall Insulation and Fire Safing: Refer to Sections 07200 and 07270.

Retain paragraph below if architectural aluminum panels are required in curtain wall.

- K. Spandrel Panels and Exterior Column Covers [Soffits and Metal Ceilings]:
1. Type: Aluminum sheet, 1/8 inch thick, suitably reinforced on concealed surface for surface flatness, or prefabricated sandwich panels at manufacturer's option.
 2. Surface flatness: 0.015 inch maximum deviation when measured with 6 inch rule.
 3. Squareness: 0.002 inch maximum for each inch of length at panel edge.
 4. Anchorage: Allow for expansion and contraction, to minimize oil-canning and distortion.

2.03 GLASS AND GLAZING ACCESSORIES

- A. Refer to Section 08810.

2.04 SYSTEM FABRICATION

- A. Take accurate field measurements to verify required dimensions prior to fabrication.
- B. Location of exposed joints are subject to Architect's acceptance.
- C. Provide dense EPDM continuous to separate exterior and interior aluminum framing members from being in contact with each other.
- D. Fabricate components in accord with approved shop drawings. Remove burrs and ease edges. Shop fabricate to greatest extent practicable to minimize field cutting, splicing, and assembly. Disassemble only to extent necessary for shipping and handling limitations.
- E. Steel Components:
 1. Clean surfaces after fabrication and immediately prior to application of primer in accord with SSPC-SP2 or SSPC-SP3 at manufacturer's option.

2. Apply specified shop coat primer in accord with manufacturer's instructions to provide 2.0 minimum dry film thickness.
- F. Fabricate components true to detail and free from defects impairing appearance, strength or durability. [Fabricate custom extrusions indicated and as necessary for complete installation.]
 - G. Fabricate components to allow for accurate and rigid fit of joints and corners. Match components carefully ensuring continuity of line and design. Ensure joints and connections will be flush and weather tight. Ensure slip joints make full, tight contact and are weather tight.
 - H. Reinforce components as required at anchorage and support points, at joints, and at attachment points for interfacing work.
 - I. Provide structural reinforcing within framing members where required to maintain rigidity and accommodate design loads.
 - J. System design and sealants to accommodate internal weep and drainage system not visible to the exterior.
 - K. Head and sill extrusions act as gutter and weep water to exterior; do not penetrate sections with fasteners.
 - L. Allow for adequate clearance around perimeter of system to enable proper installation and for thermal movement within system.
 - M. Separate dissimilar metals with protective coating or preformed separators to prevent contact and corrosion.

Retain paragraph below if solid spandrel and column infill panels are required.

- N. Provide framing members to rigidly glaze spandrel panels and column covers within framing system.
- O. Provide special shapes and filler pieces with tight corners.

2.05 FINISH

- A. Organic Coating (high performance fluorocarbon):
 1. Comply with requirements of AAMA 2605.
 2. Surfaces cleaned and given conversion coating pre-treatment prior to application of 0.3 mil dry film thickness of epoxy or acrylic primer following recommendations of finish coat manufacturer.

Note: A less expensive finish coat containing a minimum of 50% fluorocarbon resin is also available, and meets AAMA 605.2, but with reduced performance over time.

3. Finish coat of [50%] [70%] minimum fluorocarbon resin fused to primed surfaces at temperature recommended by manufacturer, 1.0 mil minimum dry film thickness.
4. Acceptable coatings are Trinar by Akzo Coatings, Inc.; Nubelar by Glidden Company; Fluoroceram by Morton International, Inc.; Duranar by PPG Industries Inc.; and Fluropon by Valspar Corporation.
5. Provide in either 2, 3, or 4 coat system as required for color selected.
6. Custom colors as selected by Architect.

***** OR *****

- [7. Manufacturer's standard colors as selected by Architect.]

***** OR *****

- B. Clear Anodized:
 1. Conforming to AA-M12C22A31 and AAMA 607.1.
 2. Architectural Class I, etched, medium matte, clear anodic coating, 0.7 mil minimum thickness.]

***** OR *****

- C. Color Anodized:
 1. Conforming to AA-M12C22A42 or A43 or A44 and AAMA 606.1 and 608.1.
 2. Architectural Class [I], etched, medium matte, [black] [dark bronze] [medium bronze] [light bronze]

colored anodic coating, [0.7].

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions and proceed with Work in accordance with Section 01400.
- B. Verify dimensions, tolerances, and method of attachment with other Work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions and applicable provisions of AAMA Aluminum Curtain Wall Design Guide Manual.
- B. Align assemblies plumb and level, free of warp or twist, aligning with adjacent Work.
- C. Tolerances:
 - 1. Limit variations from plumb and level:
 - a. 1/8 inch in 20'-0" vertically and horizontally.
 - b. 1/4 inch in 40'-0" either direction.
 - 2. Limit offsets in theoretical end-to-end and edge-to-edge alignment:
 - a. 1/16 inch where surfaces are flush or less than 1/2 inch out of flush and separated by not more than 2 inches.
 - b. 1/8 inch for surfaces separated by more than 2 inches.
 - 3. Step in face: 1/16 inch maximum.
 - 4. Jog in alignment: 1/16 inch maximum.
 - 5. Location: 1/4-inch maximum deviation of any member at any location.
 - 6. Tolerances are not accumulative.
- D. Provide attachments and shims to permanently fasten system to building structure.
- E. Anchor securely in place, allowing for required movement, including expansion and contraction.
- F. Separate dissimilar materials at contact points, including metal in contact with masonry or concrete surfaces, with protective coating or preformed separators to prevent contact and electrolytic action.
- G. Set sill members in bed of sealant. Set other members with internal sealants and baffles to provide weather-tight construction.
- H. Water Drainage: Each light of glass shall be compartmentalized using joint plugs and silicone sealant to divert water to the horizontal weep locations. Weep holes shall be located in the horizontal pressure plates and covers to divert water to the exterior of the building.

Retain paragraph below when applicable.

- H. Do not apply mullion covers until building is closed in, roofing is installed and no alkaline substances can be washed from building onto curtain wall system.

Retain following paragraph when curtain walls are installed adjacent to stone.

- I. Ensure that deadload from curtain wall system is not transferred to stone veneer.
- J. Glazing:
 - 1. Install glazing gaskets and sealants in accordance with manufacturer's instructions without exception,

- including surface preparations. Refer to Section 08810 for additional requirements.
- K. Fire Safing and Curtain Wall Insulation:
1. Install fire safing and curtain wall insulation specified in Section 07200 and 07270.

Delete article below if not applicable.

3.03 FIELD QUALITY CONTROL

Edit paragraph below to include required field tests; air and water infiltration tests usually not required. Coordinate provisions with referenced section.

- A. Field Tests: Independent testing laboratory will perform [air infiltration,] [water infiltration,] [and] hose test; refer to Section 01411 for requirements.

3.04 CLEANING

- A. Clean surfaces in compliance with manufacturer's recommendations; remove excess mastic, mastic smears, and other foreign materials.
- B. Clean metal surfaces exercising care to avoid damage.

END OF SECTION