Purpose and Applications: This guide specification document covers FreMarq Innovations ZERO.NET UCW3500 aluminum unitized curtainwall system with fiberglass thermal barrier. The company began with a goal of providing the highest energy efficiency curtain wall system ever developed, with an overall system U-factor value of less than 0.30 with 1-inch insulated, single Low-E glass.

Product Features: FreMarq Innovations has over 35 years of experience in project applications ranging from new buildings to the retrofit and upgrading of existing systems. The company has developed a unique patented thermal break process that completely isolates the inside metal from all exterior elements. The process used is a composite fiberglass component that is attached to the interior framing. There are no penetrations from the exterior to interior. This thermal break provides U-factor values of less than 0.30 with 1-inch insulated single Low-E glass and condensation resistance factor (CR) values of 60 and above. Glazing is fully captured on all four sides. Once glazed, the thermal break is completely concealed leaving only finished framing or covers exposed to view.

This Document: This guide specification document is provided by FreMarq Innovations as a technical support tool incident to the sale of its products and FreMarq Innovations is solely responsible for the content. This document should be reviewed and edited to suit Project requirements by a qualified design professional. Product data contained in this guide specification is believed accurate as of date of issue. Due to ongoing changes, product data may also change over time. Consult manufacturer for current product information and specific recommendations.

Contact Information: For more information on this or other products made by FreMarq Innovations, contact manufacturer. Mailing address: 8300 Highland Drive, Wausau, WI 54401 Location: 8300 Highland Drive, Wausau, WI 54401. Telephone: (715) 842-6842. Web: www.FreMarqInnovations.com Email: info@FreMarqInnovations.com

Trademarks: This document contains product designations and trademarks registered to their respective owners.

Editor Note: Edit document to suit Project requirements and specifier practice. Specifier notes are shown in blue text like this. Optional text [is shown in bold with brackets like this]. Locations where language for Project-specific requirements is to be inserted are shown like this: <Insert requirements>. Remove specifier notes and unused optional text in final version of the specification document.

Editor Note: The Construction Specifications Institute (CSI) recommends and supports use of its current MasterFormat section title and numbering system. Possible section numbers and titles are shown below. Edit to suit Project requirements.

SECTION 08 44 13 – GLAZED ALUMINUM CURTAIN WALLS (SECTION 08 44 00 – CURTAIN WALL AND GLAZED ASSEMBLIES) (SECTION 08 40 00 – ENTRANCES, STOREFRONTS, AND CURTAIN WALLS)

# PART 1 GENERAL

### 1.1 SUMMARY

A. Section Includes: Glazed aluminum curtain walls, installed as fabricated panel assemblies.

Editor Note: Revise paragraph below to suit Project requirements. Add division or section numbers and titles according to CSI MasterFormat and specifier practice. This paragraph is intended for use only when a reader might reasonably expect to find work requirements in this Section, but those requirements are actually located in another related section.

- B. Related Sections: Sections related to this Section include:
  - 1 < Insert Division or Section Number> : < Insert title>

Editor Note: Standards numbers and titles in the article below are provided for specifier information and reference. The purpose of this Article is to fully identify standards that are referenced elsewhere using abbreviated nomenclature. Retain, edit or delete article to suit specifier practice and Project requirements.

## 1.2 REFERENCES

A. General: Standards listed by reference form a part of this specification section. Standards listed are identified by issuing authority, abbreviation, designation number, title or other designation. Standards subsequently referenced in this Section are referred by issuing authority abbreviation and designation only.

### B. Aluminum Association:

- 1. Aluminum Alloys Aluminum 6063/6063A Properties, Fabrication and Applications (AA 6063T5, AA 6063T6).
- C. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure.
  - 2. AAMA 501.2 Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls and Sloped Glazing Systems.
  - 3. AAMA 501.5 Test Method for Thermal Cycling of Exterior Walls.
  - 4. AAMA 1503: Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
  - 5. AAMA CW-DG-1: Curtain Wall Design Guide Manual.
- D. ASTM International (ASTM):

- 1. ASTM C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
- 2. ASTM C920 Standard Specification for Elastomeric Joint Sealants.
- 3. ASTM C1036 Standard Specification for Flat Glass.
- 4. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.
- 5. ASTM C1184 Standard Specification for Structural Silicone Sealants.
- 6. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- 7. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- 8. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- 9. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- 10. ASTM E783 Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.
- 11. ASTM E1105 Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Wall by Uniform or Cyclic Static Air Pressure.
- 12. ASTM E2190 Standard Specification for Insulating Glass Unit Performance and Evaluation.
- E. Insulating Glass Certification Council (IGCC): Insulating Glass Unit Certification.
- F. Insulating Glass Manufacturers Alliance of Canada (IGMAC) and Canadian General Standards Board (CGSB): Insulating Glass Units Standard CAN/CGSB 12.8-97.
- G. International Organization for Standardization (ISO):
  - 1. ISO 14021 Environmental Labels and Declarations.
- H. National Fenestration Rating Council (NFRC):
  - 1. NFRC 100 Procedure for Determining Fenestration Product U-factors.
  - 2. NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
- 1.3 ADMINISTRATIVE REQUIREMENTS

Editor Note: Retain paragraph below if pre-installation meetings are required and edit to suit Project requirements.

A. Pre-installation Meetings: Conduct pre-installation meeting to clarify Project requirements, substrate conditions, manufacturer installation recommendations and manufacturer warranty provisions.

### 1.4 ACTION SUBMITTALS

A. Product Data: For each component, include manufacturer's site preparation instructions and recommendations, methods of installation, profiles and dimensions, details, anchorage, interfaces with materials not supplied by curtainwall system manufacturer, accessories, requirements for installation, storage, handling and other recommendations.

Editor Note: Retain paragraph below if compliance with a whole-building rating system (such as USGBC LEED, GBI Green Globes, or other), or specific sustainability-related design and construction aspects, is required. Edit to suit Project requirements.

- B. Sustainable Design Submittals: In compliance with [ISO 14021] [or] [Section 01 81 13 "Sustainable Design Requirements"].
- C. Shop Drawings: Showing methods of installation, specified loads, plans, sections, elevations and details, identifying all proposed component parts and finishes including flashings, vents, sealants and interfaces with all materials not supplied by curtain wall manufacturer.
- D. Samples: Selection and verification samples for finishes and colors. Submit two complete sample sets of each type of material required.
- E. Sealant compatibility report prepared by sealant manufacturer.
- F. Certificate of compliance from curtain wall manufacturer that applied finishes meet AAMA standards.

### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification statements for manufacturer and installer.
  - a. Manufacturer letter stating product is fabricated, assemble and glazed by the manufacturer.
- B. Product test reports.
- C. Sample warranty documents.

# 1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For installed system components.
- B. Warranty Documents: Final manufacturer warranty documents.

## 1.7 QUALITY ASSURANCE

### A. Manufacturer Qualifications:

- 1. Over 30 years' experience in the architectural aluminum industry.
- 2. Capable of demonstrating an extended history of successfully supplying fabricated unitized curtain wall systems and a holistic approach to curtain wall system design, innovation, production, application and installation.
- 3. Capable of providing delegated engineering design and documentation including Shop Drawings for the unitized curtain wall system.
- 4. Manufacturer to provide project specific QA/QC documentation by factory fabricated, assembled and glazed unitized panel.

# B. Installer Qualifications:

- 1. Minimum five years' experience in the commercial installation of products required for the Project.
- 2. Experience on at least five projects of similar size, type and complexity as the Project.
- 3. An entity utilizing workers competent in techniques required by manufacturer for product types and applications indicated.

## C. Source Limitations:

- 1. Obtain unitized curtain wall system components from a single manufacturer, bearing country of origin label "Made in USA" indicating that products are "all or virtually all" made in the United States of America.
- 2. Obtain aluminum extrusions from a manufacturer with more than 5 years' experience in the architectural aluminum industry.
- D. Comply with AAMA CW-DG-1.

# 1.8 DELIVERY, STORAGE AND HANDLING

A. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

- B. Palletize loose fabricated extrusions by like size and protect to ensure surface finishes are not damaged during shipping and handling.
- C. Deliver components to Project in manufacturer's original unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store components protected from exposure to damage from construction activities and to adverse weather and harmful environmental conditions, at temperature and humidity conditions recommended by manufacturer.

Editor Note: Coordinate article below with Conditions of the Contract and with Division 01 Closeout Submittals (Warranty) Section.

### 1.9 WARRANTY

- A. Special Warranty: Manufacturer's transferrable, non-prorated limited warranty in which manufacturer agrees to repair or replace curtain wall system components that fail within the warranty period.
  - 1. Warranty Period, Components: [1 year] [5 years] [10 years] < Insert years > from date of substantial completion.

Editor Note: AMMA 2605 finish, 70 percent PVDF provides a standard warranty of 10 years and up to 20 years at additional cost. Finish will not chip, crack or peel. It will not chalk in excess of ASTM D4214, number 8 rating. It will not change color more than 5 delta-E Hunter units as determined by ASTM method D2244. Metallics Delta L only for color change. Exotic finishes require recommended clear top coat.

2. Warranty Period, Painted Finish, AAMA 2605 (70 percent PVDF): [10 years] [20 years] <Insert years> from date of substantial completion.

Editor Note: AAMA 2604 finish, 50 percent PVDF provides a standard warranty of 5 years and up to 10 years at additional cost. Finish will not chip, crack or peel. It will not chalk in excess of ATM D4214 number 8 rating. It will not change color more than 5 Delta-E Hunter units as determined by ASTM method D2244.

3. Warranty Period, Painted Finish, AAMA 2604 (50 percent PVDF): [5 years] [10 years] <Insert years> from date of substantial completion.

Editor Note: Class I Anodized finish is provided with a standard warranty of 5 years and up to 10 years at additional cost. Finish will resist cracking, crazing, flaking or blistering. It will not chalk in excess of ASTM D4218 number 8 rating. It will not change color more than 5 Delta-E Hunter units as determined by ASTM method D2244.

5. Warranty Period, Anodized Finish: [5 years] [10 years] <Insert years> from date of substantial completion.

Editor Note: Retain sub-paragraph below if glazing is specified in this Section and edit to suit Project requirements. Glazing warranty period varies and is dependent on the type and configuration of the glazing and its manufacturer. Consult with the Project curtain wall and glazing manufacturers for more information.

- 6. Warranty Period, Glazing: [5 years] [10 years] <Insert years> from date of substantial completion.
- B. Special Warranty: Installer's transferrable, non-prorated limited warranty in which installer agrees to repair or replace curtain wall system components that fail within the warranty period.
  - 1. Warranty Period: [3 years] [5 years] <Insert years> from date of substantial completion.

## PART 2 PRODUCT

Editor Note: Add product features, performance characteristics, material standards, and descriptions as applicable. Use of terms such as "or equal" or "approved equal" or similar may cause ambiguity in specifications, requiring verification (procedural, legal and regulatory) and assignment of responsibility for the determination of "equal" products. Therefore, it is recommended that terms such as these be avoided.

- 2.1 MANUFACTURER: FreMarg Innovations, 1101 North Mill Street, Merrill, WI
  - A. General: Provide functional unitized curtain wall system complying with design and performance requirements indicated.
  - B. Basis-of-Design Product: Subject to compliance with requirements, provide FreMarq Innovations: ZERO.NET UCW3500 Aluminum Unitized Curtainwall System.
  - C. Substitution Limitations: [No substitutions] [All other manufacturers: Submit substitution request in accordance with Section 01 25 00 "Substitution Procedures"] < Insert substitution limitations > .

Editor Note: Performance requirements for any given project may vary widely. Add or edit requirements in this article to suit Project requirements.

# 2.2 PERFORMANCE REQUIREMENTS

- A. General: Comply with performance requirements indicated, to withstand structural movement, thermal stress, glass breakage or other failures.
- B. Delegated Design: [**Provide**] [**Owner will provide**] design of aluminum curtain walls by a qualified professional engineer, using performance and design criteria indicated. <**Insert requirements**>.
- C. Wind Loads: [As indicated on Drawings] < Insert requirements >.

- D. Air Infiltration, ASTM E283, conducted after structural test (ASTM E330): 0.06 CFM/ft².
- E. Deflection of Framing Members: < Insert requirements >.
- F. Water Penetration, ASTM E331: 12psf.
- G. Dynamic Water Infiltration, AAMA 501.1: 12 psf.
- H. Thermal Cycling and Condensation Assessment, AAMA 501.5: Pass.
- I. Sound Transmission, ASTM E90 and ASTM E413: < Insert requirements >.
- J. Energy Performance:

Editor Note: Coordinate requirements in following sub-paragraphs with specific assembly construction in the "Glazing" article below. Consult with manufacturer for assistance or more information.

- 1. Thermal Transmittance (U-factor), NFRC 100: [0.28] [0.168] <Insert requirements>.
- 2. Solar Heat Gain Coefficient, NFRC 200: < Insert requirements >.
- 3. Frame Condensation Resistance (CR), NRFC-200, of not less than 60.
- 4. Frame Condensation Resistance (CRF), AAMA 1503, of not less than 80

## L. Sealants:

- 1. Design of sealant joints and application shall comply with sealant manufacturer recommendations.
- 2. Provide in the form of a written report for Owner, results of Dow Corning sealant manufacturer adhesion tests to ensure material compatibility and adequate adhesion.

### 2.3 MATERIALS

- A. Pressure Plate and Snap Cover: Aluminum alloy, AA 6063T5 or AA 6063T6.
- B. Reinforcement:
  - 1. Steel, supplied by curtain wall manufacturer and as required to meet design loads indicated for typical and corner zone building conditions.
  - 2. Coated with primer or bituminous paint prior to installation in aluminum framing.
  - 3. Dimensions and attachment as shown in [**Drawings**] [and] [Shop Drawings].

### C. Thermal Barrier:

1. Glass fiber-reinforced polymer, completely covering exterior face of structural aluminum framing member, designed to support weight of glazing infill, with no exposed aluminum in glazing pocket.

## 2.4 FRAMING

# A. Framing Members:

- 1. Aluminum alloy, AA 6063T5 or AA 6063T6 to comply with structural requirements, 1/8-inch wall thickness with screw spline assembly for hair-line joinery with no visible fasteners.
- 2. Dual-gasket, split vertical mullion, continuous pultruded fiberglass thermal break mechanically retained and fastened with stainless steel hexwasher-head fasteners.
- 3. System to be [four-sided captured] [four-sided structural silicone-glazed] [structural silicone-glazed, vertical] [structural silicone-glazed, horizontal] and male to female engagement on vertical mullions with full-length integral extruded anti-rotation clip.
- 4. Glazing infill thickness [1 inch] [1-1/4 inches] [1-3/8 inches] [1-3/4 inches] < Insert requirements > .

# B. Accessories:

- 1. Setting Blocks: Extruded silicone.
- 2. Exterior Gasket: EPDM rubber.
- 3. Interior Gasket: Silicone rubber with one-piece molded corners only.
- 4. Isolator Gasket: EPDM rubber.
- 5. Mullion Weathering Gasket: EPDM rubber.
- 6. End Water Dams: EPDM sponge rubber, closed cell.
- 7. Glass Pocket Filler: PVC, rigid, black.
- 8. Deadload and Windload Anchors: [**Primer-coated steel**] [**Extruded aluminum**], engineered and supplied by curtain wall manufacturer.
- 9. Splice Sleeves: Aluminum alloy, AA 6063T5 or AA 6063T6, fabricated and installed by manufacturer.

## C. Fasteners:

- 1. 1/4-20 hex-washer head, series 300 stainless steel frame assembly screws, not exposed at joinery.
- 2. 3/16 inch coarse thread zinc coated hex-washer head fastener at pressure plate to fiberglass thermal break, not exposed at joinery.

Editor Note: Retain article below if glazing is specified in this section and edit to suit Project requirements. Alternatively, delete article below and coordinate requirements in "Division 08 – Glazing" and the "Related Sections" paragraph above in the "Summary" article within this Section.

2.5 GLAZING

A. Insulated Glazing Units (IGUs): Provide insulating glass units certified through [Insulating Glass Certification Council as conforming to the requirements of IGCC and ASTM E2190] [Insulating Glass Manufacturers Alliance of Canada (IGMAC) conforming to the requirements of Canadian General Standards Board CAN/CGSB 12.8].

Editor Note: Glass unit configurations shown in paragraphs below are typical and are provided for general specifier information. Other combinations to achieve the same performance levels indicated are possible and other combinations to achieve different performance levels are also possible. Contact manufacturer for more information. Editor Note: Retain paragraph below when assembly U-factor value of 0.28 is required and edit to suit Project requirements. Center of Glass (COG) U-factor value is 0.235. Coordinate with "PERFORMANCE REQUIREMENTS" article above.

- B. Glass Unit Makeup for Assembly U-Factor Value 0.28:
  - 1. Manufacturer Designation: < Insert manufacturer designation>.
  - 2. Glazing Configuration: Dual-pane.
  - 3. Exterior Glass: 1/4 inch, low-E triple silver coating on #2 surface, [clear] [tinted] <Insert color requirements> [annealed, ASTM C1036] [fully tempered, ASTM C1048].
  - 4. Interior Glass: 1/4 inch, clear, [annealed, ASTM C1036] [fully tempered, ASTM C1048].
  - 5. Gas Fill: Argon 90/10.
  - 6. Warm-Edge Spacer: 1/2 inch, composite.

Editor Note: Retain paragraph below when assembly U-factor value of 0.168 is required and edit to suit Project requirements. Center of Glass (COG) U-factor value is 0.109. Coordinate with "PERFORMANCE REQUIREMENTS" article above.

- C. Glass Unit Makeup for Assembly U-Factor Value 0.17:
  - 1. Manufacturer Designation:. < Insert manufacturer designation >.
  - 2. Glazing Configuration: Triple pane IGU.
  - 3. Exterior Glass: 1/4 inch, low-E double silver coating on #2 surface, [clear] [tinted] <Insert color requirements> [annealed, ASTM C1036] [fully tempered, ASTM C1048].
  - 4. Warm-Edge Spacer: 3/8", composite.
  - 5. Gas Fill: Krypton 90%, Air 10%.
  - 6. Center Lite: 1/4 inch, low-E double silver coating on #4 surface [annealed, ASTM C1036] [fully tempered, ASTM C1048].

- 7. Warm-Edge Spacer: 3/8", composite.
- 8. Gas Fill: Krypton 90%, Air 10%.
- 9. Interior Glass: 1/4 inch, clear, [annealed, ASTM C1036] [fully tempered, ASTM C1048].
- E. Gaskets: Isolator gasket between thermal barrier and pressure plate to be EPDM. Interior gaskets to have molded one-piece corners to be silicone.
- F. Weatherproofing Sealant: Silicone, meeting ASTM C794, ASTM C920, ASTM C1184, for weather seal at vertical mullion stack joint, at intersection of horizontal to vertical joints and for installation and sealing of foam end dams or coped horizontals as shown in [**Drawings**] [and] [Shop Drawings].
  - 1. Basis-of Design Product: Dow Corning 791.
  - 2. Must be a Dow Corning certified applicator.
- G. Structural Sealant: Silicone, meeting ASTM C794, ASTM C920, ASTM C1184, for structural glazing of glass to framing in either 4 sided captured, 2 sided structural glazed or 4 sided structural glazed as shown in [**Drawings**] [and] [Shop Drawings].
  - 1. Basis-of Design Product: Dow Corning 983.
  - 2. Must be a Dow Corning certified applicator.
  - 3. Tooled silicone structural joints seen at interior of curtain wall is not allowed.

### 2.6 ACCESSORY MATERIAL

Editor Note: Coordinate requirements for mineral wool insulation with Insulation Section.

A. Spandrel Insulation: Mineral wool, [2] [3] [4] inches thick, <**Insert density requirements**> attached to exterior side of galvanized steel back pan gauge [22] [20] [18] using compatible stick pins installed 4 inches on centers.

- 1. Basis-of Design Product: [Thermafiber] [Roxul] < Insert product designation >.
- B. Safing Insulation: Mineral wool, [2] [3] [4] inches thick, <Insert density requirements> installed according to manufacturer's recommendations in safing area between slab edge and back of spandrel panel insulation.
  - 1. Basis-of Design Product: [Thermafiber] [Roxul] < Insert product designation >.

## 2.7 FABRICATION

- A. Formed: Break-formed metal flashings and trim shall be free of warping or oil canning. Form or weld exposed sheet metal prior to finishing. Rough, raw or unfinished exposed edges will not be permitted.
- B. Extruded: Inspect all metal for surface quality and absence of bow and warp. Die lines and scratches on visible surfaces will not be permitted.
- C. Fabricated: Cut extrusions square and free of burrs or sharp edges. Weatherseal frame joinery in factory. Remove waste metal shavings and chips during fabrication of framing system.

### 2.8 METAL FINISHES

Editor Note: Retain one or more paragraphs below and edit to suit Project requirements.

- A. Clear Anodized, AAMA 611: High-performance Class I acid-etched, minimum thickness 0.7 mils.
- B. Color Anodized, AAMA 611: High-performance Class I acid-etched, minimum thickness 0.7 mils. [Black] [Dark Bronze] [Medium Bronze] [Light Bronze] [Champagne].
- C. High Performance Organic, AAMA 2604: PVDF fluoropolymer finish containing minimum 50 percent PVDF resins in a [two] [three] <Insert requirements> coat system, minimum thickness 1.2 mils.
- D. High Performance Organic, AAMA 2605: PVDF fluoropolymer finish containing minimum 70 percent PVDF resins in a [two] [three] <Insert requirements > coat system, minimum thickness 1.2 mils.

# PART 3 EXECUTION

## 3.1 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate and worksite conditions meet or exceed manufacturer recommendations for installation.
- B. Do not begin installation until substrates have been properly prepared and any conditions not in compliance with manufacturer recommendations have been corrected.

## 3.2 PREPARATION

- A. Clean substrates thoroughly prior to installation.
- B. Conduct pre-installation steps in accordance with manufacturer's written recommendations.

## 3.3 INSTALLATION

- A. General: Comply with all manufacturer recommendations, including but not limited to FreMarq installation information in manufacturer product literature and on product packaging.
- B. Comply with recommendations in AAMA CW-DG-1.
- C. Comply with Drawings [and Shop Drawings] for installation of all system components and accessories.

## 3.4 TOLERANCES

- A. Install curtain walls to comply with the following:
  - 1. Plumb: < Insert requirements >.
  - 2. Level: < Insert requirements > .
  - 3. Alignment: < Insert requirements > .
  - 4. Location: < Insert requirements >.

## 3.5 FIELD QUALITY CONTROL

- A. Manufacturer Field Services: Provide manufacturer field service consisting of system use recommendations and installation in accordance with manufacturer recommendations.
- B. Testing Agency: < Insert requirements >.
- C. Testing Services:
  - 1. Air Infiltration Test, ASTM E783: < Insert requirements > .
  - 2. Water Penetration Test, ASTM E1105: < Insert requirements >.
  - 3. Water Spray Test, AAMA 501.2: < Insert requirements > .

## 3.6 PROTECTION

- A. Remove temporary coverings and protection of adjacent work areas after curtain wall installation.
- B. Repair or replace damaged installed products.
- C. Clean installed products in accordance with manufacturer recommendations.
- D. Remove and lawfully dispose of construction debris from Project site.
- E. Protect installed curtain wall system and all components from damage until completion of Project and acceptance by Owner.

END OF SECTION 08 44 13 – GLAZED ALUMINUM CURTAIN WALLS (END OF SECTION 08 44 00 – CURTAIN WALL AND GLAZED ASSEMBLIES) (END OF SECTION 08 40 00 – ENTRANCES, STOREFRONTS, AND CURTAIN WALLS)