

Guide Specification: GlazeGuard® 250 WR

Citadel Architectural Products

6198 W Airport Blvd

Greenfield, IN 46140

(800) 446-8828

www.citadelap.com • info@citadelap.com

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glazing Infill Panels
 - 2. The extent of the glazing and/or curtain wall assembly as indicated in these specifications and in the drawings.

- B. Related Sections:
 - 1. Section 05 10 00 - Structural Metal Framing
 - 2. Section 06 10 00 - Rough Carpentry
 - 3. Section 07 20 00 - Thermal Protection
 - 4. Section 07 60 00 - Flashing And Sheet Metal
 - 5. Section 07 90 00 - Joint Protection
 - 6. Section 08 40 00 - Entrances, Storefronts, And Curtain Walls
 - 7. Section 08 50 00 - Windows

1.2 REFERENCES

- A. American Society For Testing And Materials (ASTM)
 - 1. ASTM B117 Standard Practice For Operating Salt Spray (Fog) Apparatus
 - 2. ASTM B137 Standard Test Method For Measurement Of Coating Mass Per Unit Area On Anodically Coated Aluminum
 - 3. ASTM B211 Standard Specification For Aluminum And Aluminum-Alloy Rolled Or Cold Finished Bar, Rod, And Wire
 - 4. ASTM B680 Standard Test Method For Seal Quality Of Anodic Coatings On Aluminum By Acid Dissolution
 - 5. ASTM C267 Standard Test Methods For Chemical Resistance Of Mortars, Grouts, And Monolithic Surfacing And Polymer Concretes
 - 6. ASTM C1371 Standard Test Method For Determination Of Emittance Of Materials Near Room Temperature Using Portable Emissometers
 - 7. ASTM D523 Standard Test Method For Specular Gloss
 - 8. ASTM D714 Standard Test Method For Evaluating Degree Of Blistering Of Paints
 - 9. ASTM D968 Standard Test Methods For Abrasion Resistance Of Organic Coatings By Falling Abrasive
 - 10. ASTM D1308 Standard Test Method For Effect Of Household Chemicals On Clear And Pigmented Organic Finishes
 - 11. ASTM D2244 Standard Practice For Calculation Of Color Tolerances And Color Differences From Instrumentally Measured Color Coordinates
 - 12. ASTM D2247 Standard Practice For Testing Water Resistance Of Coatings In 100%

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| | | Relative Humidity |
| 13. | ASTM D2248 | Standard Practice For Detergent Resistance Of Organic Finishes |
| 14. | ASTM D2794 | Standard Test Method For Resistance Of Organic Coatings To The Effects Of Rapid Deformation (Impact) |
| 15. | ASTM D3359 | Standard Test Methods For Measuring Adhesion By Tape Test |
| 16. | ASTM D3363 | Standard Test Method For Film Hardness By Pencil Test |
| 17. | ASTM D4145 | Standard Test Method For Coating Flexibility Of Prepainted Sheet |
| 18. | ASTM D4214 | Standard Test Methods For Evaluating The Degree Of Chalking Of Exterior Paint Films |
| 19. | ASTM E84 | Standard Test Method For Surface Burning Characteristics Of Building Materials |
| 20. | ASTM E903 | Standard Test Method For Solar Absorptance, Reflectance And Transmittance Of Materials Using Integrated Spheres |
- B. American Architectural Manufacturers Association (AAMA)
1. AAMA 2605 Voluntary Specification, Performance Requirements And Test Procedures For Superior Performing Organic Coatings On Aluminum Extrusions And Panels

1.3 DEFINITIONS

- A. Leadership In Energy And Environmental Design (LEED):
A set of guidelines set forth by the United States Green Building Council (USGBC) to promote the building of environmentally responsible and sustainable structures.
- B. ISO 9001:2008
A set of guidelines set forth by the International Organization For Standardization (ISO) to provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved.

1.4 SYSTEM DESCRIPTION

- A. Design Requirements:
1. Barrier System:
Glazing and/or curtain wall assembly shall be designed in accordance with manufacturer's guidelines to be sealed at all panel joints, intersections, dissimilar material abutments, and cutouts, thus providing a weathertight barrier system.
 2. Expansion And Contraction:
Glazing and/or curtain wall assembly shall be designed with provisions for thermal expansion and contraction of the component parts to prevent buckling, failure of joint seals, undue stress on fasteners or other detrimental effects due to accumulation of dead loads and various live loads.
 3. Windload:
Glazing and/or curtain wall assembly shall be designed to withstand a positive and negative windload pressure acting inward and outward normal to the plane of the wall to meet the requirements of the latest adopted Local Building Code.
- B. General Performance:
Glazing and/or curtain wall assembly shall comply with performance requirements, as determined by the following testing performed by a qualified agency.

1.5 SUBMITTALS

- A. Product Data:
1. Submit manufacturer's datasheet for specified product.

2. Submit manufacturer's installation guidelines for specified product.
 3. Submit manufacturer's literature indicating pre-consumer and post-consumer percentages of recycled content in the context of LEED MR Credit 4.1 and/or MR Credit 4.2.
 4. Submit manufacturer's literature indicating compliance with the American Recovery & Reinvestment Act (ARRA), Section 1605.
- B. Shop Drawings:
Submit shop drawings indicating project layout and elevations, fastening and anchoring methods, dimensions of individual components and profiles, detail and location of joints, sealants and gaskets, flashing and accessories.
- C. Samples:
1. Submit two (2) samples 3" x 5" of each product specified.
2. Submit two (2) samples 3" x 5" of each finish specified.
- D. Test Reports:
Submit test reports indicating compliance of products with specified performance requirements from an independent testing agency.
- E. Warranty:
Submit manufacturer's warranty meeting the requirements of this section.

1.6 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer:
Manufacturer shall have a minimum of ten (10) years experience in the manufacture of this product, shall be an ISO 9001:2008 Registered Company, and shall be located within the United States of America.
 2. Installer:
Installer shall be experienced in performing work of this section and in work of similar scope required by this project.
- B. Pre-Installation Meeting:
Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Acceptance At Site:
Materials to be packaged to protect against transportation damage. Examine materials upon receipt to insure that no damage has occurred during shipment.
- B. Storage And Protection:
1. Storage:
Materials should be stored horizontally on pallets or platforms, covered with a suitable ventilated and weathertight covering. Do not store materials where accumulation of moisture may occur or in contact with materials that might cause staining, denting, or other damage.
 2. Material Handling:
Use care in unloading, storing, and erecting the materials to prevent bending, warping, and twisting. Protect finish and edges from damage. The protective film on the panel surface is to remain in place until installation and shall be removed immediately upon completion.

1.8 PROJECT CONDITIONS

- A. Field Measurements:
Verify location and dimension of all elements related to the installation of the glazing and/or curtain wall assembly. Indicate those measurements on the shop drawings.
- B. Limitations:
Proceed with installation of the wall panel assembly only when existing site conditions comply with manufacturer's recommendations.

1.9 WARRANTY

- A. Glazing Infill Panels:
 - 1. Panel:
The integrity of the panel bond will remain intact for a minimum of ten (10) years from the Date Of Substantial Completion.
 - 2. Finish:
 - a. Polyester:
 - 1) The finish will not have a Fade Differential of greater than 8E units. Testing shall be in accordance with ASTM D2244.
 - 2) The finish will not have a Chalk Rating of less than 6. Testing shall be in accordance with ASTM D4214.
 - 3) Warranty period shall be five (5) years from the Date Of Substantial Completion.
 - b. Polyvinylidene Fluoride (PVDF):
 - 1) The finish will not have a Fade Differential of greater than 5E units. Testing shall be in accordance with ASTM D2244.
 - 2) The finish will not have a Chalk Rating of less than 8. Testing shall be in accordance with ASTM D4214.
 - 3) The finish will not check, peel, lose adhesion or fracture (other than minute fractures which may develop due to fabrication and which are acceptable by industry standards on the Date Of Substantial Completion).
 - 4) Warranty period shall be thirty (30) years from the Date Of Substantial Completion.
 - c. Anodized:
 - 1) The finish will not check, peel, lose adhesion or fracture (other than minute fractures which may develop due to fabrication and which are acceptable by industry standards on the Date Of Substantial Completion).
 - 2) Warranty period shall be twenty (20) years from the Date Of Substantial Completion.
- B. Installation System:
 - 1. Fabricator and/or installer standard form in which they agree to repair or replace components of glazing and/or curtain wall assemblies that fail in materials or workmanship within specified warranty period.
 - 2. Weathertight warranties or other such guarantees regarding installation shall be the responsibility of the installing contractor.
- C. Accessories:
Warranties or other such guarantees regarding accessories used during installation shall be the responsibility of the installing contractor.

PART 2 - PRODUCTS**2.1 MANUFACTURERS**

- A. Acceptable Manufacturer:
Citadel Architectural Products; 6198 W Airport Blvd; Greenfield, IN 46140
ph: (800) 446-8828; fax: (800) 247-2635; www.citadelap.com; info@citadelap.com
- B. Substitutions:
1. Not permitted without approval of the architect 10 days prior to bid.
 2. Items being submitted for consideration must be of the same function and meet the performance requirements set forth in this section.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
1. Product Data:
Submit product data including testing performed by a qualified agency indicating compliance with performance requirements specified in this section.
 2. Samples:
Submit two (2) samples 3" x 5" of each proposed product substitution.

2.2 GLAZING INFILL PANELS

- A. Panel:
GlazeGuard® 250 WR as manufactured by Citadel Architectural Products
1. Composition:
Face: .010" (min) prefinished textured aluminum
(or) .024" prefinished smooth aluminum
Core: 3/16" high density polypropylene
Back: .010" (min) prefinished textured aluminum
(or) .024" prefinished smooth aluminum
 2. Thickness: 1/4" (nominal)
 3. Weight: 0.61 lbs/ft² (textured skins), 1.00 lbs/ft² (smooth skins)
 4. Tolerance:
Thickness: ±1/32"
Length / Width: +0, -1/8"
Squareness: 1/64" per lineal ft
 5. Performance:
 - a. Surface Burning Characteristics:
Panel shall have a Class A rating with a Flame Spread Index less than 25, and a Smoke Developed Index less than 450.
Testing shall be in accordance with ASTM E84.
- B. Finish:
1. Polyester:
 - a. Type:
High performance, baked-on polyester coating.
 - b. Color:
 - 1) As selected by Architect from manufacturer's color guide.
 - 2) Custom color to match Architect's standard.
 - c. Composition:
 - 1) Two-Coat Colors:
0.2-mil primer coat, 0.8-mil color coat
 - d. Performance:

- 1) Gloss:
Finish shall have a gloss value of 5-80 at 60°.
Testing shall be in accordance with ASTM D523.
 - 2) Pencil Hardness:
Finish shall have a value of F-2H.
Testing shall be in accordance with ASTM D3363.
 - 3) Flexibility:
Finish shall have a value of 0-1 T-bend, no pick off.
Testing shall be in accordance with ASTM D4145.
 - 4) Reverse Impact:
Finish shall have a value of no pick off at 1500 x metal thickness.
Testing shall be in accordance with ASTM D2794.
 - 5) Salt Spray Resistance:
Finish shall have a value of No Face Blistering; None up to few #6 edge and scribe blisters when tested at 1000 hrs using 5% salt fog @ 95° F.
Testing shall be in accordance with ASTM B117.
 - 6) Humidity Resistance:
Finish shall have a value of Passes 1000 hrs, None up to few #8 blistering using 100% relative humidity @ 95° F.
Testing shall be in accordance with ASTM D714, ASTM D2247.
 - 7) Exterior Exposure:
Finish shall have a value of Max 8 fade and Max 6 chalk at 5 yrs @ 90°, south Florida.
Testing shall be in accordance with ASTM D2244, ASTM D4214.
2. Polyvinylidene Fluoride (PVDF):
- a. Type:
Kynar 500® coating using 70% resin.
Finish shall be in conformance with AAMA 2605.
 - b. Color:
 - 1) As selected by Architect from manufacturer's color guide.
 - 2) Custom color to match Architect's standard.
 - c. Composition:
 - 1) Two-Coat Colors:
0.2-mil primer coat, 0.8-mil color coat
 - 2) Three-Coat Colors:
0.2-mil primer coat, 0.8-mil color coat, 0.7-mil clear coat
 - d. Performance:
 - 1) Gloss:
Finish shall have a gloss value of 20-35 at 60°.
Testing shall be in accordance with ASTM D523.
 - 2) Solar Reflectance:
Finish shall have a value of >25% initial, >15% after 3 years for Steep Slope and a value of >65% initial, >50% after 3 years for Low Slope.
Testing shall be in accordance with ASTM E903.
 - 3) Emissivity:
Finish shall have a value of 0.80 (80%) min.
Testing shall be in accordance with ASTM C1371.
 - 4) Pencil Hardness:
Finish shall have a value of F-2H.
Testing shall be in accordance with ASTM D3363.
 - 5) Flexibility:
Finish shall have a value of 0-2 T-bend, no pick off.
Testing shall be in accordance with ASTM D4145.

- 6) Adhesion:
Finish shall have a value of No Adhesion Loss.
Testing shall be in accordance with ASTM D3359.
 - 7) Reverse Impact:
Finish shall have a value of No Cracking Or Adhesion Loss.
Testing shall be in accordance with ASTM D2794.
 - 8) Abrasion:
Finish shall have a value of 65-85 l/mil.
Testing shall be in accordance with ASTM D968.
 - 9) Mortar Resistance:
Finish shall have a value of No Effect.
Testing shall be in accordance with ASTM C267.
 - 10) Detergent Resistance:
Finish shall have a value of No Effect using 3% detergent @ 100 F° (72 hrs).
Testing shall be in accordance with ASTM D2248.
 - 11) Acid Resistance:
Finish shall have a value of No Effect using 10% muriatic acid (24 hrs) and No Effect using 20% sulfuric acid (18 hrs).
Testing shall be in accordance with ASTM D1308.
 - 12) Acid Rain:
Finish shall have a value of No Objectionable Color Change after 15 cycle min.
Testing shall be in accordance with Kesternich SO₂, DIN 50018.
 - 13) Alkalai Resistance:
Finish shall have a value of No Effect using 10%, 25% NaOH (1 hr).
Testing shall be in accordance with ASTM D1308.
 - 14) Salt Spray Resistance:
Finish shall have a value of No Face Blistering; Max average 1/16" scribe creep, passes 4000 hrs using 5% salt fog @ 95° F.
Testing shall be in accordance with ASTM B117.
 - 15) Humidity Resistance:
Finish shall have a value of Passes 4000 hrs, No #8 blisters using 100% relative humidity @ 95° F.
Testing shall be in accordance with ASTM D714, ASTM D2247.
 - 16) Exterior Exposure:
Finish shall have a value of Max 5 fade and Max 8 chalk at 10 yrs @ 45°, south Florida.
Testing shall be in accordance with ASTM D2244, ASTM D4214.
3. Anodized:
- a. Type:
AA-C22-A21 (clear)
AA-C22-A23 (colored)
 - b. Color:
As selected by Architect from manufacturer's color guide.
 - c. Composition:
 - 1) Anodized (clear):
barrier, aluminum oxide, nickel/hydrate seal
 - 2) Anodized (colored):
barrier, aluminum oxide, colorant, nickel/hydrate seal
 - d. Performance:
 - 1) Salt Spray Resistance:
Testing shall be in accordance with ASTM B117.
 - 2) Acid Dissolution:

- 3) Testing shall be in accordance with ASTM B680.
Gloss:
Testing shall be in accordance with ASTM D523.
 - 4) Coating Mass:
Testing shall be in accordance with ASTM B137.
- C. Accessories:
- 1. Extrusions:
 - a. Shall conform with ASTM B211 and the manufacturer's recommendations.
 - b. Shall be applied in accordance with the panel manufacturer's installation guidelines.
 - 2. Sealants:
 - a. Selected from the panel manufacturer's approved list of sealants.
 - b. Shall be applied in accordance with both the panel manufacturer's installation guidelines and the sealant manufacturer's recommendations.
 - 3. Fasteners:
 - a. Selected by contractor to suit project requirements.
 - b. Shall be applied using the recommended fastener schedule in accordance with panel manufacturer's installation guidelines.
 - c. Shall be coated to prevent corrosion and/or reaction with other materials.
 - d. Shall be concealed except where unavoidable. Exposed fasteners shall be finished to match adjoining metal.
 - 4. Flashing:
 - a. Selected by contractor to suit project requirements.
 - b. Shall be installed in such a manner to maintain the integrity of the wall system against moisture intrusion.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrate to receive the work of this section to verify that the conditions are acceptable for installation.
 - 1. Substrate to receive panels shall be even, smooth, sound, clean, dry, and free from defects detrimental to work. Notify contractor in writing of conditions detrimental to proper and timely completion of the work.
 - 2. Substrate to receive panels shall be in vertical and horizontal alignment with no more deviation than 1/4" in 20'.
- B. Proceed with installation only after all unsatisfactory conditions have been corrected in a manner acceptable to installer. Starting work within a particular area will be construed as installer's acceptance of surface conditions.

3.2 PREPARATION

- A. Verify dimensions as required.
- B. Protect adjacent work areas and finished surfaces to prevent damage that otherwise might occur during the work of this section.

3.3 INSTALLATION

- A. Glazing and/or curtain wall assembly shall be installed in accordance with the manufacturer's written installation guidelines and the approved set of shop drawings.
- B. Erect glazing and/or curtain wall assembly level and true to the intended plane.

- C. Maximum deviation from vertical and horizontal alignment of erected glazing and/or curtain wall assembly shall be no more than 1/4" in 20'-0".
- D. Maximum deviation in panel flatness shall be 0.6% of the assembled units.
- E. Seal all joints as required using methods and materials as recommended by the panel manufacturer.

3.4 CLEANING

- A. Remove panel masking immediately after installation. Delay will result in difficulty with removal and possibly residue on the panel surface.
- B. Remove temporary coverings and protection to adjacent work areas.
- C. Remove and legally dispose of construction debris from project site.

END OF SECTION