

euro-wall®

SUPERIOR BY DESIGN

Euro-C5 THERMALLY BROKEN
FOLDING DOOR SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Sliding/Folding Doors.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Openings in cast-in-place concrete.
- B. Section 03450 - Precast Concrete Wall Panels: Openings in precast concrete wall panels.
- C. Section 04810 - Unit Masonry Assemblies: Openings in masonry.
- D. Section 05400 - Cold Formed Metal Framing: Framed Openings.
- E. Section 06100 - Rough Carpentry: Framed openings.
- F. Section 06200 - Finish Carpentry: Interior wood casing.
- G. Section 07210 - Building Insulation: Batt insulation at window perimeter.
- H. Section 07460 - Siding and trim.
- I. Section 07620 - Flashing and Sheet Metal: Flashing associated with windows and doors.
- J. Section 07900 - Joint Sealers: Perimeter joint sealant and backer rod.

1.3 REFERENCES

- A. AAMA/WDMA/CSA 101/I.S.2/A440-08 (NAFS-08) - Standard/Specification for windows, doors, and unit skylights.
- B. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site.
- C. AAMA 610.1 - Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels.

- D. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
- E. AAMA 1801 - Voluntary Specification for the Acoustical Rating of Windows, Doors and Glazed Wall Sections
- F. AAMA 2604 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- G. AAMA 2605 – Voluntary Specification, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Aluminum Extrusions and Panels.
- H. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- I. ASTM C 1115 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- J. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
- K. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls, and Doors.
- L. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- M. ASTM E 1996: "Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes".
- N. ANSI Z97.1 - Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.

1.4 PERFORMANCE REQUIREMENTS

- A. System Design: Design and size components to withstand dead and live loads caused by pressure and suction of wind acting normal to plane of folding glass wall as calculated in accordance with applicable code.
- B. Outward/Inward opening Euro-C 5 Thermally Broken Aluminum Folding Door system.
 - 1. AAMA / WDMA / CSA 101 / I.S.2 / A440-08 (NAFS-08), Air infiltration: A2, Water Leakage Resistance: DP50, Wind Load Resistance: DP50.
 - 2. Design Pressure: 2400 Pa (50 psf), ASTM E330, Procedure A.
 - 3. Negative Design Pressure = 2400 Pa (50 psf), ASTM E330, Procedure A.
 - 4. Water Penetration Resistance: 7.5 LBS, ASTM E 547 with no leakage.
 - 5. Air Leakage Resistance: A2 under NAFS-08.
- C. Thermal NFRC testing (simulation) 1" I-G glass(LowE 366 @ I89) .32 to .50 U-Factor, SHGC < .19

1. ASTM E 330, Procedure A: Uniform Load Structural: PG 50+/- (2400 Pa/ 75 psf).
 2. AAMA / WDMA / CSA 101 / I.S.2 / A440-08 (NAFS-08), Air infiltration: A3, Water Leakage Resistance: DP50 (510 PA), Wind Load Resistance
 3. Design Pressure: 3360 Pa (50 psf), ASTM E 330, Procedure A.
 4. Negative Design Pressure: 50 DP- ASTM E 330, Procedure A.
 5. Water Penetration Resistance: 510 Pa (10.5 psf), ASTM E 547.
 6. Air Leakage Resistance: A2 (NAFS-08)
- D. Outward/Inward opening Euro-C5 Thermally Broken Aluminum Folding Door system when tested on a typical four panel folding door unit (3L3R), 252" (6400.8 mm) in width and 120" (3048 mm) in height shall meet or exceed the following performance tests..
1. ASTM E 1886: 10 Large Missile Impact Shots: Not Tested
 2. ASTM E 1996: 9000 Air Pressure Cycles (Positive/ Negative): 50 Psf (2400 Pa).
 3. ASTM E 330, Procedure A: Uniform Load Structural: DP50. (2400 Pa/ 75 psf).
 4. AAMA / WDMA / CSA 101 / I.S.2 / A440-08 (NAFS-08), Air infiltration: A3, Water Leakage Resistance: DP50, Wind Load Resistance: DP50 (2400 PA).
 5. Design Pressure: 2400 Pa (50 psf), ASTM E 330, Procedure A.
 6. Negative Design Pressure: 2400 Pa (50 psf), ASTM E 330, Procedure A.
 7. Water Penetration Resistance: 510 Pa (10.5 psf), ASTM E 547.
 8. Leakage Resistance: A2 (NAFS-08)
 9. TAS 201 TAS 202 TAS 203, Not Tested

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop Drawings: Detailed drawings prepared specifically for the project by manufacturer. Show opening dimensions, framed opening tolerances, profiles, product components, anchorages, and accessories.
 1. Indicate material thickness, fastener locations, glazing and hardware arrangements.
 2. Include schedule identifying each unit, with marks or numbers referencing drawings.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples:
 1. Aluminum Finish: Two samples, minimum size 2 by 3 inches (50 by 75 mm), representing actual product and color.

2. Glass: Two samples, minimum size 12 inches (300 mm) square, of specified glass, including coatings or frit pattern.
 3. Assembly Sample: 24 by 36 inch (600 by 900 mm) assembly complete with glazing, gaskets, fasteners, anchors, and finish; do not proceed with fabrication until workmanship and color are approved by Architect.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment and periodic cleaning and maintenance of all components

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum 3 years experience in fabrication and erection of glazed window wall systems for projects of similar scope. N.A.M.I. Quality Assurance compliant # 1884-1. ISO/IEC 17020 & Guide 53. State of Florida QUA 1789.
- B. Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project.
- C. Mock-Up: Provide a full size mock-up for evaluation of surface preparation techniques and application workmanship.
1. Finish areas designated by Architect.
 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 3. Refinish mock-up area as required to produce acceptable work.
 4. Incorporate accepted mock-up as part of the Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Provide care and handling conforming to AAMA CW-10, "Care and Handling of Architectural Aluminum from Shop to Site".
- C. Store products out of contact with the ground, under a weather tight covering, so as to prevent bending, warping, or other damage. Do not cover with unventilated tarps, polyethylene film, or similar coverings.
- D. Protect factory finishes from damage, precipitation and construction materials until ready for installation.

1.8 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.10 WARRANTY

- A. Euro-Wall products are warranted for 10 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Euro-Wall; 2200 Murphy Court, North Port, FL 34289. ASD. Phone Toll Free: 888-989-EURO (3876). Fax: 941-979-5317. Web Site: www.euro-wall.com. Email: engineering@euro-wall.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ALUMINUM SLIDING/FOLDING DOORS

- A. Provide top hung sliding/folding glass doors to fit the openings and configurations indicated on the Drawings. Provide system complete with head, sill and jambs complete with weatherstripping, operating hardware and specified accessories as follows:
 - 1. System: Euro-Wall System LLC Euro-C2 Aluminum folding door system as manufactured by Euro-Wall Systems LLC.
 - 2. System: Euro-Wall System LLC Euro-C3 Aluminum folding doors system as manufactured by Euro-Wall Systems LLC
 - 3. System: Euro-Wall System LLC Euro-C5 Thermally Broken Aluminum Folding Systems as manufactured by Euro-Wall Systems LLC.
 - 4. Door Panel Size: Provide doors as a factory fabricated knock-down system.
 - a. As indicated on the Drawings.
 - 5. Operation:
 - a. Out-folding system.
 - b. In-folding system.
 - 6. Glazing: Provide safety glazing materials complying with ANSI Z97.1 and with the requirements of Section 08800.
 - a. Glazing: 1 inch (24 mm) Sealed insulating glass.
 - b. Glazing: 1 inch (24mm) Sealed Unit Hurricane Glass.
 - c. Glazing: 1/4 inch (6 mm) Tempered glass Single Glass.
 - d. Glazing: 9/16 inch (14 mm) Hurricane glass.
 - 7. Framing: Extruded aluminum with nominal thickness of .080 inches (2.0 mm) to .1562 (4mm).
 - 8. Weatherstripping:
 - a. Dual weatherstripping on head, jambs and between panels, and single weatherstripping on sill.
 - b. Hinge gaskets on specific hinges.
 - 9. Sill:
 - a. Standard Sill.
 - b. Floor channel ADA Compliant Sill
 - c. ADA Sill.

10. Accessories:
 - a. Moldings.
 - b. Sill Cover.
11. Hardware: Folding door.
 - a. Aluminum hinges, color as follows:
 - 1) White Powder Coat.
 - 2) Clear Anodized.
 - 3) Bronze Powder Coat.
 - 4) Black Powder Coat.
 - b. Stainless steel corrosion proof carriers with sealed, self-lubrication, ball bearing multi-rollers.
 - c. Twinpoint Handle and Gear Box with Stainless shoot bolts.
 - d. Multipoint stainless steel door lock system.
12. Door Handles:
 - a. Ferraro Series.
 - 1) White powder coat finish.
 - 2) Satin aluminum finish.
 - 3) Custom Power Coat finish
 - 4) Bronze powder coat finish.
 - b. Florence Series.
 - 1) Satin nickel finish.
 - 2) Polished Brass finish.
 - 3) Bronze Powder coat finish.
 - 4) Antique Brass finish.
 - 5) Antique nickel finish.
 - c. Faenza Series.
 - 1) Satin nickel finish.
 - 2) Polished Brass finish.
 - 3) Bronze Powder coat finish.
 - 4) Antique Brass finish.
 - 5) Antique nickel finish.

2.3 MATERIALS

- A. Aluminum: 6063-T5 alloy and temper. Other alloys and tempers may be used for non-structural members provided they do not void the required warranties. Indicate alloys and tempers clearly on shop drawings and in structural calculations.
- B. Glazing: Provide glazing type specified complying with ANSI Z97.1.
- C. Flashings: Sheet aluminum, same finish as for system components; secured with concealed fastening method or fastener with head finished to match; thickness as required for conditions encountered.
- D. Glazing Gaskets: Dry glazing system compression type design, replaceable; EPDM, complying with ASTM C 864, with solid strand cord to prevent shrinkage or; Elastomeric silicone with solid strand cord to prevent shrinkage, complying with ASTM C 1115, as provided by the manufacturer.
 1. Manufacturer's standard black color.
- E. Setting Blocks, Edge Blocks, and Spacers: As required by manufacturer and compatible with insulated glass where required.
- F. Anchors and Fasteners: Aluminum, zinc and stainless steel of type, which will not cause electrolytic action or corrosion.

- G. Accessories: Provide accessories as scheduled to achieve design intent and environmental control.
- H. Aluminum Finish: Anodized Class 1 complying with AAMA 611 Class 1 Acid Etch anodic coatings.
 - 1. Color: Clear.
- I. Aluminum Finish: Standard mill finish with custom finish as follows:
 - 1. Kynar 70% finish: D2000-AAMA 2605 (10 year Florida) 20 year manufacturer's warranty. Color as selected from manufacturer's standard colors.
 - 2. Custom Powder Coat finishes available D3000-AAMA 2605 (10 year Florida) 20 year manufacturer's warranty. Color as selected from manufacturer's standard colors.
 - 3. Wood Grain finishes (custom): AAMA 2604 (5 year Florida) 10 year manufacturer's warranty. Color as selected from manufacturer's standard colors.
 - 4. Anodized Class 1 (Clear Anodized) 10 year manufacturer warranty.

2.4 FABRICATION

- A. Fabricate components in accordance with approved shop drawings. Remove burrs and rough edges. Shop fabricate to greatest extent practicable to minimize field cutting, splicing, and assembly.
- B. Fabricate components true to detail and free from defects impairing appearance, strength or durability.
- C. 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 weathertight. Ensure slip joints make full, tight contact and are weathertight.
- D. Reinforce components at anchorage and support points, at joints, and at attachment points for interfacing work.
- E. Glass: Accurately size glass to fit openings allowing clearances following recommendations of the manufacturer.
- F. Cut glass clean and carefully. Nicks and damaged edges will not be accepted. Replace glass that has damaged edges.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify openings are ready to receive work and dimensions and clearances are as indicated on the approved shop drawings.
- C. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install system in accordance with approved shop drawings and manufacturer's instructions.
- C. Install components level, plumb and true to line with uniform joints. Do not use defective parts that are warped, twisted, bowed, dented or abraded.
- D. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- E. Provide attachments and shims to permanently fasten system to building structure.
- F. Maintain dimensional tolerances and alignment with adjacent Work.
- G. Anchor securely in place, allowing for required movement, including expansion and contraction.
- H. Install glazing and sealants in accordance with manufacturer's instructions without exception, including surface preparations.
- I. Set sill members in bed of sealant. Set other members with internal sealants to provide weathertight construction.
- J. Install flashings, closures, corners, and other accessories as required or detailed.
- K. Clean surfaces and install sealant in accordance with sealant manufacturer's instructions and structure manufacturer's guidelines.

3.4 ADJUSTING AND CLEANING

- A. Adjust hinge sets, locksets, and other hardware for proper operation. Lubricate using a suitable lubricant compatible with door and frame coatings.
- B. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions before owner's acceptance.
- C. Clean and maintain aluminum surfaces in accordance with AAMA 610.1.
- D. Remove from project site and legally dispose of construction debris associated with this work.

3.5 PROTECTION

- A. Protect installed products until completion of project.