Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to ensure that products selected for use on projects comply with all applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.

The rapidly changing technology within the architectural aluminum products industry demands that U.S. Aluminum reserve the right to revise, discontinue or change any product line, specification or electronic media without prior written notice.

NOTE: Dimensions in parentheses ( ) are millimeters unless otherwise noted.

Other metric units shown in this publication are:
- m - meter
- Kg - kilogram
- Pa - pascal
- KPa - kilopascal
- MPa - megapascal
STORM WALL™

Specifications

SECTION 08 44 13 ALUMINUM CURTAIN WALL SYSTEMS

I. GENERAL DESCRIPTION

Work included: Furnish all necessary materials, labor, and equipment for the complete installation of aluminum framing as shown on the drawings and specified herein. (Specifier Note: It is suggested that related items such as aluminum entrance doors, glass, and sealants be included whenever possible.)

Work not included: Structural support of the framing system, interior closures, trim. (Specifier list other exclusions). Related Work Specified Elsewhere: (Specifier list).

QUALITY ASSURANCE

Drawings and specifications are based on the Series IW3250 Dry Glazed Curtain Wall System as manufactured by U.S. Aluminum. Whenever substitute products are to be considered, supporting technical literature, samples, drawings, and performance data must be submitted 10 days prior to bid in order to make a valid comparison of the products involved. Test reports certified by an independent test laboratory must be made available upon request.

PERFORMANCE REQUIREMENTS

Air Infiltration: Shall be tested in accordance with Dade County Protocol PA 202-94 and ASTM E 283-91 (99).

- IW3250 Storm Wall™/Curtain Wall Infiltration shall not exceed .06 cfm per square foot (.003 m3/sm2) fixed area when tested at 6.24 psf (300 Pa).
- IG500/IG600 Storm Front™ Entrance Doors Infiltration shall not exceed 1.00 cfm per square foot at 6.24 psf (300 Pa).

Water Infiltration: Shall be tested in accordance with Dade County Protocol PA 202-94 and ASTM E 331-93. No water penetration at test pressure of:
- IW3250 Curtain Wall - 15 psf
- IG500/IG600 Pair of Doors - 12 psf

Structural Performance: Shall be tested in accordance with Dade County Protocol PA 220-94 and ASTM 330-96 and based on:
- Maximum deflection of L/175 of the span. [3/4” (19.1) max.]
- Allowable stress with a safety factor of 1.65. The system shall perform to this criteria under a wind load of (Specify) psf.
- IW3250 Curtain Wall Design 44 psf (131 mph) Structural ± 66 psf (161mph)
- IG500/IG600 Pair of Doors Design 44 psf (131 mph) Structural ± 66 psf (161 mph)

Forced Entry Resistance: Shall be tested with a 300 lb. force applied to the active door panel simultaneously with a 150 lb. force applied in both perpendicular directions to the 300 lb. force as per the Dade County Protocol PA 220-94.

Large Missile Impact Test: Shall be tested in accordance with Dade County Protocol PA 201-94 with a 9 lb. 2x4 traveling at 50 fps.

Small Missile Impact Test: Shall be tested in accordance with Dade County Protocol PA 201-94 with 10-2 gram steel ball bearings traveling 130 fps.

Cycle Load Test: Shall be tested in accordance with Dade County Protocol PA 201-94 for 9,000 cycles.

- IW3250 Curtain Wall
- IG500/IG600 Pair of Doors

Testing Procedures: ASTM 283, E 331, and E 330 - Laboratory performance testing. AAMA 503-08 - Newly installed curtain walls. AAMA 511-08 - Installed curtain walls after six months.

II. PRODUCTS MATERIALS

Extrusions shall be 6063-T5 alloy and temper (ASTM B221 alloy T5 temper). Fasteners, where exposed, shall be aluminum, stainless steel or zinc plated steel in accordance with ASTM A 164.

Perimeter anchors shall be aluminum or steel, providing the steel is properly isolated from the aluminum. Glazing gaskets shall be E.P.D.M. elastomeric extrusions.

FINISH

All exposed framing surfaces shall be free of scratches and other serious blemishes. Aluminum extrusions shall be given a caustic etch followed by an anodic oxide treatment to obtain...

(Specify one of the following):
- #11 Clear anodic coating
- #22 Dark Bronze anodic coating
- #33 Black anodic coating

A Fluoropolymer paint coating conforming with the requirements of AAMA 2605. Color shall be (Specify a U.S. Aluminum standard color).

FABRICATION

All mullions and horizontals shall have flexible (PVC) thermal break material located on exterior side of glass plane. Exterior glazing seal gasket shall be secured by extruded aluminum pressure plates fastened to main grid members. Provisions shall be made at all sealed horizontals to weep moisture accumulation to the exterior. A cover shall be snapped over pressure plate to show only a sharp, uninterrupted exterior profile. Framing members shall provide for straight-in glazing on all sides, with through sight lines and no projecting stops or face joints. Vertical and horizontal framing members shall have a nominal width of 2-1/2” (63.5). Back members depth of system shall be 5” (127). System shall provide for two-piece horizontal framing so that all fasteners at intersection horizontal and vertical members will be concealed. There shall be no exposed fasteners at perimeter sections. Entrance framing members shall be compatible with glass framing in appearance. Provide for internal drainage of infiltrated water into an extruded aluminum sub sill channel where it is drained to the exterior through weep slots.

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Specifications

SECTION 08 44 13 ALUMINUM CURTAIN WALL SYSTEMS

Glazing
• IW3250 Curtain Wall
  Large missile test - 7/16" (11) heat strengthened glass with 0.100" Sentry Glas® Plus by Dupont®.
  Small missile test - 7/16" (11) heat strengthened glass with 0.090" Butacite® PVB by Dupont®.
• 1-3/16" (30) Laminated Impact Glazing
• IG500/IG600 Pair of Doors
  Large missile test - 9/16" (14) heat strengthened glass with 0.090" Sentry Glas® Plus by Dupont®.

Sealants
The IG500/IG600 entrance doors shall use DOW 995 structural silicone to adhere glass to the door sash.

III. EXECUTION INSTALLATION
All glass framing shall be set in correct location as shown in the details and shall be level, square, plumb, and in alignment with other work in accordance with the manufacturer’s installation instructions and approved shop drawings. All joints between framing and the building structure shall be sealed in order to secure a watertight installation.

PROTECTION AND CLEANING
After installation the General Contractor shall adequately protect exposed portions of aluminum surfaces from damage by grinding and polishing compounds, plaster, lime, acid, cement, or other contaminants. The General Contractor shall be responsible for final cleaning.

Project: Puerto Rico Convention Center, San Juan, PR
STORM WALL™

Technical Data

Hurricane (Impact) Resistant Curtain Walls
• Series IW3250

Strength, versatility, and economics make Series IW3250 High Impact Resistant Curtain Wall an industry standard for low to mid-rise applications where protection from high winds and wind-borne debris is required. Series IW3250 is thermally improved by a continuous thermal spacer interlocked with the horizontal and vertical pressure plates. Dual colors can be achieved by specifying different finishes for the exterior face covers and interior mullions. Two piece horizontals and extruded shear blocks allow for a concealed horizontal to vertical joint. These joint intersections also have concealed injection molded plastic end dams for controlling any infiltrated water.

SERIES IW3250
Impact Resistant Curtain Walls

<table>
<thead>
<tr>
<th>SERIES</th>
<th>WIDTH</th>
<th>OVERALL DEPTH</th>
<th>GLAZING INFILL</th>
<th>APPLICATIONS</th>
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<tbody>
<tr>
<td>IW3250</td>
<td>2-1/2&quot; (63.5)</td>
<td>6-1/4&quot; (158.8)</td>
<td>7/16&quot; (11)</td>
<td>Low-Rise to Mid-Rise Buildings Where Impact Resistant Specifications are Required.</td>
</tr>
<tr>
<td></td>
<td>2-1/2&quot; (63.5)</td>
<td>7&quot; (177.8)</td>
<td>1-3/16&quot; (30)</td>
<td></td>
</tr>
</tbody>
</table>

GLASS SIZES*

| Glass Width and Height | = Daylight Opening + 1-5/8" (41.3) |

* These formulae do not take into account glass tolerances. Consult glass manufacturer before ordering glass.
The Series IW3250 Curtain Wall System has been engineered specifically to withstand high winds and wind-borne debris, now required in glass wall systems used in coastal areas. IW3250 is an extension of the Series 3250 curtain wall system utilizing many of the same components and assembly procedures. IW3250 requires that impact resistant glass be used, either 7/16" (11) or 1-3/16" (30) laminated glass.

Injection Molded Closure Plates at top and bottom of verticals prevents perimeter seal failure. Easily installed Top and Bottom Anchors facilitate a quick and accurate installation. See pages 12-M1 and 13-M1 for more information.

Injection Molded End Dams at vertical and horizontal intersections control any infiltrated water. See page 13-M1 for more information.

Unlike other Impact Resistant Wall Systems that require structural silicone to hold the glass in place, IW3250 utilizes Gaskets, offering a much faster and more economical installation without sacrificing system integrity. See page 12-M1 for more information.

NOTE: To accelerate installation times with pinpoint accuracy of Horizontal Shear Blocks to Curtain Wall Mullions see pages 56-P1 and 57-P1.
Typical Details

VERTICAL AND HORIZONTALS
FOR 7/16" (11) LAMINATED
IMPACT GLAZING

1/2" (12.7) Caulk Joint (Typ.)

CW901
2-1/2" (63.5)

NP432 (Typ.)
NP421 (Typ.)

AP955 Shear Block (Typ.)

CW923

CW957  Perimeter Pressure Bar

AP691 Jamb Anchor

IW909

CW901

TP957  Perimeter Pressure Bar

AP689 Vertical Anchor

IW909

NP421 (Typ.)

CW901 CW933

AP691 90 Degree Corner Anchor

IW179

CW968 CW997

1/2" (12.7) Caulk Joint (Typ.)

2-1/2" (63.5)

2-1/2" (63.5)

2-1/2" (63.5)

3" (76.2)

6-1/4" (158.7)

5" (127)

NOT TO SCALE

Hurricane (Impact) Resistant
Curtain Walls
• Series IW3250

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STORM WALL™

Typical Details

VERTICAL AND HORIZONTALS FOR 1-3/16" (30) LAMINATED IMPACT GLAZING

Hurricane (Impact) Resistant Curtain Walls
- Series IW3250

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Typical Details

DOOR FRAMING
FOR 1-3/16" (30) GLAZING

Series IW3250 Curtain Wall Shown with Series IG600 Entrance Door.

Typical Elevation

1/2" (12.7) Caulk Joint (Typ.)

Caulk Joint (Typ.)

Top and Bottom Anchors

AP691 Jamb Anchor

CW901 1/8" (3.2) 2-1/2" (63.5) 13/16" (20.6)

Door Opening

Frame Opening

1/2" (12.7) Caulk Joint (Typ.)

PERIMETER PRESSURE BAR

AP695 Shear Block (Typ.)

CW952

AP955

NP432 (Typ.)

NP421 (Typ.)

CW933 CW901

CW925

CW950

CW925

DOW 995 Silicone (Typ.)

IE501

TH811

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Typical Details
MID-SPAN ANCHORS AND MULLION SPLICE

STORM WALL™

Hurricane (Impact) Resistant Curtain Walls
• Series IW3250

NOT TO SCALE

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<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>PKG. QTY.</th>
<th>FOR GLAZING INFILLS</th>
</tr>
</thead>
</table>
| AP681    | Anchor for Wall Jamb
          Includes:
          (1) TB681 Aluminum Tapping Bar
          (2) AP360 Nylatron Slip Pads
          (2) MF335 1/2 -13 x 1-1/2" (38.1)
          GR-5 HH Bolts
          (2) MF257 Flat Washers
          (2) MF258 Lock Washers
          (8) ST277 #12 x1” (25) FH Screws
          (1) SL907 Reinforcement Insert |
|          |             | 6         | 7/16" (11)          |
|          |             |           | 1-3/16" (30)       |
| AP682    | Anchor for Intermediate Vertical
          Includes:
          (4) AP360 Nylatron Slip Pads
          (2) MF351 1/2 -13 x 4-1/2" (114.3)
          GR-5 HH Bolts
          (4) MF257 Flat Washers
          (2) MF258 Lock Washers
          (2) MF261 1/2 -13 Hex Nut w/Nylon Lock
          (1) SL907 Reinforcement Insert |
|          |             | 12        | 7/16" (11)          |
|          |             |           | 1-3/16" (30)       |
| AP683    | Anchor for Corner Vertical
          Includes:
          (4) AP360 Nylatron Slip Pads
          (2) MF351 1/2 -13 x 4-1/2" (114.3)
          GR-5 HH Bolts
          (4) MF257 Flat Washers
          (2) MF258 Lock Washers
          (2) MF261 1/2 -13 Hex Nut w/Nylon Lock
          (1) SL977 Reinforcement Insert |
|          |             | 6         | 7/16" (11)          |
|          |             |           | 1-3/16" (30)       |
### Hurricane (Impact) Resistant Curtain Walls
- Series IW3250

<table>
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<td>CW368</td>
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<tr>
<td>SB902</td>
<td><img src="image" alt="Setting Block" /></td>
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<td>WB901</td>
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<td>Edge Block for 1-3/16&quot; (30) Glass; 1-3/8&quot; x 4&quot; (34.9 x 101.6)</td>
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<tr>
<td>SB901</td>
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# Accessories

## Hurricane (Impact) Resistant Curtain Walls

- **Series IW3250**

## STORM WALL™

### Online

- usalum.com
- crlauurence.com

### By Phone

- (800) 262-5151 Ext. 5305
- (800) 421-6144 Ext. 5305

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<td>CP900</td>
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<tr>
<td>MS212</td>
<td><img src="image" alt="Screw for Pressure Bar" /> for 7/16&quot; Glass; 1/4&quot;-20 x 3/4&quot; (19) HWHCS with SRG5</td>
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<td>MS222</td>
<td><img src="image" alt="Screw for Pressure Bar" /> for 1-3/16&quot; Glass; 1/4&quot;-20 x 1&quot; (25) HWHCS with SRG5</td>
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STORM WALL™

Windload Charts
FOR VERTICALS

IW909 for 7/16" (11)
Laminated Impact Glazing
Ixx = 11.122 (452.98 x 10⁴)
Sxx = 3.983 (65.26 x 10³)

IW905 for 1-3/16" (30)
Laminated Impact Glazing
Ixx = 13.795 (574.25 x 10⁴)
Sxx = 4.501 (73.75 x 10³)

Deadload Charts
FOR HORIZONTALS

CW923 for 7/16" (11)
Laminated Impact Glazing
Iyy = .851 (35.42 x 10³)

CW925 for 1-3/16" (30)
Laminated Impact Glazing
Iyy = .934 (38.88 x 10³)

Hurricane (Impact) Resistant
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