> YHC 300 IG

Impact Resistant and Blast Mitigation Inside Glazed Curtain Wall System

ProTek®
YKK AP Hurricane & Blast Solutions

SYSTEM DESCRIPTION:

YHC 300 IG (Inside Glazed) is a high performance curtain wall system designed and tested to meet the most demanding conditions. With varied infill and components, YHC 300 IG can meet the requirements for Impact Resistance, Blast Mitigation or both. The system features a 3" wide face dimension to permit the glass engagement necessary for higher design pressures and accommodates 1/4" to 9/16" single glazing or 1" to 1-5/16" insulated glazing.

OPTIONS & FEATURES:

- Large & Small Missile
  - Small Missile is Dry Glazed
  - Large Missile is Wet Glazed
- ASTM E 1886 / 1996, TAS 201 – 203
  - Tested to +/- 120 psf *
  - Florida State-Wide Product Approval
- Blast Mitigation
  - YHC 300 IG meets UFC 4-010-01 prescriptive standard in accordance with 2007 revisions.
  - Model 35H - "Low Hazard" per ASTM F 1642 Test @ 6 psi / 41psi-ms
- Model 35H Single Doors up to 4'-0" x 8'-0"
- Model 35H Pairs up to 8'-0" x 8'-0"

*Contact YKK AP Engineering for Job Specific Wind Load analysis at higher levels.

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1.01 SUMMARY

A. Section Includes: Aluminum Curtain Wall Systems
   1. YKK AP Series YHC 300 IG (Inside Glazed) Hurricane Impact Resistant Aluminum Curtain Wall System.

B. Related Sections:
   1. 08 41 13 35H Impact Resistant Heavy Duty Swing Doors.
   2. 08 41 13 YHS 50 Impact Resistant Aluminum Store Front Systems.
   3. Glass: Contact YKK AP for approved glass types.
   4. Glazing: Dow Corning® 995 Structural Silicone Adhesive for large missile.

1.02 SYSTEM DESCRIPTION

A. All test unit sizes and configurations shall conform to the minimum sizes in accordance with; Florida High Velocity Hurricane Zone (HVHZ) Protocols, ASTM E 1886, ASTM E 1996, and meet all requirements of TAS 201, TAS 202, and TAS 203. They shall also comply with the following specific performance requirements indicated.
   1. Air Infiltration: Completed curtain wall systems shall have 0.06 CFM/FT² (1.10 m³/h·m²) maximum allowable infiltration when tested in accordance with ASTM E 283 at differential static pressure of 6.24 PSF (299 Pa).
   2. Water Infiltration: No uncontrolled water, other than condensation, on indoor face of any component when tested in accordance with ASTM E 331 at test pressure differential of 20 PSF (958 Pa). Water test to be performed immediately after design pressure test.
   3. Wind Loads: Completed curtain wall system shall withstand wind pressure loads normal to wall plane indicated:
      a. Structural Performance:
         1) Positive Pressure
         2) Negative Pressure
      b. Structural Safety Factor Performance:
         1) Positive Pressure
         2) Negative Pressure
   4. Deflection: Maximum allowable deflection in any member when tested in accordance with ASTM E 330 with allowable stress in accordance with AA Specifications for Aluminum Structures:
      a. Without Horizontals: L/175 or 3/4" (19.1mm) maximum.
      b. With Horizontals: L/175 or L/240 + 1/4" (6.4mm) for spans greater than 13'-6" (4.1m) but less than 40'-0" (12.2m).
   5. Thermal Movement: Provide for thermal movement caused by 180 degrees F. (82.2 degrees C.) surface temperature, without causing buckling stresses on glass, joint seal failure, undue stress on structural elements, damaging loads on fasteners, reduction of performance, or detrimental effects.
   6. Thermal Performance: When tested in accordance with AAMA 1503 and NFRC 102:
      a. Condensation Resistance Factor (CRF): A minimum of 63.
      b. Thermal Transmittance U Value: 0.49 BTU/HR/FT²/°F or less.

   Note: The CRF for the glazed system as a whole will be affected by the characteristics of the glass specified.

2.01 MANUFACTURERS

A. Acceptable Manufacturers: YKK AP America Inc.
   1. Curtain Wall System: YKK AP YHC 300 IG Curtain Wall System.

B. Curtain Wall Framing System:
   1. Description: Framing shall be thermal improved. Horizontal and vertical members shall have a nominal face dimension of 3 inches, depth as indicated on shop drawings. Framing system shall provide a flush glazed appearance on all sides with no protruding glass stops. Framing system shall allow inside setting of glazing infills.
   2. Glazing: Manufacture's standard EPDM glazing gaskets to inhibit water infiltration at the exterior and EPDM glazing gaskets, Dow Corning® 995 Structural Silicone Adhesive with fixed stops at the interior; interior spacers/gaskets are to be silicone or silicone compatible for large missile. EPDM interior gasket for small missile and non-impact applications.

2.02 MATERIALS

A. Extrusions: ASTM B 221 (ASTM B 221M), 6063-T5 and 6063-T6 Aluminum Alloys.

2.03 ACCESSORIES

A. Manufacturers Standard Accessories:
   1. Fasteners: Zinc plated steel concealed fasteners; Hardened aluminum alloys or AISI 300 series stainless steel fasteners. Joint fasteners may be concealed.
   2. Sealant: Non-skinning type, AAMA 803.3
   3. Glazing: Setting blocks, edge blocks, and spacers in accordance with ASTM C 864, shore durometer hardness as recommended by manufacturer; Exterior EPDM gaskets in accordance with ASTM C 864.
   4. Glazing Adhesive: Dow Corning® 995 Structural Silicone.

2.06 FINISHES

A. Anodic Coating: Electrolytic color coating followed by an organic seal applied in accordance with the requirements of AAMA 612.

B. High Performance Organic Coating Finish: Factory applied two-coat 70% Kynar resin by Arkema or 70% Hylar resin by Solvay Solexis, fluoropolymer based coating system, Polyvinylidene Fluoride (PVF-2), applied in accordance with YKK AP procedures and meeting AAMA 2605 specifications.

For additional information on architectural aluminum products offered by YKK AP America Inc. visit our web site at www.ykkap.com.