



The Mylan Architectural Group
Architecture Planning Interior Design Landscape Design

Dennis A. Mylan, RA, PP
Principal

SPECIFICATIONS FOR WINDOW REPLACEMENT

**ROCKCLIFFE APARTMENTS
10 CRESTMONT ROAD
MONTCLAIR, NEW JERSEY**

PROJECT No. 10444B-RAFIM

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One Claremont Avenue, Verona, New Jersey 07044-2933
Telephone 973-746-0890 Fax 973-746-2126 E-Mail mag@mylanarchgroup.com

SECTION 08520 – ALUMINUM WINDOWS**PART 1 – GENERAL****General:**

System Performance Requirements: Provide aluminum window units that comply with or exceed the requirements specified, as demonstrated by testing manufacturer's stock systems according to test methods indicated.

Design Requirements: Comply with structural performance, air infiltration, and water penetration requirements indicated in the latest edition of AAMA 101 for type, grade and performance class of windows required.

Optional Performance Class Requirements: Where required design pressure exceeds the minimum for window grade, comply with requirements of AAMA 101 for higher than minimum performance class.

Design Wind Velocity at the project site shall be as determined from the latest map in AAMA 101 and shall consider the specific location of this building at the top of the ridge line. Minimum wind speed velocity shall be 95 mph unless the map indicates a higher speed.

Testing: Each window type and size shall have been tested in accordance with ASTM E 330 for structural performance, ASTM E 283 for air infiltration, and ASTM E 331 and ASTM E 547 for water penetration. Provide certified test results.

SUBMITTALS:

Submittals: Submit the following:

Product data including construction details and fabrication method; profiles and dimensions of individual components; data on hardware, accessories and finishes; and recommendations for maintenance and cleaning of exterior surfaces.

Samples of each finish on 12-inch long sections of window members. Where finishes involve normal color variations include sets showing full range of variations.

Certification by an independent testing laboratory showing that windows comply with performance requirements indicated.

Design Concept: Profiles, dimensional requirements, color and other characteristics of windows are based on the specific type and model indicated. Windows by other manufacturers may be considered provided deviations do not change the design concept.

Warranty: Window manufacturer shall, at a minimum, warrant that the products noted above shall be free from material and workmanship defects, pursuant to the terms and conditions noted below. Except as otherwise stated, this warranty commences on the date the products are received by the purchaser hereafter referred to as the "Commencement Date".

Terms and exclusions shall match those of Crystal Window and Door Systems, LTD or periods shall exceed those of Crystal warranty periods noted below:

- Manufacturer shall warrant that its product components shall be free from material defects and failures for a period of three (3) years after Commencement Date. Such material defects and failures include: (1) structural failures: (2) water

leakage; and, (3) deterioration of metals or other materials beyond normal weathering.

- Manufacturer shall warrant that its fixed or moving hardware components shall be free from material defects and failures for a period of three (3) years after Commencement Date and that its Products' fixed or moving hardware components will not prematurely deteriorate beyond normal wear and tear.
- Manufacturer shall warrant that its glass components shall be free from material defects and failure for a period of ten (10) years after the Commencement Date. Such material defects and failures include: (1) failure in sealed glass units, (a) hermetic seal failure, (b) inter-pane dusting, (c) inter-pane misting; and (2) failure of insulated tempered glass.
- Manufacturer shall warrant that for a period of three (3) years from the Commencement Date of its Products' components' standard painted finishes will not crack, peel, flake or blister beyond normal weathering.

Exclusions and limitations shall be as noted in Crystal's warranty or shall be less restrictive. A copy of Crystal's warranty is available from the manufacturer.

PART 2 - PRODUCTS:

Manufacturers: Subject to compliance with requirements, provide Crystal Window and Door Systems, LTD 2000A Double Hung Aluminum Windows with tilt-in sash. Provide matching fixed windows by the same manufacturer where replacing fixed windows.

Materials:

Aluminum Extrusions: Extruded aluminum prime billet 6063-T5 or 6063-T6 alloy for primary components; 6063-T5, 6063-T6 or 6061-T6 for structural components; all meeting the requirements of ASTM B221. Aluminum sheet alloy 3003 H 14.

Fasteners: Aluminum, nonmagnetic stainless steel, epoxy adhesive or other materials warranted to be noncorrosive and compatible with window members, trim, hardware, anchors and other components.

Where fasteners screw-anchor into aluminum less than 0.125 inch thick, reinforce the interior with aluminum or nonmagnetic stainless steel to receive screw threads or provide standard noncorrosive pressed-in splined grommet nuts.

Except for application of hardware, do not use exposed fasteners. For application of hardware, use fasteners that match the finish of the member or hardware being fastened, as appropriate.

Anchors, Clips and Window Accessories: Aluminum, nonmagnetic stainless steel or zinc-coated steel complying with ASTM B633 and with sufficient strength to withstand design pressure indicated.

Weatherstripping: At sash: High-density woven pile in combination with continuous polyethylene rigid seal to minimize air infiltration. Securely stake and join at corners. Provide drainage to exterior.

Hardware: Aluminum, stainless steel or corrosion-resistant material compatible with aluminum of sufficient strength to perform the function for which it is intended.

Insect Screens: Provide screens for each operable bottom sash on outside. Design windows and hardware to accommodate screens in a removable, tight-fitting arrangement, with a minimum of exposed fasteners and latches.

Fabric: 18 by 16 fiberglass mesh.

Frames: Tubular-shaped extruded aluminum members with mitered or coped joints and concealed mechanical fasteners. Finish to match windows. Provide removable PVC spline-anchor concealing screen frame edge.

Double-Hung Windows: Comply with AAMA Grade and Performance Class H-C60 including tests for specific product performance requirements. Provide "tilt-in" feature permitting both sides of sash to be cleaned from the interior.

Hardware: Provide the following equipment and hardware:

Sash Balances: Manufacturer's standard type block and tackle. (Ultra-Lift balance on lower sash shall be offered as an option.) Balances shall provide a positive lifting force through the full range of sash travel. Sash travel shall be limited on oversize units. When properly adjusted, balances shall hold sash stationary at an open position.

Locks: White painted zinc alloy sweep lock fastened at meeting rail with two self-tapping screws. Automatic aluminum spring-loaded, anti-drift head lock securing top sash in closed position. Custodial-operated locking tamper-proof tilt latches.

Lift Handle: Integral continuous lift handles on bottom sash.

Fixed Windows: Comply with AAMA Grade and Performance Class to match double-hung windows used.

Fabrication: Fabricate windows to comply with indicated standards. Include complete system for assembly of components and anchorage of windows. Provide units that are reglazable without dismantling sash framing.

Thermal Barrier:

Structural Thermal Barrier shall consist of poured-in-place polyurethane polymer that shall transfer shear during bending and provide composite action between frame components.

Non-Structural Thermal Barrier is used only in conjunction with structural thermal barriers. The purpose of non-structural thermal barriers is to enhance thermal performance of the primary structural thermal barriers (polyamide struts) by inhibiting heat transfer through thermal radiation and convection. Non-structural thermal barriers shall not be used as primary load carrying members. Rigid non-structural thermal barriers shall be constructed of extruded polyvinylchloride (PVC).

Weepholes: Provide weepholes and internal passages to conduct infiltrating water to the exterior.

Provide sloped sills at the exterior and continuous head and sill.

Grilles: Match color of windows. Provide between-the-glass grilles. Grille style and pattern must be approved by Rockcliffe Board or representative.

Preglazed Fabrication: Preglaze windows where possible and practical for applications indicated. Comply with AAMA 101.

Glazing Materials: Design glass to resist design wind pressure based on glass type factors for short-duration load. Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated. Where float glass is indicated, provide annealed float glass. Where fully tempered glass is indicated, or required by Code, provide Kind FT heat-treated float glass. Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated.

U-Factors: Total-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as BTU/sq.ft x h x deg F (W/sq.m x K)

Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.

Visible Reflectance: Center-of-glazing values, according to NFRC 300.

Float Glass: ASTM C 1036, Type 1, Quality-Q3, Class 1 (clear) unless otherwise indicated.

Coated Glass: ASTM C 1376, Type 1, Quality-Q3, Class 1 (clear) unless otherwise indicated, of kind and condition indicated.

Laminated Glass: ASTM C 1172, Type 1, Quality-Q3, Class 1 (clear) unless otherwise indicated, of kind and condition indicated.

Insulating Glass Units: Factory-assemble units consisting of sealed lites of glass separated by PPG Intercept Spacer system consisting of a one-piece, metallic, U-channel design that creates an effective thermal barrier to help reduce conducted heat loss through the window. Insulating glass units shall be sealed with an integral desiccant matrix and a butyl sealant extruded around the entire perimeter of the spacer to achieve a seal. The sealant applied is to be Dual Seal Equivalent (DSE). Interspace to be filled with air or argon gas as required by thermal computer simulation.

Insulating Glass Types: Low-E coated, insulating glass units.

Overall Unit Thickness: 7/8" (22 mm)

Thickness of Each Glass Lite: 3/32", 1/8" or 1/4"

Outdoor Lite: Class 1 (Clear) float glass, or fully tempered float glass

Interspace Content: Air or Argon Gas.

Indoor Lite: Class 1 (Clear) float glass, or fully tempered float glass

Low-E Coating: Sputtered on second or third surface

Glass Winter Night time U-Value: 0.26 maximum

Solar Heat Gain Coefficient: 0.46 maximum

Provide safety glazing labeling, where used.

Finishes: Conforming to AAMA 2604-05 specification, finish on all extruded aluminum shall consist of zero or near-zero VOC, organic POWDER COAT with a baked on super-durable thermosetting polyester resin, electro-statically applied on five-stage pre-treated aluminum surface. Equivalent to 50% Kynar polyvinylidene fluoride liquid paint finishes. Powder coat material to be as manufactured by Sherwin Williams or PPG Powder Coatings. Color to be white selected from Manufacturer's Standard Color Chart and approved by Architect. Color to match the white of Crystal Windows.

PART 3 - EXECUTION

Contractor and workers shall be certified to remove lead containing materials. Contractor to use lead safe practices as per EPA regulation 40 CFR 745. Certificates of licensure and all other information on lead contamination and lead safe practices shall be given directly to the Owner. The Architect is not involved in the identification, examination or removal of any hazardous materials.

Provide protection of existing interior areas including any interior sills. Cover all floors within the work area. Any damage to existing interior finishes or furnishings shall be repaired by the contractor at no cost to the Owner and to the Owner's satisfaction.

Existing windows and window frames are to be carefully and completely removed by the contractor and discarded off-site. Remove debris from site on a daily basis and discard in a legal manner. Do not store debris within the building or on the site. Not more existing windows are to be removed than can be replaced

with new units the same day or before weather threatens rain or windy conditions or other factors prevent installation if new units.

Bring new window units to site only on day of installation unless the apartment owner gives permission to place units within the apartment. Do not store in hallways or other areas of the building or on-site.

Inspect openings before beginning installation. Verify that rough or masonry opening is correct and the sill plate is level. Provide new perimeter blocking if required to properly secure new windows. Blocking material shall be approved by the Architect or Rockcliffe representative.

Installation: Removal and replacement of window treatments and AC units shall be by the apartment owner. Comply with manufacturer's recommendations for installation of windows, hardware, operators and other components. Set windows plumb, level and true to line, without warp or rack of frames or sash. Anchor securely in place sufficiently to maintain permanent positions when subject to normal thermal movement, building movement and specified wind loads. Caulk interior and exterior perimeter using sealant approved by Architect.

Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action.

Set sill members in a bed of compound or with joint fillers or gaskets to provide weathertight construction. Coordinate installation with wall flashings, existing metal cladding and other components of the work.

Field Quality Control: At the discretion and expense of the Owner, conduct on-site tests for air infiltration and water resistance in accordance with AAMA 502 – Voluntary Specifications for Field Testing. The Architect will select units to be tested. Windows not meeting requirements shall be corrected at no cost to the Owner, including reimbursement payment for all testing if the specifications are not met.

Adjust sash and hardware to provide tight fit at contact points and weatherstripping, for smooth operation and weathertight closures.

Clean aluminum promptly after installation. Avoid damage to finishes. Remove excess glazing and sealant compounds, dirt and other substances. Lubricate hardware and other moving parts.

Clean glass and remove any labels of preglazed units promptly after installation of windows. Vacuum clean work area of any debris or residue on a daily basis.

Interior finish work: Interior trims, finish painting and spackling shall be by apartment owner.

END OF SECTION 08520