

SPECIFICATION FOR:

**INSULATED POLYCARBONATE TRANSLUCENT SKYLIGHT,
GLAZED WALL, AND CANOPY SYSTEMS**

NOTE:

- DELETE OPTIONAL/UNNECESSARY ITEMS IN (BRACKETS).
Note: Arrow (→) at left margin denotes option(s).
- SPECIFICATION IN DISC FORMAT IS AVAILABLE UPON REQUEST.

Rodeca GmbH is engaged in continuing research to improve its products. Therefore, the right is reserved to modify or change material in this specification without notice.

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

- A. The General Conditions of the Contract, including Supplementary Conditions and Division 1 – General Requirements, apply to the work of this Section.

1.02 Scope:

- A. The design, manufacture and installation of an aluminum and polycarbonate insulating translucent system. A complete assembly of extruded cellular UV resistant polycarbonate glazing panels incorporated into a complete aluminum framing system, tested and warranted by the manufacturer.

- B. All anchors, brackets, and hardware attachments necessary to complete the specified structural assembly, when included within project scope.

- C. Weatherability and water-tightness performance requirements.

- D. All flashings up to adjoining work are also required as part of the system and shall be included, unless specifically noted as being supplied by others.

- E. Experienced labor with supervision to complete the entire system installation.

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Section _____ - Structural Steel/Wood Framing/Concrete.
- B. Section _____ - Curbs and supporting members.
- C. Section _____ - Roofing.
- D. Section _____ - Sheet Metal and Flashing.
- E. Section _____ - Sealants.

1.04 QUALITY ASSURANCE.

- A. Materials and Products shall be manufactured by a company continuously and regularly employed in the manufacture of glazing systems using cellular polycarbonate panel systems for a period of at least ten (15) years. Manufacturers shall provide a list of at least ten (10) projects having been in place a minimum of five (5) years.

- B. Erection shall be by the manufacturer or an installer experienced in erection of systems of the type specified.

- C. The manufacturer shall be responsible for the configuration and fabrication of the complete system, and will ensure that it fully meets all requirements of this specification.

D. APPROVED MANUFACTURERS:

Acceptable manufacturers for this project are:

Rodeca

OR pre-approved equal.

Any other manufacturer seeking acceptance for use on this project under this section must be approved prior to bid. Manufacturers must submit evidence of compliance with all performance criteria specified herein.

Any exceptions taken to this specification must be noted on the approval request. If approval is granted and non-compliance is subsequently discovered, the previously given approval will be invalidated and use of the product on the project will be disallowed. Requests for approval, with all test reports, submittals, and samples as specified herein, must be received no less than twelve (12) days prior to bid date. A list of all approved manufacturers and products will be issued by addendum. No verbal approvals will be given.

E. DISTRIBUTOR

1. Muralis Architectural 604-319-3777

F. INSTALLER

1. Keith Panel Systems p. 604-987-4499
f. 604-987-4742

1.05 SUBMITTALS:

A. Submit three (3) each of the following to the Architect for review at the same time the Shop Drawings are submitted.

1. Each aluminum frame section – 6” long.
2. Samples of aluminum illustrating the specified finish.
3. Glazing gaskets – 6” long – each type.
4. Samples of glazing, each minimum 6” x 6”, in specified color.
5. Test Data.
6. Product Literature.

B. Shop Drawings

1. Shop drawings shall include plans, elevations, sections and details of the system. Flashings, sealants and anchorage details shall be clearly indicated.

2. Note gauges of frame metals, finishes of frames and hardware. Also note dimensions (if known) of the work to be performed by other trades.
3. Label fastening devices as to type and spacing.

C. Product Data

1. Submit proposed manufacturer's catalog cuts and specifications to clearly illustrate and describe the submitted system. See Article 1.04D and Article 2.01

1.06 Delivery, Storage and Handling

- A. Deliver materials to the jobsite in the manufacturer's original and unopened containers and bearing labels as to type of material and manufacturer's name. Delivered materials shall be identical to approved samples.
- B. Store materials under cover in a dry, clean location, off the ground in a well ventilated covered area below 80 degrees F. Remove from the jobsite any materials that are damaged or otherwise not suitable for installation and replace with acceptable materials. Do not drop, slide or drag materials.

1.07 Warranty

- A. Warranty required as per Section 4.01, following.

Part 2 PRODUCTS

2.01 Materials

- A. The Aluminum Members of the Glazing System shall conform to the following:
 1. The extrusions shall be 6063-T5, 6005-T5 or 6105-T5 alloy and temper. All sections shall be formed true to detail and free from defects impairing appearance, strength or durability.
 2. The rabbet depth at the edges of the framing shall be confirmed by the manufacturer, here with the manufacturer must be made privy to the mounting temperatures to calculate the correct rabbet depth.
 3. Gasketing is to be according to manufacturers 4000 Frame System.
 4. Fasteners, may be stainless or zinc-plated steel in accordance with ASTM Specifications A165-55 or A164-55.

5. Exposed surfaces of the aluminum-framing members shall be finished as follows:

- Mill Finish:
- Anodized: 204 R1
 215 R1D
- Painted: Acrylic Enamel
 Kynar (Fluorocarbon)
- Anodize or
Paint Color: _____

6. Aluminum and/or galvanized steel flashings and other brake metal components shall be minimum .040" thick (if aluminum) or 24 ga. thick (if steel) (thicker where so specified on the drawings). The finish on this metal shall match as closely as possible that which is on the extruded aluminum framing members.

7. Attachment of glazing sheets to the transverse structural elements (i.e. purlins or girts) or to structural members parallel to the translucent panels shall be achieved by means of:

- 50 mm gliding fastener 2854
OR
- 100 mm gliding fastener 2854
OR
- Continuous gliding fastener 2895
OR
- Continuous PC – V profile 2890 & 2891

B. The polycarbonate glazing panels for the system shall conform to the following:

1. Appearance:
 - A. The extruded panels shall be uniform in color with an integral extruded multi-cell core. The panel's exterior skins shall be interconnected and spaced apart by supporting continuous

ribs, perpendicular to the skins. In addition, the space between the two exterior skins, in a cross section, shall be divided by either one, two or four parallel intermediate walls.

- B. Panels shall consist of a polycarbonate resin with permanent, co-extruded, ultraviolet protective layer on the exterior side of the panel. This protective layers shall be co-extruded by the manufacturer during the original extrusion of the panel and shall be a permanent part of the exterior of the panels. Post-applied coating or films of dissimilar materials are unacceptable.
- C. Panels shall be formed using resin which contains small glass beads. These beads provide diffusion of the light as it passes through the panels.
- D. Panel thickness shall be a minimum 15 mm
- E. Panel weight shall be nominally .71 lbs. per sq. ft.
- F. Panel Width shall not exceed 2'.

2. Translucent Panel System:

- A. Panel shall be extruded in one single length. Should transverse connections be required then only in combination with Rodeca 4000 framing system. The panels incorporate tongue and groove which are extruded at each side of the panels. Welding or gluing or otherwise attaching standing seams is not acceptable.
- B. Perimeter framing and mullions are to be dry glazed profiles, using no sealant, welding, or adhesives.
- C. Perimeter framing members, _ shall _ shall not incorporate an integral structural polyurethane thermal break.
- D. In general, concealed fasteners are to be used for all aluminum framing.
- E. In system construction, the use of adhesives, plastic welding, or sealants is not allowed.
- F. Free thermal movement of the panels shall be allowed to occur without compromising the weathertightness of the completed system.

3. Air Infiltration:

- A. Per ASTM D-283 at a test pressure of 6.24 PSF, maximum air infiltration shall be 0.003 CFM/sq. ft. of glazing area.
4. Water Penetration:
 - A. There shall be no water penetration when tested vertically per ASTM E-331 at test pressure of 20 PSF.
5. Maintenance:
 - A. The system shall require no scheduled re-coating to maintain its weathering or structural performance or for UV protection.
 - B. Refer to Section 3.03 for cleaning and protection procedures.
6. Thermal Performance:
 - A. Insulation Value ("U-Value"): .37 BTU/hr. – sq. ft. degree F.
 - B. Light Transmission: [clear = 71 - 67%] [opal = 53 - 44%] by special colours or finishes available on request
7. Flammability:
 - A. The system shall incorporate approved light-transmitting panels, with a CC1 fire rating classification as tested per ASTM D-635 or equivalent.
8. Loading:
 - A. The panel system shall be capable of meeting the design load for this project based on relevant code requirements and laboratory testing per ASTM E-330 shall evidence this fact.
9. ICBO Approval:
 - A. The polycarbonate panels shall bear a current approval by the International Conference of Building Officials (ICBO) for the exact thickness and configuration which is proposed for this project.
10. The interior cells of the cellular polycarbonate sheets shall be blown clean prior to being sealed. The top and bottom of each sheet shall be sealed with an air permeable filter tape.
12. Glazing shall be installed in accordance with panel and system manufacturer's guidelines.

C. Fasteners

1. Bolts, anchors and other fastening devices shall be as required for the strength of the connections and shall be suitable for conditions encountered. Washers shall be of the same metals as fasteners.
2. Fasteners exposed to the weather shall be 300 Series stainless steel and shall utilize stainless steel washers with neoprene seals.
3. Concealed fasteners shall be stainless steel or zinc plated steel as per ASTM A-165.

2.02 Workmanship

- A. Carefully and accurately design, fabricate and assemble work with proper provision for thermal contraction and expansion. Work shall conform to profiles and sections noted on the shop drawings. Work shall be assembled with joints in a neat and finished manner.
- B. Fasteners: Of a strength and spacing sufficient to meet the testing requirements as stated in Section 1.03B and to resist the specified load requirements or code requirements.
- C. Protect contact points between unprotected dissimilar metals (except stainless steel) using continuous separators of FRP or PVC tape (or approved equal).

2.03 Design Loading

- A. Design load for this project is:
 1. Wind Load _____ PSF (Positive) _____ PSF (Negative)
 2. Snow Load _____ PSF.

Part 3 EXECUTION

3.01 Examination

- A. All submitted opening sizes, dimensions and tolerances are to be field verified by the installer unless otherwise stipulated.
- B. Installer to examine site conditions to verify readiness. Notify general contractor or owner about any defects requiring correction. Do not work until conditions are satisfactory.

3.02 Installation

- A. Install components in strict accordance with manufacturer's instructions and approved shop drawings. Use proper fasteners and hardware for material attachments as specified.
- B. Use methods of attachment to structure which include provisions for thermal movement.
- C. Remove all protective coverings on polycarbonate panels during or immediately after installation.

3.03 Cleaning and Protection

- A. During installation, protect exposed surfaces against accumulation of paint, caulking, disfiguration and damage.
- B. Follow panel manufacturer's instructions when cleaning exposed panel surfaces.
- C. Follow panel manufacturer's guidelines when removing foreign substances from panel surfaces. Use only solvents that are deemed acceptable for use.
- D. Interior glazing surfaces shall be cleaned as the panels are being installed. The exterior shall be cleaned as each phase of the work is completed.
- E. Before final acceptance, repair and/or replace any defective materials or work.

Part 4 RESPONSIBILITIES OF OWNER AND MANUFACTURER

4.01 Warranty

- A. The Manufacturer of the window/skylight hereby warrants to the Building Owner that, if within five (5) years from the last date of substantial installation or the date of sale of the window/skylight system, the Owner notifies the Manufacturer in writing that the window/skylight system leaks due to defects in the window/skylight system, Manufacturer will, at its option, repair or provide replacements only for those components of the window/skylight system found to be defective. In no event shall Manufacturer have liability for special, indirect, consequential or punitive damages. Anything in this warranty notwithstanding, the glazing panels and battens utilized in the window/skylight system shall be covered only by the Standard Warranty of the glazing manufacturer.

- B. The above-stated warranty shall be invalid in the event of structural movement of the building(s), negative air pressure inside the building(s), acts of God, alteration to the window/skylight system by anyone other than the Manufacturer or its authorized representative, or abuse/unreasonable use of the window/skylight system. Further, this warranty shall be invalid in the event of non-payment of the invoice(s) covering the purchase of the window/skylight system within the terms provided in those invoices.

- C. Manufacturer makes no warranties or representations, expressed or implied, which extend beyond this warranty and specifically disclaims all other warranties, including but not limited to warranties of merchantability and fitness for a particular purpose.