

10 73 00 - STANDING SEAM MONOLITHIC (NON-CELLULAR) POLYCARBONATE LOW SLOPE CANOPY

NOTE:

- IN ORDER TO ENSURE THE BEST SPECIFICATION FOR YOUR APPLICATION WE RECOMMEND THAT YOU CONSULT WITH YOUR LOCAL CPI REPRESENTATIVE FOR ASSISTANCE.
- DELETE OPTIONAL/UNNECESSARY ITEMS IN [BRACKETS].
Note: \Rightarrow in left margin denotes option(s).

CPI U-LITE STANDING SEAM MONOLITHIC POLYCARBONATE LOW SLOPE CANOPY SPECIFICATION

To be certain that you are using the most recent available CPI Specification, please visit our website at www.cpidaylighting.com and download the current version.

CPI DAYLIGHTING, INC. IS ENGAGED IN CONTINUING RESEARCH TO IMPROVE ITS PRODUCTS. THEREFORE, THE RIGHT IS RESERVED TO MODIFY OR CHANGE MATERIAL IN THIS SPECIFICATION WITHOUT NOTICE.

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PART 1 GENERAL

1.1 RELATED DOCUMENTS:

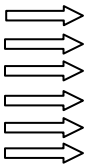
- A. The General Conditions of the Contract, including Supplementary Conditions and Division 1 - General Requirements, apply to the work of this Section.

1.2 WORK INCLUDED:

- A. Design, manufacture and installation of Standing Seam Monolithic (Non-Cellular) Polycarbonate system. An assembly of extruded solid polycarbonate glazing panels incorporated into a complete aluminum framed system that has been tested and warranted by the manufacturer as a single source system. Cellular or multi-cell polycarbonate panel is not acceptable.
- B. All anchors, brackets, and hardware attachments necessary to complete the specified structural assembly, weatherability and water-tightness performance requirements. All flashing up to but not penetrating adjoining work are also required as part of the system and shall be included.
- C. Trained and factory authorized labor with supervision to complete the entire panel installation.

1.3 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 _____ - Sealant.



1.4 QUALITY ASSURANCE

- A. Materials and Products shall be manufactured by a company continuously and regularly employed in the manufacture of canopies using polycarbonate (not glass) panel systems for a period of at least ten (10) years.
- B. Erection shall be by a factory-approved installer which has been in the business of erecting similar material for at least five (5) consecutive years and can show evidence of satisfactory completion of projects of similar size, scope and type.
- C. The manufacturer shall be responsible for the configuration and fabrication of the complete panel system, and will ensure that it fully meets all requirements of this specification.

1.5 APPROVED MANUFACTURERS:

- A. All manufacturers acceptable 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. This evidence must include proof of conformance and test reports as specified below. Any exceptions taken from this specification must be noted on the approval request. If no exceptions are noted and approval is given, product performance will be as specified. Should non-compliance be 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 appropriate submittal data and samples must be received no less than 10 days prior to bid date. A list of all approved manufacturers and products

will be issued by addendum. No other manufacturers will be acceptable. No verbal approval will be given. Listing manufacturers' names in this specification does not constitute approval of their products or relieve them of compliance with all the performance requirements contained herein.

1.6 SUBMITTALS:

- ⇒
- A. Submit shop drawings and color samples in accordance with Section 01_____
 - B. The manufacturer shall submit written guarantee accompanied by substantiating data, stating that the products to be furnished are in accordance with or exceed these specifications.
 - C. The manufacturer shall submit certified test reports made by an independent organization for each type and class of panel system. Reports shall verify that the material will meet all performance requirements of this specification. Previously completed test reports will be acceptable if they are current and indicative of products used on this project. Test reports required are:
 - 1. Self-ignition Temperature (ASTM 1929)
 - 2. Smoke Density (ASTM D-2843)
 - 3. Burning Extent (ASTM D-635)
 - 4. Interior Flame Spread per (ASTM E-84)
 - 5. Water Penetration per (AAMA 501.2)
 - 6. Large Missile Test – Impact Resistance per TAS 201-94
 - 7. Impact level D per ASTM 1886 & ASTM E1996.
 - 8. Concentrated Load per ASTM E661
 - 9. Concentrated Load per OSHA and California Code of Regulations for 600 Ft-Lbs
 - D. Submit Installer Certificate signed by installer, certifying compliance with project qualification requirements.

1.7 MAINTENANCE DATA:

- A. The manufacturer shall provide recommended maintenance procedures, schedule of maintenance and materials required or recommended for maintenance.

1.8 WARRANTY:

- ⇒
- A. Provide a single source Canopy system manufacturer warranty against defective materials and fabrication. Submit manufacturer's written warranty agreeing to repair Canopy system work, which fails in materials within [one year] [Extended warranty: for [2], [3]] years of the date of delivery.
 - B. Provide single source manufacturer 10 year glazing panel warranty. Third party warranty for glazing panels shall not be acceptable. Glazing warranty to include:
 - 1. Change in light transmission of no more than 6% per ASTM D-1003.
 - 2. No delamination of panel affecting appearance, performance or structural integrity of the panel or the system.
 - C. In addition, submit installer's written warranty agreeing to repair installation workmanship, defects and leaks within [one year] [Extended warranty for [two years], [3 years]] of the date of delivery.
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PART 2 PRODUCTS

2.1 STANDING SEAM MONOLITHIC POLYCARBONATE GLAZING SYSTEM:

- A. The design and performance criteria of this job are based on Briteway - **U-LITE Standing Seam Monolithic (Non-Cellular) Polycarbonate system** as manufactured by CPI Daylighting, A Kingspan Light + Air Company
 Phone: (800) 759-6985, Fax (847) 816-0425;
 Website: www.cpidaylighting.com www.kingspanlightandair.com

Substitute products must be proven equal and approved by addenda prior to the published bid date per specification section 1.04 E. Cellular or multi-cell polycarbonate panels are specifically not allowed.

2.2 PANEL PERFORMANCE

A. Appearance:

1. Panel assembly thickness shall be a minimum 0.15" (4mm) single panel with exposed interlocking Aluminum U battens.
2. Panel Width: Shall not exceed 2' to ensure best performance for wind uplift, vibration, oil canning and visual appearance. Panels over 2' wide will not be approved.

B. Panel Joint System:

1. Panel shall be extruded in one single formable length. Maximum panel width shall not exceed 2'. Transverse connections are not acceptable.
2. The panels should be manufactured with up stands that are integral to the unit.
3. The up stands shall be 90 degrees to the panel face (standing seam dry glazed concept). Welding or gluing of upstands or standing seam is not acceptable.
4. The aluminum U battens shall have a screw down clamping mechanism to ensure the designed uplift capability.
5. Free movement of the panels shall be allowed to occur without damage to the weather tightness of the completed system.

C. Flammability:

1. The panel shall be an approved light transmitting plastic with a CC1 fire rating classification per ASTM D-635.
2. Smoke density no greater than 75 per ASTM D2843.
3. Minimum self-ignition temperature of 1000°F per ASTM 1929.
4. The panel shall be self-extinguishing. Flame spread no greater than 25 per ASTM E-84

D. Impact Resistance – the panels shall meet the following test requirements:

1. TAS 201-94, impact resistance of 350 Ft-Lbs
2. Impact resistance per ASTM 1886 & ASTM E1996 level D
3. Concentrated load per ASTM E661 of 400 Ft-Lbs
4. Concentrated load per OSHA and California Code of Regulations for 600 Ft-Lb Load

E. Weatherability:

1. Panels shall consist of a polycarbonate resin with a permanent, co-extruded, ultra-violet protective layer. Post-applied coating or films of dissimilar materials are unacceptable.
2. Color Change: Per ASTM D2244, No more than 3.0 units Delta E after 60 months outdoor weathering in Arizona as determined by an average of at least two samples.

F. Solar Performance:

1. Visible Light Transmission - Center of Glass (V.T. %) _____





2. Solar Heat Gain Coefficient (SHGC) [_____]



3. Color: _____

2.3 METAL FRAME STRUCTURE



A. Design criteria shall be:



1. Negative design wind Load: _____ PSF



2. Positive design wind load: _____ PSF.

3. Snow Load _____ PSF.

4. Drift Load: _____ PSF

B. The glazing framing is designed to be self-supporting between the support constructions. The deflection of the structural framing members in a direction normal to the plane of the glazing, when subjected to a uniform load deflection, shall not exceed L/60 for the unsupported span. The canopies will impose reactions to the support construction. All adjacent and support construction must support the transfer of all loads, both horizontal and vertical, exerted by the canopies. Design or structural engineering services for the supporting structure or other building components not included in the canopy scope are not included under this section.

C. Water Penetration testing of the Metal Frame Structure shall be conducted according to procedures in AAMA 501.2.

2.4 METAL MATERIALS

A. Extruded Aluminum shall be ANSI/ASTM B221; 6063-T6; 6063-T5 or 6005-T5.

B. Flashing:

1. 5005 H34 aluminum 0.04" minimum thickness.

2. Sheet metal flashings/closures/claddings are to be furnished shop formed to profile - when lengths exceed 10 ft. in nominal 10-ft lengths. Field trimming of the flashing and field forming the ends is necessary to suit as-built conditions. Sheet metal ends are to overlap at least 6-in. to 8-in., set in a full bed of sealant and riveted if required.

C. All Fasteners for aluminum framing to be stainless steel or cadmium plated steel, excluding the final fasteners to the building.

D. All exposed ALUMINUM FINISH shall be from CPI standard color range:

[Mill Finish]

[CPICRF™- STANDARD TGIC Polyester resin powder coat per AAMA 2603 with [1] [5] year warranty]

[CPICRF™- PREMIUM polymer resin powder coat per AAMA 2604 with 10 years warranty]

[CPICRF™ -EXTRA PREMIUM 70% base resin PVDF wet paint per AAMA-2605 non-exotic, non-metallic with [10] [20] year warranty]

[CPICRF™- EXTRA PREMIUM EXOTIC METALIC 70% PVDF base resin wet paint per AAMA-2605 with [10] year warranty] [Clear Anodize with [1] [5] year warranty] [Bronze Anodize with [1] [5] year warranty] [Black Anodize with [1] [5] year warranty]

PART 3 EXECUTION

3.1 EXAMINATION

A. General Contractor to verify when structural support is ready to receive all work in this section and to convene a Pre-Installation Conference at least one week prior to commencing work of this Section. Attendance required of General Contractor, canopy installer and all parties directly affecting and effected by the work of this section.

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

3.2 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 allowing sufficient adjustment to accommodate tolerances.
- C. Remove all protective coverings on panels immediately after installation.

3.3 CLEANING

- A. Follow manufacturer's instructions when washing down exposed panel surfaces using a solution of mild detergent in warm water that is applied with soft, clean wiping cloths. Always test a small area before applying to the entire area.
- B. Follow strict panel manufacturer guidelines when removing foreign substances from panel surfaces requiring mineral spirits or any solvents that are acceptable for use.
- C. Installers shall leave panel system clean at completion of installation. Final cleaning is by others upon completion of project, following manufacturer's cleaning instructions.

END OF SECTION