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| **Solutions in Polycarbonate LLC**  |  |
| **WeatherShade™ Polycarbonate Guide Specification** |
|  | Ver. 0.81 Dated 02/15/2017 |

**SECTION 10 73 16 – POLYCARBONATE CANOPY SYSTEMS**

PART 1 General Specifications

1.1 Summary

A. This section includes the Translucent Canopies and Covered Walkways as shown and specified of which the work consists of the following:

1. Design, engineering, and manufacture of a polycarbonate canopy system.

2. Installation of said system to include all applicable fasteners, anchors, mounting hardware, and brackets required to complete the installation of a watertight glazing system.

3. Related flashing as specified in the drawings and specifications to be included.

1.2 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. Related work specified in other Specification Sections includes:

a. Structural Steel/Rough Carpentry/Concrete Section \_\_\_\_\_\_\_\_\_\_

b. Flashing and Sheet Metal Section \_\_\_\_\_\_\_\_\_\_

c. Roofing and Weatherproofing Section \_\_\_\_\_\_\_\_\_\_

d. Curbs and Supporting Members Section \_\_\_\_\_\_\_\_\_\_

e. Sealants Section \_\_\_\_\_\_\_\_\_\_

1.3 Submittals

A. Submit related shop drawings showing all applicable details including connections to adjacent work.

B. Submit color samples for the proposed aluminum finishes in 6” long profiles. If the aluminum is to have an anodized finish, include both the light and dark variations of the finished piece to show the range of colors to be expected.

C. Submit 10” x 12” samples of the glazing product to be used in conjunction with the project.

D. Submit certified test reports from an independent testing agency not affiliated in any way with the manufacturer of the system. Reports must show that the materials or system meets or exceeds all specifications required in this Section. Previously completed reports are acceptable if the test reports are for the same system and products being used on the current project. The required test reports are as follows:

1. Self-Ignition Temperature of Plastics (ASTM D1929)

2. Flame Spread & Smoke Development (ASTM E84)

3. Burn Rate (ASTM D635)

4. Water Penetration (ASTM E-331)

5. Structural Performance (ASTM E-330)

1.4 Quality Assurance

A. Manufacturer

1. The manufacturer of the system must regularly be in the business of producing multiwall polycarbonate systems and those systems must be designed for the specific purpose of utilizing multiwall polycarbonate sheets for the glazing infill. Manufacturers using systems designed for other types of glazing (i.e. glass or fiberglass) are not acceptable.

2. The manufacturer is responsible for the design, engineering, and manufacture of the completed system.

B. Installer

1. The installer must be certified by the manufacturer as an approved contractor for the erection of its products.

2. The installer must submit evidence of erecting five (5) previous projects of similar scope and size.

1.5 Warranty

A. The manufacturer is to provide a single source warranty against defect for the entire system including the glazing system and metal framing.

B. The ten (10) year warranty shall include:

1. Warranty against leakage due to improper design or substandard materials.

2. Warranty against collapse or catastrophic failure within the architect’s established project design conditions.

3. Warranty against color change of the glazing or the aluminum finish by more than 8.0 Delta Units as per ASTM 1003.

C. The warranty covers the replacement of the defective materials only.

PART 2 Components

2.1 Product Manufacturers

 A. Solutions in Polycarbonate, LLC

6353 Norwalk Road

Medina, OH 44256

 (330) 572-2860 phone

(330) 572-2861 fax

Info@solutionsinpc.com

[www.solutionsinpc.com](http://www.solutionsinpc.com)

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B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 63 00 - Product Substitution Procedures.

2.2 Framing Structure

1. Metal Framing shall consist of aluminum extrusions in 6061-T5, 6063-T5, or 6063-T
2. Sheet Metal Flashing shall consist of ten (10) foot lengths and pre-formed in a shop. The minimum thickness shall be no less than 0.040”. All sheet metal flashing shall be overlapped a minimum of 1 ½” but not to exceed 3” per SMACNA recommendations.

C. Fasteners shall be stainless steel with stainless steel backed neoprene washers where required.

D. Design Loads:

1. Wind Load = \_\_\_\_\_\_\_\_\_\_ mph

2. Snow Load = \_\_\_\_\_\_\_\_\_\_ psf

3. Live Load = \_\_\_\_\_\_\_\_\_\_ psf

4. Deflection = L/ \_\_\_\_\_\_\_\_

E. Design system to allow for thermal expansion and contraction of the polycarbonate glazing due to a temperature variance of 130 degrees Fahrenheit.

F. Weepage System

1. Design an interior condensate/water infiltration control system to channel water that penetrates the system to the lowest point of the glazing system and expels the water to the exterior by means of gravity.

2. Sloped Glazing Systems must incorporate a condensate control system to prevent uncontrolled leakage to the interior.

G. The capture system of the adjoining panels shall be an aluminum rafter system utilizing a gasketed pressure seal secured with mechanical fasteners at a pre-determined on center spacing to insure the prevention of uplift.

2.3 Glazing

1. Glazing panel shall be polycarbonate multiwall sheets in a single panel configuration, and shall be 20mm in thickness. The color of the Panel shall be {SELECT ONE} Clear, White, Opal, Bronze, Custom Color.
2. Flammability of the Glazing Sheet:
	1. The glazing sheet shall not support its own combustion but must be self-extinguishing upon removal of the heat source.
	2. The flame spread as tested by ASTM E-84 shall qualify for a Class B rating per NFPA (50 or less).
3. The Light Transmission shall be \_\_\_\_\_% or greater.
4. Glazing panels shall have an on-center spacing of 24” inches.

2.4 Gaskets

1. Gasket to be of 55 Durometer EPDM to allow thermal expansion/contraction movement of the multiwall polycarbonate.

2.5 Aluminum Finishes

A. Provide the following finish to the exposed aluminum: {SELECT ONE}

1. Clear Anodic Coating, Class 1: MM1 OC22A41 clear anodized coating complying with AAMA 611-98, 0.7 mil thick minimum.

2. Color Anodic Coating, Class 1: AAM1 OC22A44 [medium bronze] [dark bronze] [black] coating electrolytically deposited complying with AAMA 606.1, 0.7 mil thick minimum.

3. Powder Coating: AMMA 2604 [standard] [custom] [paint manufacturer's color number] as selected by the architect.

4. Fluoropolymer Coating [2 coat] [3 coat] [4 coat]: 70% Kynar 500 resin base fluoropolymer finish complying with AAMA 2604-98 [standard] [custom] [non-exotic] [paint manufacturer's color code number] as selected by the architect.

2.6 Sealant

A. Type: One-component, neutral-cure, RTV (room temperature vulcanizing) silicone rubber sealant for structural and non-structural glazing, structural attachment of panel systems, and above-grade weather sealing joints with most common construction materials; Dow Corning® Contractors Weatherproofing Sealant, as manufactured by Dow Corning Corporation.

B. Compliance: Sealant shall meet or exceed requirements of these standards.

1. ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.

2. ASTM C1184, Type S, Use G, A, and O.

3. GSA CID A-A-272A - Sealing Compound: Silicone Rubber Base

4. GSA CID A-A-1556 -Sealing Compound Elastomeric Type, Single Component

1. Color: To match Aluminum Framing Finish
2. Volatile organic compound (VOC) content: 28 grams/liter.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

 END OF SECTION