

SECTION 06650 - SOLID POLYMER FABRICATIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. The extent of solid polymer fabrications is shown on the Drawings and includes:
 - a. Window Sills.
- B. Related Sections: The following sections contain requirements that relate to this Section:
 - 1. Division 6 "Rough Carpentry".

1.3 REFERENCES

- A. Applicable Standards: Standards of the following, as referenced herein:
 - American National Standards Institute (ANSI).
 - American Society for Testing and Materials (ASTM).
 - National Electrical Manufacturers Association (NEMA).
 - Federal Specifications (FS).

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Shop Drawings: Indicate dimensions, component sizes, fabrication details, attachment provisions and coordination requirements with adjacent work.
- C. Samples: Submit minimum 2 inch by 2 inch samples. Indicate full range of color and pattern variation. Approved samples will be retained as a standard for work.
- D. Product Data: Indicate product description, fabrication information and compliance with specified performance requirements.
- E. Maintenance Data: Submit manufacturer's care and maintenance data, including care, repair and cleaning instructions and maintenance video. Provide maintenance kit for [matte] finishes. Include in project close-out documents.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver no components to project site until areas are ready for installation. Store indoors.
- B. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

1.6 QUALITY ASSURANCE

A. Allowable Tolerances:

Variation in component size: $\pm 1/8$ inch.
 Location of openings: $\pm 1/8$ inch from indicated location.

1.7 WARRANTY

- A. Provide manufacturer's warranty against defects in materials excluding damages caused by physical or chemical abuse or excessive heat. Warranty shall provide for replacement or repair of material and labor for a period of ten years, beginning at Date of Substantial Completion.
- B. Maintain surfaces in accordance with manufacturer's care and maintenance instructions.

PART 2 – PRODUCTS

2.1 SOLID POLYMER FABRICATIONS

A. Acceptable Products:

- 1. Corian® Surfaces
- 2. E. I. du Pont de Nemours & Co., Inc.
- 3. Or approved equal.

B. Material:

- 1. Cast, filled, acrylic; not coated, laminated or of composite construction, meeting ANSI Z124 1980, Type Six, and FS WW-P-541E/GEN dated August 1, 1980.
- 2. Material shall have minimum physical and performance properties specified.
- 3. Superficial damage to a depth of 1/32 inch shall be repairable by sanding or polishing.
- 4. Material Thicknesses [3/4 inch].

C. Colors: As selected by Architect from manufacturer's full range of colors, patterns and textures.

D. Edge Treatments: Bull Nose with “Dog Ears”

E. Performance Characteristics:

PROPERTY	REQUIREMENT (min/max)	TEST PROCEDURE
Tensile Strength	5000 psi min	ASTM D638
Tensile Modulus	1.0×10^6 psi min	ASTM D638
Flexural Strength	7000 psi min	ASTM D790
Flexural Modulus	1.0×10^6	ASTM D790
Elongation	0.3% min.	ASTM D638
Strain at Break	0.8% min.	ASTM D638

ADDENDUM #1**SEPTEMBER 18, 2018**

Hardness	90-Rockwell "M" scale 52-Barcol Impressor min.	ASTM D758
Thermal Expansion	3.5×10^{-6} in/in/deg C max 1.95×10^{-6} in/in/deg F max	ASTM D696
Color Stability	No change, min. 100 hours	NEMA LD3-3.10
Wear and Cleanability	Passes	ANSI Z124.3
Abrasion Resistance	No loss of pattern Weight loss (1000 cycles)=0.9 g. max.	NEMA LD3-3.01 ANSI Z124.3
Boiling water Surface Resistance	No Change	NEMA LD3-3.05
High Temperature Resistance	No Change	NEMA LD3-3.06
Conductive Heat Resistance	No Change	NEMA LD3-3.08
Impact Resistance Notched Izod	0.24 ft.-lbs./in. of notch min.	ASTM D256, Method A
Gardner	9.0 ft-lbs min.	ASTM D3029
Ball drop 1/4" sheet	36" min. with 1/2 lb ball, no failure	NEMA LD3-303
1/2" sheet	140" min. with 1/2 lb ball, no failure	
3/4" sheet	200" min. with 1/2 lb ball, no failure	
Bowls (point impact)	No cracks or chips	ANSI Z124.3 and 124.6
Stain Resistance	Passes	ANSI Z124.3
Weatherability	No change, min. 1000 hours	ASTM D1499-84
Fungi and Bacteria	No Attack	ASTM G21, ASTM G22
Specific Gravity	1.6 min.	
Water Absorption Weight (% max.)	24 hrs. 0.05 (1/4") max. 0.10 (3/4") max.	Long Term ASTM D570 0.50 (1/4") max. 0.90 (3/4") max.
Flammability		ASTM E84

Solid Colors

Flame spread $\frac{3}{4}$ "
25 max

Smoke Developed 30 max

Class 1

Particulate Patterns

Flame spread $\frac{3}{4}$ "
25 max

Smoke Developed 30 max

Class 1

Pittsburgh Protocol Toxicity (as used by NY state)	solids-80 grams min. particulate patterns-65 grams min.	"LC50" Test
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2.2 ACCESSORY PRODUCTS

- A. Joint Adhesive: Manufacturer's standard two-part adhesive kit to create inconspicuous, non-porous joints by chemical bond.
- B. Panel Adhesive: Manufacturer's standard neoprene-based panel adhesive complying with ANSI A136.1-1967, UL listed.
- C. Sealant: Manufacturer's standard mildew-resistant, FDA, UL listed silicone sealant in colors matching components.

2.3 FABRICATION

- A. Factory fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's printed Instructions and technical bulletins.
- B. Form joints between components using manufacturer's standard joint adhesive; without conspicuous joints. Reinforce with strip of solid polymer material, 2" wide.
- C. Rout and finish component edges with clean, sharp returns. Rout cutouts, radii and contours to template. Smooth edges. Repair or reject defective and inaccurate work.
- D. Finish: Provide surfaces with a uniform matte (gloss range 5-20) finish.

PART 3 – EXECUTION

3.1 INSTALLATION

ADDENDUM #1

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- A. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
- B. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Reinforce joints as required.
- C. Keep components clean during installation. Remove adhesives, sealants and other stains. Keep clean until Date of Substantial Completion. Replace stained and damaged components.
- D. Protect surfaces from damage until Date of Substantial Completion. Repair work or replace damaged work which cannot be repaired to Architect's satisfaction.

END OF SECTION 06650