

# **SECTION 06651**

## **SOLID SURFACE FABRICATIONS**

### **PART 1 — GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes the following horizontal and trim solid surface product types:

- 1. Windowsills

- B. Related Sections include the following:

- 1. Division 6 Section "Rough Carpentry" for Blocking.
  - 2. Division 7 Section "Joint Sealants"

- C. Alternates:

- 1. Refer to Division 1 Section "Alternates" for description of work in this Section affected by alternates.

#### **1.3 DEFINITION**

- A. Solid surface is defined as nonporous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment.

#### **1.4 SUBMITTALS**

- A. Product data:

- 1. For each type of product indicated.
  - 2. Product data for the following:
    - a. Windowsills

- B. Shop drawings:

- 1. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices and other components.
    - a. Show full-size details, edge details, thermoforming requirements, attachments, etc.
    - b. Show locations and sizes of furring, blocking, including concealed blocking and reinforcement specified in other Sections.
    - c. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacle and other items installed in solid surface.

- C. Samples:

- 1. For each type of product indicated.
    - a. Submit minimum 6-inch by 6-inch sample in specified gloss.
  - 2. Approved samples will be retained as a standard for work.

- D. Product data:

- 1. Indicate product description, fabrication information and compliance with specified performance requirements.

F. Manufacturer certificates:

1. Signed by manufacturers certifying that they comply with requirements.

G. Maintenance data:

1. Submit manufacturer's care and maintenance data, including repair and cleaning instructions.
  - a. Maintenance kit for finishes shall be submitted.
2. Include in project closeout documents.

## 1.5 QUALITY ASSURANCE

A. Qualifications:

1. Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.

B. Fabricator/installer qualifications:

1. Work of this section shall be by a certified fabricator/installer, certified in writing by the manufacturer.

C. Applicable standards:

1. Standards of the following, as referenced herein:
  - a. American National Standards Institute (ANSI)
  - b. American Society for Testing and Materials (ASTM)
  - c. National Electrical Manufacturers Association (NEMA)
  - d. NSF International
2. Fire test response characteristics:
  - a. Provide with the following Class A (Class I) surface burning characteristics as determined by testing identical products per UL 723 (ASTM E84) or another testing and inspecting agency acceptable to authorities having jurisdiction:
    - 1) Flame Spread Index: 25 or less.
    - 2) Smoke Developed Index: 450 or less.

## 1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver no components to project site until areas are ready for installation.

B. Store components indoors prior to installation.

C. Handle materials to prevent damage to finished surfaces.

1. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

## 1.7 WARRANTY

A. Provide manufacturer's warranty against defects in materials.

1. Warranty shall provide material and labor to repair or replace defective materials.
2. Damage caused by physical or chemical abuse or damage from excessive heat will not be warranted.

C. Manufacturer's warranty period:

1. Ten years from date of substantial completion.

## 1.8 MAINTENANCE

A. Provide maintenance requirements as specified by the manufacturer.

## PART 2 — PRODUCTS

### 2.1 MANUFACTURERS

A. Manufacturers:

1. Subject to compliance with requirements, provide products by one of the following:
  - a. Corian® surfaces from the DuPont company (basis of design).
  - b. Virginia Marble
  - c. Fountain Head.

## 2.2 MATERIALS

- A. Solid polymer components
  1. Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.
  2. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.
- B. Thickness:
  1. ½ inch
- C. Edge treatment:
  1. Ease exposed edges both surface and underside

### I. Performance characteristics:

Property	Typical Result	Test
Tensile Strength	6,000 psi	ASTM D 638
Tensile Modulus	$1.5 \times 10^{-6}$ psi	ASTM D 638
Tensile Elongation	0.4% min.	ASTM D 638
Flexural Strength	10,000 psi	ASTM D 790
Flexural Modulus	$1.2 \times 10^{-6}$ psi	ASTM D 790
Hardness	>85	Rockwell "M" Scale
	56	ASTM D 785
		Barcol Impressor
		ASTM D 2583
		ASTM D 696
Thermal Expansion	$3.02 \times 10^{-5}$ in./in./°C ( $1.80 \times 10^{-5}$ in./in./°F)	
Gloss (60° Gardner)	5–75 (matte—highly polished)	ANSI Z124
Light Resistance	(Xenon Arc) No effect	NEMA LD 3-2000 Method 3.3
Wear and Cleanability	Passes	ANSI Z124.3 & Z124.6
Stain Resistance: Sheets	Passes	ANSI Z124.3 & Z124.6
Fungus and Bacteria Resistance	Does not support microbial growth	ASTM G21&G22
Boiling Water Resistance	No visible change	NEMA LD 3-2000 Method 3.5
High Temperature Resistance	No change	NEMA LD 3-2000 Method 3.6
Izod Impact (Notched Specimen)	0.28 ft.-lbs./in. of notch	ASTM D 256 (Method A)
Ball Impact	No fracture—½ lb. ball:	NEMA LD 3-2000
Resistance: Sheets	¼" slab—36" drop ½" slab—144" drop	Method 3.8
Weatherability	$\Delta E^*_{94} < 5$ in 1,000 hrs.	ASTM G 155
Specific Gravity †	1.7	
Water Absorption	Long-term	ASTM D 570

	0.4% (3/4")	
	0.6% (1/2")	
	0.8% (1/4")	
Toxicity	99 (solid colors)	Pittsburgh Protocol
	66 (patterned colors)	Test ("LC50" Test)
Flammability	All colors	ASTM E 84,
	(Class I and Class A)	NFPA 255 &
		UL 723
Flame Spread Index	<25	
Smoke Developed Index	<25	

† Approximate weight per square foot: 1/4" (6 mm) 2.2 lbs., 1/2" (12.3 mm) 4.4 lbs.  
Shapes meet or exceed the ANSI Z124.3 and ANSI Z124.6 standards for plastic sinks and lavatories.

NEMA results based on the NEMA LD 3-2000

## 2.3 ACCESSORIES

### A. Joint adhesive:

1. Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.

### B. Sealant:

1. Manufacturer's standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone — any type), UL-listed silicone sealant in colors matching components.

## 2.4 FACTORY FABRICATION

### A. Shop assembly

1. 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.
2. Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
  - a. Reinforce with strip of solid polymer material, 2" wide.
3. Provide factory cutouts for plumbing fittings and bath accessories as indicated on the drawings.
4. Rout and finish component edges with clean, sharp returns.
  - a. Rout cutouts, radii and contours to template.
  - b. Smooth edges.
  - c. Repair or reject defective and inaccurate work.

## 2.5 FINISHES

### A. Select from the manufacturer's standard color chart.

1. Color: To be selected from standard color chart.

### B. Finish:

1. Provide surfaces with a uniform finish.
  - a. Matte; gloss range of 5–20.

## PART 3 — EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION**

- A. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
  - 1. Provide product in the largest pieces available.
  - 2. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work.
    - a. Exposed joints/seams shall not be allowed.
  - 3. Reinforce field joints with solid surface strips extending a minimum of 1 inch on either side of the seam with the strip being the same thickness as the top.
  - 4. Cut and finish component edges with clean, sharp returns.
  - 5. Rout radii and contours to template.
  - 6. Anchor securely to base cabinets or other supports.
  - 7. Carefully dress joints smooth, remove surface scratches and clean entire surface.

### **3.3 REPAIR**

- A. Repair or replace damaged work which cannot be repaired to architect's satisfaction.

### **3.4 CLEANING AND PROTECTION**

- A. Keep components clean during installation.
- B. Remove adhesives, sealants and other stains.
  
- M. Windowsills:
  - 1. Surfaces of material adhesively joined with inconspicuous seams.
    - b. Horizontal Thickness: ½"
    - d. Edge Details: Ease edges both surface and underneath.
    - e. Finish: Matte

END OF SECTION