

THE FOLLOWING SPECIFICATION IS TO BE USED FOR TOILET PARTITIONS. SOLID SURFACE MATERIALS MAY ALSO BE LOCATED IN DIVISION 6 AND DIVISION 9.

AT THE END OF THE SECTION IS A SCHEDULE. IT MAY BE USED OR DELETED. COORDINATE CAREFULLY.

SECTION 10171 SOLID SURFACE TOILET PARTITIONS

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 vertical solid surface product types:

DELETE BELOW FOR REQUIREMENTS.

1. Toilet partitions.
2. Trim.

- B. Related Sections include the following:

1. Division 1 Section "LEED Requirements" for additional LEED requirements.
2. Division 6 Section "Rough Carpentry" for Blocking.
3. Division 6 Section "Solid Surface Fabrications."
4. Division 9 Section "Solid Surface Wall Cladding."
5. Division 10 Section "Toilet and Bath Accessories."
6. Division 15 Section "Plumbing."

KEEP BELOW IF ALTERNATES ARE SPECIFIED IN DIVISION 1. IF THE PROJECT REQUIRES ALTERNATES, INSERT WORK REQUIRED FOR THE ALTERNATES BELOW AND COORDINATE WITH THE DRAWINGS.

- 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.
- 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 cutouts and holes for plumbing fixtures, soap holders and other items installed in solid surface.

SAMPLES MAY BE PROVIDED IF COLOR AND FINISH HAVE NOT BEEN SPECIFIED.

IF COLOR AND FINISH ARE SPECIFIED, CONSIDER DELETING THIS PARAGRAPH.

- C. Samples:
 - 1. For each type of product indicated.
 - a. Submit minimum 6-inch by 6-inch sample in specified gloss.
 - b. Cut sample and seam together for representation of inconspicuous seam.
 - c. Indicate full range of color and pattern variation.
 - 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.
- E. LEED submittals:

MAINTAIN BELOW IF LOW-EMITTING MATERIALS ARE REQUIRED FOR LEED CREDIT EQ 4.1

- 1. Credit EQ 4.1:
 - a. Manufacturer's product data for installation adhesives, including printed statement of VOC content and material safety data sheets.

MAINTAIN BELOW IF RECYCLED CONTENT IS REQUIRED FOR LEED CREDIT MR 5.1.

- 2. Credits MR 5.1:
 - a. Product data indicating that materials are regionally manufactured and within 500 miles of the project site.

- F. Product certificates:
 - 1. For each type of product, signed by product manufacturer.

FEW MANUFACTURERS PROVIDE THIS TYPE OF CERTIFICATION COMPLIANCE. USE OF PARAGRAPH BELOW MAY LIMIT MANUFACTURER COMPETITION.

- G. Fabricator/installer qualifications:
 - 1. Provide copy of certification number.
- H. Manufacturer certificates:
 - 1. Signed by manufacturers certifying that they comply with requirements.

I. 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)
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.

**KEEP PARAGRAPH BELOW IF SIZE OR
COMPLEXITY OF PROJECT REQUIRES PRE-
INSTALLATION MEETING.**

D. Pre-installation conference:

1. Conduct conference at project site to comply with requirements in Division 1.

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.

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. Insert manufacturer's name.
 - c. Insert manufacturer's name.

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 (0.25 mm) shall be repairable by sanding and/or polishing.

B. Toilet partitions:

1. Pilasters of 1-inch solid surface material:
 - a. Floor mounted.
2. All mounting hardware to be internally mounted in panels and pilasters and to be concealed after assembly of partitions.

C. Urinal screens:

1. Panels to be wall mounted.
2. All mounting hardware to be concealed after installation of panel.

1/2 INCH IS STANDARD THICKNESS FOR THIS APPLICATION. USE OTHER THICKNESSES AS NECESSARY. 1/4 INCH THICKNESS IS ONLY USED FOR APPLIED VERTICAL APPLICATIONS.

SEE MANUFACTURER'S PRODUCT DATA OF PANEL SIZE LIMITATIONS FOR SPECIFIED THICKNESS.

D. Thickness:

1. 1/2 inch
2. 3/4 inch

IF NOT DETAILED ON THE PROJECT, SELECT EDGE TREATMENT HERE.

DELETE BELOW IF NOT REQUIRED FOR PROJECT.

E. Edge treatment:

- 1.
- 2.
- 3.
4. As indicated.

DELETE BELOW IF NOT REQUIRED FOR PROJECT.

IF NOT DETAILED ON THE PROJECT, SELECT INLAY TREATMENT AND LOCATION HERE. BELOW IS JUST AN EXAMPLE.

F. Inlays:

1. Fabricate using manufacturer's approved method.
2. Rout 1/8" deep max. groove for inlay to pattern indicated on designer's drawings.
3. Fill groove using methods approved by manufacturer, avoiding air bubbles or voids.

4. Overfill inlay area.
5. Allow area to fully cure.
 - a. Do not overheat inlay while sanding.
6. Finish and touch up to uniform appearance.

**IF NOT DETAILED ON THE DRAWINGS, PROVIDE
TYPE OF EDGE DETAIL WITH NAME AND
LOCATION OF CONTRASTING COLOR.**

7. Provide full _____ with contrasting color inlay in center of edge.
 - a. Color _____.

G. Performance characteristics:

Property	Typical Result	Test
Tensile Strength	6,000 psi	ASTM D 638
Tensile Modulus	1.5×10^6 psi	ASTM D 638
Tensile Elongation	0.4% min.	ASTM D 638
Flexural Strength	10,000 psi	ASTM D 790
Flexural Modulus	1.2×10^6 psi	ASTM D 790
Hardness	>85	Rockwell "M" Scale ASTM D 785
	56	Barcol Impressor ASTM D 2583
Thermal Expansion	3.02×10^{-5} in./in./°C (1.80×10^{-5} in./in./°F)	ASTM D 696
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 Resistance: Sheets	No fracture—1/2 lb. ball: 1/4" slab—36" drop 1/2" slab—144" drop	NEMA LD 3-2000 Method 3.8
Weatherability	$\Delta E^*_{94} < 5$ in 1,000 hrs.	ASTM G 155
Specific Gravity †	1.7	
Water Absorption	Long-term 0.4% (3/4") 0.6% (1/2") 0.8% (1/4")	ASTM D 570
Toxicity	99 (solid colors) 66 (patterned colors)	Pittsburgh Protocol Test ("LC50" Test)
Flammability	All colors (Class I and Class A)	ASTM E 84, NFPA 255 & UL 723
Flame Spread Index	<25	

† Approximate weight per square foot: 1/4" (6 mm) 2.2 lbs., 1/2" (12 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 required or 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.

THERMOFORMING IS TYPICALLY ONLY AVAILABLE WITH AN ACRYLIC-BASED MATERIAL.

B. Thermoforming:

1. Comply with manufacturer's data.
2. Heat entire component.
 - a. Material shall be uniform, between 275 and 325 degrees Fahrenheit during forming.
3. Form pieces to shape prior to seaming and joining.
4. Cut pieces to finished dimensions.
5. Sand edges and remove nicks and scratches.

MOST MANUFACTURERS HAVE MULTIPLE TIERS FOR PRICING SOLID SURFACE. TYPICALLY, THE LARGER THE PARTICULATE, THE GREATER THE COST. SPECIFYING PRODUCT TO BE SELECTED FROM THE MANUFACTURER'S FULL RANGE OF COLORS IS UNACCEPTABLE AND WILL RESULT IN HIGHER COST AND CONTRACTUAL CONFLICTS.

2.5 FINISHES

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

1. Color:
 - a.
 - b.
 - c.
 - d.
 - e.

SELECT FINISH AFTER REVIEWING SAMPLES. RETENTION OF FINISH DEPENDS ON COLOR SELECTED AND USE OF PRODUCT. SELECT APPROPRIATE FINISH(ES) BELOW. GREATER POLISHING INCREASES COST. MATTE IS STANDARD.

B. Finish:

1. Provide surfaces with a uniform finish.

GREATER POLISHING INCREASES COST. MATTE IS STANDARD, LEAST MAINTENANCE.

- a. Matte; gloss range of 5–20.
 - 1) Color
 - 2) Color
 - 3) Color

USE SEMIGLOSS TO BRING OUT DEPTH IN DARKER PATTERNED MATERIALS. REQUIRES MORE MAINTENANCE.

- b. Semigloss; gloss range of 20–50.
 - 1) Color
 - 2) Color
 - 3) Color

USE POLISHED FINISH FOR LIGHT DUTY ONLY. IDEAL FOR MAXIMUM SMOOTHNESS AND REFLECTANCE. HEAVIER MAINTENANCE. GREATER COST.

- c. Polished; gloss range of 50–80.
 - 1) Color
 - 2) Color
 - 3) Color

DELETE OR ADD TO THE PARAGRAPHS BELOW AS PER PROJECT REQUIREMENTS.

2.6 HARDWARE

A. Hinges:

1. Manufacturer's standard self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.

B. Latch and keeper:

1. Manufacturer's standard surface-mounted latch unit designed for emergency access and with combination rubber-faced door strike and keeper.

- a. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.
- C. Coat hook:
 - 1. Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
- D. Door bumper:
 - 1. Manufacturer's standard rubber-tipped bumper at out-swinging doors and entrance screen doors.
- E. Door pull:
 - 1. Manufacturer's standard unit at out-swinging doors that complies with accessibility requirements of authorities having jurisdiction.
 - 2. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.
- F. All hardware is supplied by fabricator and it's integrally mounted into the partitions at the time of manufacture.
- G. Exposed hardware:
 - 1. All shall be stainless steel type 304.
 - 2. Mild steel:
 - a. Not acceptable.
- H. Urinal screens:
 - 1. No visible mounting hardware is acceptable.
 - 2. Concealed hardware:
 - a. Stainless steel type 304:
 - 1) This material to be used in all panel-to-wall connections.
 - b. Mild steel is not acceptable.

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. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

DELETE BELOW IF NOT ON PROJECT.

- B. Color Inlays:
 - 1. Comply with product data from manufacturer.
 - 2. Rout groove for inlay to straight edge or pattern indicated on drawings.
 - 3. Fill groove using material furnished by manufacturer.

4. Cure inlay, finish and touch up to uniform appearance.

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.

**DELETE SCHEDULE BELOW IF NOT
REQUIRED FOR PROJECT OR IF SCHEDULE
ON DRAWINGS IS COMPLETE.
COORDINATE WITH THE INFORMATION IN
PART 2.**

3.5 SCHEDULE

A. Toilet partitions:

1. Surfaces of material adhesively joined with inconspicuous seams.

Color

- a. Vertical Thickness _____
- b. Inlay _____
- c. Edge Details _____
- d. Finish _____

B. Trim

1. Surfaces of material adhesively joined with inconspicuous seams.

Color

- a. Vertical Thickness _____
- b. Edge Details _____
- c. Finish _____