

THE FOLLOWING SPECIFICATION IS TO BE USED FOR INTERFACING WITH VERTICALLY APPLIED SOLID SURFACE AND TRIM COMPONENTS. SOLID SURFACE MATERIALS MAY ALSO BE LOCATED IN DIVISION 6 AND DIVISION 10.

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

SECTION 09751 SOLID SURFACE WALL CLADDING

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:

DELETE BELOW FOR REQUIREMENTS.

1. Tub and shower walls.
2. Wall cladding/wainscoting.
3. Bumper rails.
4. Handrails.
5. Trim.

- B. Related Sections include the following:

1. Division 1 Section "LEED Requirements" for additional LEED requirements.

USE ABOVE AND DELETE BELOW FOR NONCOMBUSTIBLE PROJECTS THAT WILL NOT ALLOW WOOD BLOCKING. USE BELOW FOR ALL OTHER PROJECTS.

2. Division 6 Section "Rough Carpentry" for Blocking.
3. Division 6 Section "Solid Surface Fabrications."
4. Division 10 Section "Toilet Partitions."
5. Division 16 Section "Wiring Devices."

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.
2. Product data for the following:
 - a. Chemical-resistant wall cladding:

PROVIDE LIST OF SPECIAL CHEMICALS THAT PRODUCT IS REQUIRED TO RESIST. DELETE BELOW IF NOT REQUIRED FOR PROJECT.

- 1) <Insert chemical name.>
- 2) <Insert chemical name.>
- 3) <Insert chemical name.>
- 4) <Insert chemical name.>
- 5) <Insert chemical name.>

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, faucets, soap dispensers, waste receptacle 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.

DELETE BELOW IF COMPLEXITY OF PROJECT DOES NOT REQUIRE COORDINATION DRAWINGS.

- D. Coordination drawings:
 - 1. Shall be prepared indicating:
 - a. Electrical work.
 - b. Miscellaneous steel for the general work.
 - c. Indicate location of all walls (rated and non-rated), blocking locations and recessed wall items, etc.
 - 2. Content:
 - a. Project-specific information, drawn accurately to scale.
 - b. Do not base coordination drawings on reproductions of the contract documents or standard printed data.
 - c. Indicate dimensions shown on the contract drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements.
 - d. Provide alternate sketches to designer for resolution of such conflicts.

- 1) Minor dimension changes and difficult installations will not be considered changes to the contract.
 3. Drawings shall:
 - a. Be produced in 1/2-inch scale for all fabricated items.
 4. Drawings must be complete and submitted to the architect within 60 days after award of contract for record only.
 - a. No review or approval will be forthcoming.
 - b. Coordination drawings are required for the benefit of contractor's fabricators/installers as an aid to coordination of their work so as to eliminate or reduce conflicts that may arise during the installation of their work.
- E. Job mock-up:
1. Prior to fabrication of architectural millwork, erect sample unit to further verify selections made under sample submittals and to demonstrate the quality of materials and execution.

IT IS RECOMMENDED THAT THE DESIGNER INDICATE THOSE LOCATIONS REQUIRED FOR MOCK-UPS. MOCK-UP SHOULD INCLUDE EDGING, BOWLS AND/OR COVES. THESE NEED TO BE INCORPORATED INTO THE FINAL PROJECT TO SAVE COST.

2. Mock-up shall be _____.
3. Build the mock-up to comply with the contract documents and install in a location as directed by the Architect.
4. Notify the architect two weeks in advance of the date of when the mock-up will be delivered.
5. Should mock-up not be approved, re-fabricate and reinstall until approval is secured.
 - a. Remove rejected units from project site.
6. After approval, the mock-up may become a part of the project.
7. This mock-up, once approved, shall serve as a standard for judging quality of all completed units of work.

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

- F. 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.

KEEP BELOW FOR RESIDENTIAL USE ONLY.

3. Warranty shall be transferable to subsequent owner for remainder of warranty period.
- B. Optional Installed Warranty:
1. To qualify for the optional Installed Warranty, fabrication and installation must be performed by a DuPont Certified Fabrication/Installation source who will provide a brand plate for the application.
 2. This warranty covers all fabrication and installation performed by the certified/approved source subject to the specific wording contained in the Installed Warranty Card.
- 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® solid 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 (25 mm) shall be repairable by sanding and/or polishing.

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

- B. Thickness:
1. 1/4 inch
 2. 1/2 inch
 3. 3/4 inch

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

DELETE BELOW IF NOT REQUIRED FOR PROJECT.

- C. 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.

CAUTION: RIGIDLY ADHERING POROUS PRODUCTS SUCH AS WOOD TO NONPOROUS PRODUCTS MAY RESULT IN REVOCATION OF INSTALLATION WARRANTY. USE SILICONE SEALANT.

D. 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 _____ .

E. 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
	56	ASTM D 785
		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	No fracture—1/2 lb. ball:	NEMA LD 3-2000

Resistance: Sheets	1/4" slab—36" drop 1/2" 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 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	
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.

RETAIN BELOW FOR TUB/SHOWER SYSTEMS.

B. Panel adhesive:

1. Manufacturer's standard neoprene-based panel adhesive complying with ANSI A136.1-1967, UL listed.

C. 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.
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.

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.
- C. Vertical surfaces with silicone sealant joints:
1. 1/4-inch-thick solid polymer material, with 1/8-inch-wide joints, sealed with manufacturer's color-matching silicone sealant; adhesively applied to solid substrates with matching color.

SELECT ABOVE OR BELOW AS PER THE DESIGN.

- D. Vertical surfaces with hard seams:
1. 1/4 inch thick, with butt joints between sheets made with manufacturer's joint adhesive matching color of solid polymer material; adhesively applied to solid substrates; 1/8" expansion joints filled with color-matching silicone every 10'–15' with matching color.

DELETE BELOW IF NOT REQUIRED FOR PROJECT.

- E. Tub and shower walls:
1. 1/4-inch-thick standard panels of solid polymer material, consisting of four panels, 30 inches in height required, with batten strips, vertical edge and ceiling trim strips, adhesively applied to approved substrate using thin-set neoprene-based panel adhesive or Type 1 ANSI A 136.1 solvent-based adhesive with matching color.

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

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 TWO.

3.5 SCHEDULE

A. Vertical surfaces:

- 1. Surfaces of material adhesively joined with inconspicuous seams.

Color

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

B. Tub and shower walls surfaces:

- 1. Surfaces of material adhesively joined with inconspicuous seams.

Color

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

C. Bumper rails:

- 1. Surfaces of material adhesively joined with inconspicuous seams.

Color

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

D. Handrails:

- 1. Surfaces of material adhesively joined with inconspicuous seams.

Color

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

E. Trim:

- 1. Surfaces of material adhesively joined with inconspicuous seams.

Color

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