

**SECTION 12 36 00**  
**COUNTERTOPS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This section specifies acrylic solid surface countertops with integral accessories.
- B. Integral accessories include:
  - 1. Sinks with traps and drains.

**1.2 RELATED WORK**

- A. Color and patterns of solid surface: Refer to project drawings.
- B. DIVISION 22, PLUMBING.
- C. Equipment Reference Manual for SECTION 12 36 00, COUNTERTOPS.

**1.3 SUBMITTALS**

- A. Submit in accordance with SECTION 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings
  - 1. Show dimensions of section and method of assembly.
  - 2. Show details of construction at 1/2 scale.
- C. Samples:
  - 1. 150 mm (6 inch) square samples each top.
  - 2. Front edge, back splash, end splash and core with surface material and booking.

**1.4 APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. American Society of Mechanical Engineers (ASME):
  - A112.18.1-05.....Plumbing Supply Fittings
  - A112.1.2-04.....Air Gaps in Plumbing System
  - A112.19.3-08(R2004).....Stainless Steel Plumbing Fixtures (Designed for Residential Use)
- C. American Society for Testing and Materials (ASTM):
  - A167-99 (R2009).....Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
  - A1008-09.....Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength, Low Alloy
  - D256-06.....Pendulum Impact Resistance of Plastic
  - D570-98(R2005).....Water Absorption of Plastics

D638-08.....Tensile Properties of Plastics  
 D785-08.....Rockwell Hardness of Plastics and Electrical  
                   Insulating Materials  
 D790-07.....Flexural Properties of Unreinforced and  
                   Reinforced Plastics and Electrical Insulating  
                   Materials  
 D4690-99(2005).....Urea-Formaldehyde Resin Adhesives  
 G21-96 (R2002).....Determining Resistance of Synthetic Polymeric  
                   Materials to Fungi

D. Federal Specifications (FS):

A-A-1936.....Adhesive, Contact, Neoprene Rubber

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

A. Acrylic Solid Surface:

1. Properties:

Radiant Heat Resistance	600+ seconds Pass
NEMA LD3-3.10	
Linear Thermal Expansion	3.81 x 10 <sup>-5</sup> mm/mm C
(ASTM E 228-95)	(2.12 x 10 <sup>-5</sup> in./in. F)
Flexural Strength (PSI)	78.77 Mpa
(ASTM D-790-99)	(11,424 PSI)
	Pass
Flexural Modulus (MPSI)	9239 Mpa
(ASTM D-790-99)	(1.34 MPSI)
	Pass
Barcol Hardness	65
(ASTM D 2583)	Pass
Flatness of Sheets	Length - <0.25mm
ISSFA SST 4.1-00	(<0.010 in.) Positive
	Warp
	Width - 0.50mm
	Pass
Impact Resistance	Pass at 1525mm (60 in.)
ISSFA SST 6.1-00	Thickness = 0.46450 in.

B. Adhesive

1. As per manufacturer's recommendation.

C. Fasteners:

2. Use studs, bolts, spaces, threaded rods with nuts or screws suitable for materials being joined with metal splice plates, channels or other supporting shape.

## **2.2 SINKS**

### **B. Acrylic Solid Surface:**

1. Cast or molded in one piece with interior corners 25 mm (one inch) minimum radius.
2. Minimum thickness of sides and ends 13 mm (1/2 inch), bottom 16 mm (5/8 inch).
3. Molded resin outlet for drain and standpipe overflow.
4. Provide clamping collar permitting connection to 38 mm (1-1/2 inch) or 50 mm (2 inch) waste outlet and trap, making sealed but not permanent connection.

## **2.3 TRAPS AND FITTINGS**

### **A. Material as specified in DIVISION 22, PLUMBING.**

### **B. For Molded Sinks:**

1. Provide traps with cleanout plug easily removable without tools.

## **2.4 WATER FAUCETS**

### **A. ASME A112.18.1.**

1. Cast or forged brass, compression type with replaceable seat and stem assembly or replaceable cartridge.
2. Indexed four-arm lever handles either with or without head.
3. Gooseneck minimum clearance above countertop of 190 mm (7-1/2 inches), bent 180 degrees for vertical discharge.
4. Swing spouts elevated to clear handles.
5. Exposed brass surfaces chromium plated.
6. Cast combination hot and cold fixture with one piece body for multiple outlets.
7. Adapter type connection which will permit field conversion of swing spouts to fixed or gooseneck grouts or vice versa.
8. Brass shanks, locknuts and washers for attaching to top or curbs.

### **B. Laminar flow control device on spouts.**

## **2.5 FIXTURE IDENTIFICATION**

- ### **A. Code fixtures with full view plastic index buttons.**

B. Use following colors and codes:

SERVICE	COLOR	CODE	COLOR OF LETTERS
Cold Water	Dark Green	CW	White
Hot Water	Red	HW	White
Laboratory Air	Orange	AIR	Black
Fuel Gas	Dark Blue	GAS	White
Laboratory Vacuum	Yellow	VAC	Black
Distilled Water	White	DW	Black
Deionized Water	White	DI	Black
Oxygen	Light Green	OXY	White
Hydrogen	Pink	H	Black
Nitrogen	Gray	N	Black
All Other Gases	Light Blue	CHEM.SYM.	Black

## 2.6 COUNTERTOPS

- A. Fabricate in largest sections practicable.
- B. Fabricate with joints flush on top surface.
- C. Fabricate countertops to overhang front of cabinets and end of assemblies 25 mm (one inch) except where against walls or cabinets.
- D. Provide 1 mm (0.039 inch) thick metal plate connectors or fastening devices (except epoxy resin tops).
- E. Join edges in a waterproof cement or epoxy cement, except weld metal tops.
- F. Fabricate with end splashes where against walls or cabinets.
- G. Splash Backs and End Splashes:
  1. Not less than 19 mm (3/4 inch) thick.
  2. Height 100 mm (4 inches) unless noted otherwise.
  3. Laboratories and pharmacy heights or where fixtures or outlets occur: Not less than 150 mm (6 inches) unless noted otherwise.
  4. Fabricate splash back in maximum lengths practical of the same material.
- H. Drill or cutout for sinks, and penetrations.
  1. Accurately cut for size of penetration.
- I. Acrylic Solid Surface:
  1. Front edge over cabinets not less than 38 mm (1-1/2 inches) thick except where plastic "T" insert is used, not less than 19 mm (3/4 inch) thick.

j. Acrylic Solid Surface Countertops:

1. Molded with drip groove cut on underside of overhanging edge.
2. Finish thickness of top minimum 25 mm (1 inch).
3. Joints: Epoxy Type.
4. Secure reagent shelves to counter tops with fasteners from underside and seal seam.

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Before installing countertops verify that wall surfaces have been finished as specified and that mechanical and electrical service locations are as required.
- B. Secure countertops to supporting rails of cabinets with metal fastening devices, or screws through pierced slots in rails.
1. Where type, size or spacing of fastenings is not shown or specified, submit shop drawings showing proposed fastenings and method of installation.
  2. Use round head bolts or screws.
  3. Use epoxy or silicone to fasten the acrylic solid countertops to the cabinets.
- C. Sinks
1. Install molded acrylic solid surface sinks with epoxy compound to form watertight seal with underside of molded resin top.
    - a. Install sink with not less than two channel supports with threaded rods and nuts at each end, expansion bolted to molded resin top.
    - b. Design support for a twice the full sink weight.
    - c. Install with overflow standpipes.
- D. Faucets, Fixtures, and Outlets:
1. Seal opening between fixture and top.
  2. Secure to top with manufacturers standard fittings.

**3.2 PROTECTION AND CLEANING**

- A. Tightly cover and protect against dirt, water and mechanical injury.
- B. Clean at completion of work.

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