

**SECTION 12 36 00  
COUNTERTOPS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

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

**1.2 RELATED WORK**

- A. DIVISION 22, PLUMBING.
- B. DIVISION 26, ELECTRICAL.
- 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 Hardboard Association (AHA):
  - A135.4-95.....Basic Hardboard
- C. Composite Panel Association (CPA):
  - A208.1-09.....Particleboard
- D. 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)
- E. 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
- F. Federal Specifications (FS):
  - A-A-1936.....Adhesive, Contact, Neoprene Rubber
- G. U.S. Department of Commerce, Product Standards (PS):
  - PS 1-95.....Construction and Industrial Plywood
- H. National Electrical Manufacturers Association (NEMA):
  - LD 3-05.....High Pressure Decorative Laminates
  - LD 3.1-95.....Performance, Application, Fabrication, and  
Installation of High Pressure Decorative  
Laminates

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Solid Surface
  - 1. Basis of Design: Dupont Corian Price Group E
  - 2. Integral sink
  - 3. Reverse bevel edge
- B. Adhesive
  - 1. Per manufacturer recommendations
- C. Fasteners:
  - 1. Metals used for welding same metal as materials joined.
  - 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.
- D. Laminar Flow Control Device
  - 1. Smooth bright stainless steel or satin finish, chrome plated metal  
laminar flow device shall provide non-aeration, clear, coherent

laminar flow that will not splash in basin. Device shall also have a flow control restrictor and have vandal resistant housing.

2. Flow Control Restrictor:

- a. Capable of restricting flow of 7.5 to 8.5 Lpm (2.0 to 2.2 gpm) for sinks provided in paragraph 2.2D.
- b. Compensates for pressure fluctuation maintaining flow rate specified above within 10 percent between 175 and 550 kPa (25 and 80 psi).
- c. Operates by expansion and contraction, eliminates mineral/sediment building up with self clearing action, and is capable of easy manual cleaning.

## 2.2 TRAPS AND FITTINGS

A. Material as specified in DIVISION 22, PLUMBING.

B. For Molded Resin Sinks:

- 1. Chemical resisting P-traps and fittings for chemical waste service.
- 2. Provide traps with cleanout plug easily removable without tools.

C. For Stainless Steel Sinks:

- 1. Either cast or wrought brass or stainless steel P-traps and drain fittings; ASME A112.18.1
- 2. Flat strainer, except where cup strainer or overflow standpipe specified.
  - a. Provide cup strainer in cabinet type 1B.
  - b. Provide stainless steel overflow stand pipe to within 38 mm (1-1/2 inches) of sink rim.
- 3. Exposed surface chromium plated finish.

D. Plaster traps:

- 1. Cast iron body with porcelain enamel exterior finish.
- 2. 50 mm (2 inch) female threaded side inlet and outlet.
- 3. Removable galvanized cage having integral baffles and replaceable brass screens.
- 4. Removable gasketed cover.
- 5. Minimum overall dimensions: 350 x 350 x 400 mm high (14 x 14 x 16 inches) with 175 mm (7 inch) water seal.
- 6. Non-siphoning and easily accessible for cleaning.

E. Air Gap Fittings: ASME A112.1.2.

F. Methyl Methacrylic Polymer Sink Traps:

- 1. Cast or wrought brass with flat grid strainer, off-set tail piece, adjustable 38 x 32 mm (1-1/2 x 1 1/4-inch) P trap.
- 2. Chromium plated finish.

## 2.3 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 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. Pedestals Top for Laboratory or Pharmacy:
  - a. Modern design tapered to a round base, factory assembled and tested.
  - b. Brass shanks, locknuts and washers for attaching to top or curbs.

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

## 2.4 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

## 2.5 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 chemical resistant 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 epoxy 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.
  - 2. Cutout for VL 81 photographic enlarger cabinet.
    - a. Finish cutout to fit flush with vertical side of cabinet, allowing adjustable shelf to fit into cutout space of cabinet at counter top level. Finish cutout surface as an exposed edge.
    - b. Provide braces under enlarger space to support not less than 45 kg (100 pounds) centered on opening side along backsplash.

### **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 epoxy resin countertops to the cabinets.
  - 4. Use wood or sheet metal screws for wood or plastic laminate tops; minimum penetration into top 16 mm (5/8 inch), screw size No 8, or 10.

C. Faucets, Fixtures, and Outlets:

1. Seal opening between fixture and top.
2. Secure to top with manufacturers standard fittings.

D. Range Tops, Electrical Outlets, Film Viewer:

1. Set in cutouts with manufacturers gasket sealing joint with top to prevent water leakage.

**3.2 PROTECTION AND CLEANING**

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

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