

**SECTION 12 36 00
COUNTERTOPS**

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies casework countertops.

1.2 RELATED WORK

A. Color and patterns of plastic laminate: Solid Surface Formica Blanco Terrazzo or equal.

B. DIVISION 22, PLUMBING. NONE

C. DIVISION 26, ELECTRICAL. NONE

D. 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):

A135.4-95Basic Hardboard

C. Composite Panel Association (CPA):

A208.1-09Particleboard

D. American Society of Mechanical Engineers (ASME):

A112.18.1-12Plumbing Supply Fittings

A112.1.2-12Air 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

A1008-10Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength, Low Alloy

D256-10Pendulum Impact Resistance of Plastic

- D570-98 (R2005)Water Absorption of Plastics
D638-10Tensile Properties of Plastics
D785-08Rockwell Hardness of Plastics and Electrical
Insulating Materials
D790-10Flexural Properties of Unreinforced and
Reinforced Plastics and Electrical Insulating
Materials
D4690-99(2005)Urea-Formaldehyde Resin Adhesives
F. Federal Specifications (FS):
A-A-1936Adhesive, Contact, Neoprene Rubber
G. U.S. Department of Commerce, Product Standards (PS):
PS 1-95Construction and Industrial Plywood
H. National Electrical Manufacturers Association (NEMA):
LD 3-05High Pressure Decorative Laminates

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Solid Surface. Formica Blanco Terrazzo 742 or equal.
1. Concealed backing sheet Type BKL.
2. Decorative surfaces:
a. Flat components: Type GP-HGL.
b. Post forming: Type PF-HGP.
4) Minimum height of impact resistance: 300 mm (12 inches).
B. Molded Resin:
1. Non-glare epoxy resin or furan resin compounded and cured for minimum physical properties specified:

Flexural strength	70 MPa (10,000 psi)	ASTM D790
Rockwell hardness	105	ASTM D785
Water absorption, 14 hours (weight)	.01%	ASTM D570

2. Material of uniform mixture throughout.
C. Stainless Steel: ASTM A167, Type 304.
D. Sheet Steel: ASTM A1008, cold rolled, Class 1 finish, stretcher leveled.
E. Particleboard: CPA A208.1, Grade 2-M-2.
F. Plywood: PS 1, Exterior type, veneer grade AC not less than five ply construction.
G. Hardwood Countertop: Solid maple, clear grade except where other wise specified.

H. Hardboard: ANSI/AHA A135.4, Type I, tempered, fire retardant treated, smooth surface one side.

I. Adhesive

1. For plastic laminate FS A-A-1936.
2. For wood products: ASTM D4690, unextended urea resin or unextended melamine resin, phenol resin, or resorcinol resin.
3. For Field Joints:
 - a. Epoxy type, resistant to chemicals as specified for plastic laminate laboratory surfaces.
 - b. Fungi resistant: ASTM G-21, rating of 0.

J. 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.

K. Solid Polymer Material:

1. Filled Methyl Methacrylic Polymer.
2. Performance properties required:

Property	Result	Test
Elongation	0.3% min.	ASTM D638
Hardness	90 Rockwell M	ASTM D785
Gloss (60° Gordon)	5-20	NEMA LD3.1
Color stability	No change	NEMA LD3 except 200 hour
Abrasion resistance	No loss of pattern Max wear depth 0.0762 mm (0.003 in) - 10000 cycles	NEMA LD3
Water absorption weight (5 max)	24 hours 0.9	ASTM D-570
Izod impact	14 N·m/m (0.25 ft-lb/in)	ASTM D256 (Method A)
Impact resistance	No fracture	NEMA LD-3 900 mm (36") drop 1 kg (2 lb.) ball
Boiling water surface resistance	No visible change	NEMA LD3
High temperature resistance	Slight surface dulling	NEMA LD3

3. Cast into sheet form and bowl form.
4. Color throughout with subtle veining through thickness.

5. Joint adhesive and sealer: Manufacturers silicone adhesive and sealant for joining methyl methacrylic polymer sheet.
6. Bio-based products will be preferred.

L. 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 SINKS

A. NO SINK

2.4 WATER FAUCETS

A. NO WATER FAUCET

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.
 - c. Sink and Faucet will be furnished by the VA. Cut out only require

I. Plastic Laminate Countertops:

1. Fabricate plastic laminate on five-ply plywood or particleboard core 19 mm (3/4 inch) thick with plastic laminate backing sheet.
2. 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.
3. Exposed Surface and edges of decorative laminated plastic or laboratory chemical resistant surface.
 - a. Use chemical resistant surface on tops 6A, 6B, and 6C.
 - b. Use decorative surface tops when noted plastic laminate, for tops 10A, 10B and 10C.

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. Rubber Moldings:
 - 1. Where shown install molding with butt joints in horizontal runs and mitered joints at corners where ceramic tile occurs omit molding.
 - 2. Fasten molding to wall and to splashbacks and splashends with

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