

**SECTION 12 36 00
COUNTERTOPS**

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies casework countertops and window sills.

1.2 RELATED WORK

- A. Color and patterns of solid surfacing: SECTION 09 06 00, SCHEDULE FOR FINISHES and as indicated on Drawing 37-A501.
- B. Installation of flush-mounted countertop support brackets: Section 09 22 16, NON-STRUCTURAL METAL FRAMING.
- C. DIVISION 22, PLUMBING.
- D. DIVISION 26, ELECTRICAL.

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. Product Data:
1. Solid surfacing material.
 2. Countertop support brackets.
- D. Samples:
1. 150 mm (6 inch) square samples of countertop assembly.
 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 Architectural Manufacturer's Association (AAMA):
- 605.2.....Voluntary Specification for High Performance
Organic Coatings on Architectural Extrusions and
Panels
- C. American Hardboard Association (AHA):
- A135.4-04.....Basic Hardboard
- D. Composite Panel Association (CPA):
- A208.1-99.....Particleboard
- E. American Society of Mechanical Engineers (ASME):
- A112.18.1-05.....Plumbing Fixture Fittings

- A112.1.2-04.....Air Gaps in Plumbing System
- A112.19.3-00(R2004).....Stainless Steel Plumbing Fixtures (Designed for Residential Use)
- F. American Society for Testing and Materials (ASTM):
- A167-99 (R2004).....Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
- A1008-07.....Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength, Low Alloy
- B221.....Aluminum-Alloy Extruded Bar, Rod, Wire, Shape and Tube
- C501-84(2009).....Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser
- D256-06.....Pendulum Impact Resistance of Plastic
- D570-98(R2005).....Water Absorption of Plastics
- D638-03.....Tensile Properties of Plastics
- D790-07.....Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- D2583-07.....Indentation Hardness of Rigid Plastics by Means of a Barcol Impresser
- D4690-99(2005).....Urea-Formaldehyde Resin Adhesives
- G21-96 (R2002).....Determining Resistance of Synthetic Polymeric Materials to Fungi
- G. Federal Specifications (FS):
- A-A-1936.....Adhesive, Contact, Neoprene Rubber
- H. U.S. Department of Commerce, Product Standards (PS):
- PS 1-95.....Construction and Industrial Plywood
- I. National Electrical Manufacturers Association (NEMA):
- LD 3-05.....High Pressure Decorative Laminates

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Particleboard: CPA A208.1, Grade 2-M-2.
- B. Plywood: PS 1, Exterior type, veneer grade AC not less than five ply construction.
- C. Solid Polymer Material:
1. Non-porous, homogeneous material composed of polyester or acrylic polymer, fillers and pigment.

2. Performance properties required:

Property	Result	Test
Elongation	0.55% min.	ASTM D638
Hardness	45	ASTM D2583
Abrasion resistance	0.4 g - 1000 cycles	ASTM C501
Water absorption weight (5 max)	24 hours 0.08%	ASTM D570
Izod impact	0.02 ft-lb/in	ASTM D256
Impact resistance	No fracture	NEMA LD 3 (1/2 lb. Ball)
Boiling water surface resistance	No visible change	NEMA LD 3
High temperature resistance	No effect	NEMA LD 3

3. Cast into sheet form, not less than 13 mm (1/2 inch) thick.
4. Color and pattern throughout thickness.
5. Avonite Surfaces "Studio Collection Metallics" are acceptable if meeting the above properties.
6. Joint adhesive and sealer: Manufacturer's silicone adhesive and sealant for joining solid polymer sheet.

2.2 COUNTERTOPS

- A. Fabricate in largest sections practicable.
- B. Fabricate with joints flush on top surface.
- C. Fabricate countertops to overhang end of assemblies 25 mm (1 inch) except where against walls or cabinets.
- D. Provide 1 mm (0.039 inch) thick metal plate connectors or fastening devices.
- E. Join edges in a chemical resistant waterproof cement or epoxy cement.
- F. Fabricate with end splashes where against walls or cabinets.
- G. Splash Backs and End Splashes:
 1. Not less than 13 mm (1/2 inch) thick.
 2. Height 100 mm (4 inches) unless noted otherwise.
- H. Drill or cutout for penetrations.
 1. Accurately cut for size of penetration.
 2. Where edge surfaces of cutout are exposed to view, finish edge surfaces to same gloss level as top surface.
 3. Maintain 6 mm (1/4 inch) radius between top and edge surfaces at lavatory cutouts.
- I. Solid Polymer Tops:

1. Fabricate countertop of solid polymer cast sheet, 13 mm (1/2 inch) thick. Provide 3/4 inch (min.) plywood backing.
2. Fabricate back splash and end splash to height shown.
3. Fabricate skirt to depth shown.
4. Fabricate in one piece for full length from corner to corner up to 3600 mm (12 feet).
5. Join pieces with adhesive sealant.
6. Cut out countertop for lavatories, plumbing trim and soap dispensers.
7. Finish edges with 1/16 inch radius corners unless indicated otherwise.

2.3 ACCESSORIES

- A. Support Brackets: Flush-mounted, with vertical leg attached to wall stud and concealed behind gypsum board wall sheathing.
 1. Materials: ASTM B221 aluminum extrusions; 6063-T5 alloy and temper.
 2. Fabrication: T-section horizontal leg; L-section vertical leg; corner intersection mitered and welded.
 3. Size: As recommended by manufacturer to suit depth of countertop.
 4. Finish: AAMA 605.2 factory painted; manufacturer's standard black color.
 5. Rangine Corporation "Rakks" brackets are acceptable if meeting the above properties.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installing countertops verify that wall surfaces have been finished as specified, that mechanical and electrical service locations are as required, and that support brackets have been installed at proper locations and at correct heights.
- B. Install solid surface materials in accordance with manufacturer's specifications and recommendations.
- C. Secure countertops to supporting brackets with metal fastening devices, or screws through plywood backing.
 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. Do not allow fasteners to come into contact with solid surface material.
- D. Faucets, Fixtures, and Outlets:
 1. Seal opening between fixture and top.

2. Secure to top with manufacturers standard fittings.

E. Back and Side Splashes:

1. Install with tight, sealed joints.

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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