

## SECTION 12 36 23

### PLASTIC LAMINATE COUNTERTOPS

Note: *For Windows 2010, upon completion of section editing, you may turn-off "Specifier Notes as follows: Click on "File" then "Options" then "Display" and remove check-mark for "Hidden text" in two locations as necessary.*

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Plastic Laminate Countertops.

##### 1.02 RELATED REQUIREMENTS

- A. Section 06 40 00 – Architectural Woodwork: Shop-fabricated custom casework.
- B. Section 12 32 16 – Manufactured Plastic-Laminate-Clad Casework.

##### 1.03 REFERENCE STANDARDS

- A. ANSI A208.1 – Particleboard; 2009.
- B. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2009.
- C. ANSI/NEMA LD-3 – high-Pressure Decorative Laminates (HPDL); 2005.
- D. ANSI Z124.6 – Plastic Sinks; 2007.
  - 1. Section 5.2: Stain Resistance.
  - 2. Section 5.3: Wear and Cleanability.
  - 3. Section 5.4: Cigarette Test.
  - 4. Section 5.5: Chemical Resistance.
- E. ASTM C 97 – Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone; 2009.
- F. ASTM C 501 – Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser; 2009.
- G. ASTM C 650 - Standard Test Method for Resistance of Ceramic Tile to Chemical Substances; 2009.
- H. ASTM C 880 – Standard Test Method for Flexural Strength of Dimension Stone; 2009.
- I. ASTM C 1026 - Standard Test Method for Measuring the Resistance of Ceramic Tile to Freeze-Thaw Cycling
- J. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method; 2007, Edition 1.
- K. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010
- L. ASTM E 228 – Standard Test Method for Linear Thermal Expansion of Solid Materials with a Push-Rod Dilatometer; 2006.
- M. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2009.
- N. AWI (QCP) – Architectural Woodwork Standards (Quality Certification Program), [www.awiqcp.org](http://www.awiqcp.org); current edition at [www.awiqcp.org](http://www.awiqcp.org).
- O. AWMAC (GIS) – Architectural Woodwork Manufacturers Association of Canada (Guarantee and Inspection Services Program); current edition at [www.awmac.com/gis.php](http://www.awmac.com/gis.php).
- P. AWS (AWI/AWMAC/WI) - Architectural Woodwork Standards (Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute) ([www.awinet.org](http://www.awinet.org) - [www.awmac.com](http://www.awmac.com) - [www.woodworkinstitute.com](http://www.woodworkinstitute.com)); Edition 1, 2009.
- Q. ISSFA-2-01 – Classification and Standards for Solid Surfacing Materials; 2007.
- R. MIA-DSDM – Marble Institute of America, Dimension Stone Design Manual; 2005.

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- S. PS 1 – Structural Plywood; 2007.
- T. WI (CCP) – Woodwork Institute (Certified Compliance Program); current edition at [www.woodworkinstitute.com/certification](http://www.woodworkinstitute.com/certification).
- U. WI (MCP) – Woodwork Institute (Monitored Compliance Program); current edition at [www.woodworkinstitute.com/certification](http://www.woodworkinstitute.com/certification).

#### 1.04 SUBMITTALS

- A. Comply with Section 01 30 00 – Administrative Requirements, for administrative and procedural requirements for processing of submittals during the construction phase.
- B. Product Data: Provide data on material characteristics, performance criteria and limitations, installation instructions, and cleaning and maintenance instructions.
- C. Shop Drawings: Provide complete detailed and dimensioned drawings combined with shop drawings of cabinets and casework specified in other sections showing fabrication details, edging, sink installation, coving, seams, fastener types and locations, use and type of sealant, and fabrication details for support brackets.
- D. Samples: Provide samples of colors as indicated on Drawings; submit [4 inch by 4 inch (102 mm by 102 mm)] or [12 inch by 12 inch (305 mm x 305 mm)] samples showing each color and finish.
  - 1. When colors are not indicated on Drawings, submit manufacturer’s standard color book showing colors of actual material in greater than 1 1/2 inch (38.1 mm) size.
  - 2. Upon selection of colors, submit samples as indicated above.
- E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.
- F. Certificates: Certify that products meet or exceed specified requirements.
  - 1. Low emitting VOC.
  - 2. Does not support growth of mold, mildew and bacteria on surface.
- G. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- H. Sustainable Design Submittals:
  - 1. Submit invoices and documentation from manufacturer of the amounts of pre-consumer and post-consumer recycled content for products specified.
  - 2. Submit invoices and documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles (804.7 kilometers) of project location.
- I. LEED Submittal: Documentation of recycled content and location of manufacture.
  - 1. LEED, MR Credit 4 – Recycled Content: Provide documentation for cost of products having recycled content indicating percentages by weight of postconsumer plus 1/2 of the preconsumer content.
  - 2. LEED, MR Credit 5 – Regional Materials: Provide documentation for cost of materials or products that have been extracted, harvested, or recovered and also manufactured within 500 miles (804.7 kilometers) of project site.
    - a. If only a portion of the materials or products is extracted, harvested, or recovered and manufactured locally, then only provide percentage by weight for credit value.

#### 1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: [Same fabricator as for cabinets that tops are to be installed.] or [Approved by the cabinet manufacturer.]
- B. Quality Certification: Provide [AWI (QCP)] [WI (CCP)] [WI (MCP)] or [AWMAC (GIS)] inspection report and quality certification of completed work.
  - 1. Provide labels or certificates indicating that the work complies with requirements of AWS Grade or Grades specified.
  - 2. This project has been registered as AWI (QCP) project number [\_\_\_\_\_].
  - 3. Prior to delivery to the site provide shop drawings with certification labels.
  - 4. Provide labels on each product when required by certification program.

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5. Upon completion of installation provide certificate certifying that the installation and products meet the specified requirements.
6. Arrange and pay for inspections required for certification.
7. Replace, repair, or rework all work for which certification is refused.

C. Installer Qualifications: Fabricator.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling: Store materials in clean, dry, interior area in accordance with manufacturer's instructions. Protect materials from damage during handling and installation.

#### 1.07 AMBIENT CONDITIONS

- A. Maintain ambient temperature of 50 to 95 degrees F (10 to 35 degrees C) for 48 hours before, during and for minimum 7 days after installation.

#### 1.08 WARRANTY

- A. Manufacturer Warranty: Submit manufacturer's standard One Year Limited Warranty from the date of purchase against avoidable and unnatural defects in material and workmanship.
  1. Warranty does not cover the following;
    - a. Installation of products or any product used or installed in connection with this work.
    - b. Defects from mis-use, abuse, accident, alteration, improper care or failure to perform reasonable and necessary maintenance after installation.
  2. Warranty Performance:
    - a. Any products covered by this warranty that under normal use and within period of time indicated, prove to be defective, these products will be repaired or replaced by manufacturer without charge.
    - b. Manufacturer will not provide, or pay expenses for removal of defective products, installation of repaired or replaced products, or transportation of either repaired, replaced, or defective products.
    - c. Others shall provide payment for removal, installation or transportation.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURER

- A. RYNONE: North Thomas Avenue, PO Box 128, Sayre, PA 18840.
  1. Phone: (570) 888-5272.
  2. Fax: (570) 888-1175.
  3. Website: www.rynone.com. **ASSEMBLIES**

A. Quality Standard: See [Section 06 40 00] or [12 30 00].

B. Quality Standard: [Premium Grade] [Custom Grade] or [Economy Grade] in accordance with AWS (AWI/AWMAC/WI).

#### 2.03 PLASTIC LAMINATE COUNTERTOPS

- A. Plastic Laminate Countertops (Type PLC - #): High pressure decorative laminate sheet bonded to substrate.
  1. Laminate Sheet: ANSI/NEMA LD 3 [Grade HGS, 0.048 inch (1.2 mm) nominal thickness] or [Grade HGP (Postforming), 0.039 inch (0.99 mm) nominal thickness].
  2. Edge Detail: [Square Self-Edge (Classic)] [Square Postformed-Edge (Classic)] [Modern Drop Ogee (Geneva)] [Contemporary Ogee (Barcelona)] [No Drip Edge (Caprice)] Double Radius Edge (Futura)] [180 degree Wrap Edge (Nova)] [Waterfall Edge (Tempo)] or [Full-Wrap Ogee (Valencia)].
    - a. Provide eased edge at sink openings.
  3. Edge Build-up: At least 1 1/2 inch (38.1 mm).
  4. Back and End Splash Height: [At least 3 inches (76 mm)] [As indicated on Drawings].
  5. Back and End Splash Edge: To match front edge detail.

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6. Surface Burning Characteristics: Flame spread 25, maximum; smoke developed 450, maximum; when tested in accordance with ASTM E 84.
7. Wear Resistance: In addition to specified grade, comply with ANSI/NEMA LD 3 High Wear Grade requirements for wear resistance.
8. Finish: Matte or suede, gloss rating of 5 to 20, included with color.
9. Surface Color and Pattern: [As selected by Architect from the manufacturer's full line.] or [As indicated on Drawings.]
10. Plastic Laminate Manufacturers:
  - a. Wilsonart International, Inc.: [www.wilsonart.com](http://www.wilsonart.com).
  - b. Panolam Industries International, Inc. - Nevamar: [www.nevamar.com](http://www.nevamar.com).
  - c. Panolam Industries International, Inc. - Pionite: [www.pionitelaminates.com](http://www.pionitelaminates.com).
  - d. Formica Corporation: [www.formica.com](http://www.formica.com).
  - e. Substitutions: [See Section 01 6000 - Product Requirements] or [Not permitted].

#### 2.04 FABRICATION

- A. Fabricate components to greatest extent practical in sizes and shapes as indicated and in accordance with MIA-DSDM.
  1. Inspect surfacing prior to fabrication.
- B. Fabricate joints between components using manufacturer's recommended, color matched, joint adhesive, reinforce as required.
- C. Fabricate factory cutouts for plumbing fittings and bath accessories as indicated on Drawings.
- D. Fabricate and finish routed edges of component with clean, sharp returns.
- E. Fabricate cutouts, radii and contours using template to ensure clean, sharp edges.
- F. Fabricate backsplash height and profile as indicated on Drawings.
- G. Fabricate [countertop] [vanity top] components with finish as indicated.
- H. Cutouts for Drop-in Sinks:
  1. Fabricate smooth and uniform without saw marks.
  2. Finish top and bottom of sink openings smooth.
  3. Provide at least 1/4 inch (6.4 mm) radius at corners of sink cutouts.
    - a. Ease top and bottom of straight edge to avoid chipping.

#### 2.05 FABRICATION TOLERANCE

- A. Panel Thickness Tolerance:
  1. Thickness of 3/8 to 1/2 inch (9.5 mm to 12.7 mm): Plus or minus 1/32 inch (0.8 mm).
  2. Thickness of 3/4 to 1 5/8 inch (19 mm to 41.3 mm): Plus or minus 1/8 inch (3.2 mm).
  3. Thickness Greater Than 1 5/8 inch (41.3 mm): Plus or minus 1/4 inch (6.4 mm).
- B. Panel Face Dimension: Plus or minus 1/16 inch (1.6 mm).
- C. Rectangular Face Variation (Maximum out of Square): Plus or minus 1/16 inch (1.6 mm).
- D. Edges: Plus or minus 1/16 inch (1.6 mm).
- E. Maximum Joint Separation Between Plastic Laminate Backsplash and Top for AWS Grades as follows:
  1. Premium: Less than 0.015 inch (0.4 mm) gap, 3 inches (76 mm) long within 6 feet (1829 mm) of similar gap.
  2. Custom: Less than 0.025 inch (0.6 mm) gap, 6 inches (152 mm) long within 5 feet (1524 mm) of similar gap.
  3. Economy: Less than 0.05 inch (1.3 mm) gap, 8 inches (203 mm) long within 4 foot (1219 mm) of similar gap.
- F. Maximum Joint Separation Between Plastic Laminate Mitered or Butted Joints for AWS Grades as follows:
  1. Premium: 0.015 inch wide (0.4 mm) by 20 percent of joint length.
  2. Custom: 0.025 inch wide (0.6 mm) by 20 percent of joint length.
  3. Economy: 0.05 inch wide (1.3 mm) by 20 percent of joint length.

- G. Maximum Flushness Variations at Exposed Plastic Laminate Mitered or Butted Surfaces for AWS Grades as follows:
  - 1. Premium: 0.020 inch (0.5 mm).
  - 2. Custom: 0.035 inch (0.89 mm).
  - 3. Economy: 0.075 inch (1.9 mm).
- H. Maximum Flatness of Installed Plastic Laminate and Solid Surfacing Surfaces for AWS Grades as follows:
  - 1. Premium: 0.027 inch (0.7 mm) per 12 inch (305 mm) of surface.
  - 2. Custom: 0.036 inch (0.9 mm) per 12 inch (305 mm) of surface.
  - 3. Economy: 0.05 inch (1.3 mm) per 12 inch (305 mm) or surface.

## 2.06 ACCESSORIES

- A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch (19 mm) thick; join lengths using metal splines.
- B. Particleboard for Supporting Substrate: ANSI A208.1 Grade 2-M-2, 45 pcf minimum density; minimum 3/4 inch (19 mm) thick; join lengths using metal splines.
- C. Medium Density Fiberboard for Supporting Substrate: ANSI A208.2.
- D. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- E. Backsplashes: Provide [loose] or [attached].
  - 1. Attached backsplashes are [glued and screwed] or [stapled and screwed].
- F. Endsplashes: Provide [top] or [end] mounted, [loose] or [attached].
  - 1. Attached endsplashes are [glued and screwed] or [stapled and screwed].
- G. Apron: Provide [flush] or [recessed] apron.
- H. Undermount Sink Bowls: [Oval] [Rectangular] bowl with predrilled faucet holes in top.
  - 1. Oval Bowl Color: [White] [Biscuit] [Black (**For use in 22 inch (559 mm) deep countertop or greater**)] or [Stainless steel (**For use in 22 inch (559 mm) deep countertop or greater**)].
  - 2. Rectangular Bowl Color: [White] or [Biscuit].
  - 3. Depth or Top: [19 inch (483 mm)] [22 inch (559 mm)] or [25 inch (635 mm)].

## PART 3 EXECUTION

### 3.01 VERIFICATION OF CONDITIONS

- A. Verify that field conditions are acceptable and are ready to receive this work.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for installation of this work.

### 3.02 INSTALLATION

- A. Install countertops materials in accordance with manufacturer's instructions.
- B. Install components plumb and level and in accordance with approved shop drawings and installation details.
- C. Sinks:
  - 1. Install undermount sinks or bowls to countertops using appropriate adhesive, sealant and mounting hardware.
  - 2. Install drop-in sinks or bowls to countertops using appropriate adhesive and color matched silicone sealant.
- D. Install backsplashes and endsplashes as indicated on Drawings.
  - 1. Adhere to countertops using appropriate adhesive and color matched silicone sealant.
- E. Interface with Other Work: Provide proper installation of other materials and work as necessary for a complete and properly functioning system.

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**3.03 CLEANING**

- A. Remove adhesives, sealants and other stains from surfaces in accordance with manufacturer's instructions.
- B. Clean countertops prior to date of Substantial Completion.

**3.04 PROTECTION**

- A. Protect surfaces from damage during construction until date of Substantial Completion, replace damaged work.

**END OF SECTION**