

SECTION 12 36 23 - PLASTIC-LAMINATE-CLAD COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section includes plastic-laminate countertops.
- C. Related Sections:
 - 1. Section 06 10 53 "Miscellaneous Rough Carpentry" for wood support blocking of Plastic-Laminated-Clad Countertops.
 - 2. Section 06 41 16 "Plastic-Laminate-Faced Architectural Cabinets"
 - 3. Division 22 for Plumbing Fixtures, non-integral sinks, sinks and plumbing fittings.

1.2 ACTION SUBMITTALS

- A. Coordination: Submit related shop drawings, specified in another Section simultaneously for approval.
 - 1. Cabinet shops, showing all dimensions and indicating how countertops are to be mounted to cabinets.
- B. Product Data: For each type of product, including panel products high-pressure decorative laminate and adhesive for bonding plastic laminate.
- C. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show locations and sizes of cutouts and holes for plumbing fixtures faucets soap dispensers electrical switches and outlets and other items installed in plastic-laminate countertops.
 - 2. Apply AWI Quality Certification Program label to Shop Drawings.
- D. Samples for Initial Selection:
 - 1. Plastic laminates from the manufacturer's full range of selections.
- E. Samples for Verification:
 - 1. Plastic laminates, 8 by 10 inches (200 by 250 mm), for each type, color, pattern, and surface finish, with one sample applied to core material and specified edge material applied to one edge.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Product Certificates: For the following:
 - 1. High-pressure decorative laminate.
 - 2. Chemical-resistant, high-pressure decorative laminate.
 - 3. Adhesives.

- C. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.
- B. Installer Qualifications: Certified participant in AWI's Quality Certification Program.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver countertops until painting and similar operations that could damage countertops have been completed in installation areas. If countertops must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 25 and 55 percent during the remainder of the construction period.
- B. Field Measurements: Where countertops are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Established Dimensions: Where countertops are indicated to fit to other construction, establish dimensions for areas where countertops are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.7 COORDINATION

- A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE COUNTERTOPS

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades indicated for construction, installation, and other requirements.
 - 1. Provide labels and certificates from AWI certification program indicating that countertops, including installation, comply with requirements of grades specified.
 - 2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard.

Comply with those selections and requirements in addition to the quality standard.

- B. Grade: Premium.
- C. Regional Materials: Plastic-laminate countertops shall be manufactured within 500 miles (800 km) of Project site.
- D. Certified Wood: Plastic-laminate countertops shall be made from wood products certified as "FSC Pure" or "FSC Mixed Credit" according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
- E. High-Pressure Decorative Laminate: NEMA LD 3, Grade HGP.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Abet Laminati, Inc.
 - b. Formica Corporation.
 - c. Lamin-Art, Inc.
 - d. Nevamar Company, LLC; Decorative Products Div.
 - e. Panolam Industries International, Inc.
 - f. Wilsonart International; Div. of Premark International, Inc.
- F. Chemical-Resistant, High-Pressure Decorative Laminate: NEMA LD 3, Grade HGP, and as follows:
 - 1. Laminate has the following ratings when tested with indicated reagents according to NEMA LD 3, Test Procedure 3.9.5:
 - a. Nitric Acid (30 Percent): Moderate effect.
 - b. Sulfuric Acid (77 Percent): Moderate effect.
 - c. Hydrochloric Acid (37 Percent): Moderate effect.
 - d. Phosphoric Acid (75 Percent): No effect.
 - e. Acetic Acid (98 Percent): No effect.
 - f. Formaldehyde: No effect.
 - g. Ethyl Acetate: No effect.
 - h. Ethyl Ether: No effect.
 - i. Phenol (85 Percent): Moderate effect.
 - j. Benzene: No effect.
 - k. Xylene: No effect.
 - l. Butyl Alcohol: No effect.
 - m. Furfural: No effect.
 - n. Methyl Ethyl Ketone: No effect.
 - o. Sodium Hydroxide (25 Percent): No effect.
 - p. Sodium Sulfide (15 Percent): No effect.
 - q. Ammonium Hydroxide (28 Percent): No effect.
 - r. Zinc Chloride: No effect.
 - s. Gentian Violet: No effect.
 - t. Methyl Red: No effect.
 - 2. Products: Subject to compliance with requirements, provide one of the following:
 - a. Formica Corporation; Lab Grade 840 Black.
 - b. Panolam Industries International, Inc.; Pionite Chemguard.
 - c. Wilsonart International, Div. of Premark International, Inc.; Chemsurf.

- G. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 1. As indicated by manufacturer's designations.
 - 2. Match Architect's sample.
 - 3. As selected by Architect from manufacturer's full range in the following categories:
 - a. Solid colors, gloss finish.
 - b. Solid colors with core same color as surface, gloss finish.
 - c. Patterns, gloss finish.
 - 4. Grain Direction: Parallel to cabinet fronts.
- H. Edge Treatment: plastic laminate to match countertop.
- I. Core Material: Medium-density fiberboard made with exterior glue.
- J. Core Material at Sinks: Exterior-grade plywood.
- K. Core Thickness: 3/4 inch (19 mm).
 - 1. Build up countertop thickness to 1-1/2 inches (38 mm) at front, back, and ends with additional layers of core material laminated to top.
- L. Backer Sheet: Provide plastic-laminate backer sheet, NEMA LD 3, Grade BKL, on underside of countertop substrate.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard unless otherwise indicated.
 - 1. Wood Moisture Content: 5 to 10 percent.
- B. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
 - 1. Recycled Content of Medium-Density Fiberboard: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
 - 2. Medium-Density Fiberboard: ANSI A208.2, Grade 140-MR30, made with binder containing no urea formaldehyde.
 - 3. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

2.3 ACCESSORIES

- A. Grommets for Cable Passage through Countertops: 2 inch (51-mm) stainless steel, molded-plastic grommets and matching plastic caps with slot for wire passage.
 - 1. Product: Subject to compliance with requirements, provide "[OG] [SG] series" by Doug Mockett & Company, Inc.
- B. Support Brackets: Hidden wall mount supports for anchorage to vertical studs.
 - 1. Product: – Subject to compliance with requirements, provide "Floating Wall Mount Support Bracket" and "Side Mount Brackets" by Centerline Brackets - Centerline Steel, LLC and as indicated on Drawings.

2.4 MISCELLANEOUS MATERIALS

- A. Adhesives:
- B. Do not use adhesives that contain urea formaldehyde.
- C. VOC Limits for Installation Adhesives and Sealants: Use products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Wood Glues: 30 g/L.
 - 2. Multipurpose Construction Adhesives: 70 g/L.
 - 3. Structural Wood Member Adhesive: 140 g/L.
 - 4. Architectural Sealants: 250 g/L.

2.5 FABRICATION

- A. Fabricate countertops to dimensions, profiles, and details indicated. Provide front and end overhang of 1 inch (25 mm) over base cabinets.
- B. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
 - 1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
 - 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition countertops to average prevailing humidity conditions in installation areas.
- B. Before installing countertops, examine shop-fabricated work for completion and complete work as required, including removal of packing and back-priming.

3.2 INSTALLATION

- A. Grade: Install countertops to comply with same grade as item to be installed.
- B. Assemble countertops and complete fabrication at Project site to the extent that it was not completed in the shop.
 - 1. Provide cutouts for appliances, plumbing fixtures, electrical work, and similar items.
 - 2. Seal edges of cutouts by saturating with varnish.
- C. Field Jointing: Where possible, make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare

edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.

1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches (150 mm) of front and back edges and at intervals not exceeding 24 inches (600 mm). Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- D. Install countertops level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- E. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- F. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
1. Install countertops with no more than 1/8 inch in 96-inch (3 mm in 2400 mm) sag, bow, or other variation from a straight line.
 2. Secure backsplashes to tops with concealed metal brackets at 16 inches (400 mm) o.c. and to walls with adhesive.
 3. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.
- 3.3 ADJUSTING AND CLEANING
- A. Repair damaged and defective countertops, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean countertops on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION