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## SECTION 123416 - MANUFACTURED SOLID-PLASTIC CASEWORK

### **TIPS:**

To view non-printing **Editor's Notes** that provide guidance for editing, click on MasterWorks/Single-File Formatting/Toggle/Editor's Notes.

To read **detailed research, technical information about products and materials, and coordination checklists**, click on MasterWorks/Supporting Information.

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

- A. Section includes solid-plastic cabinets of stock[ **or custom**] design.
- B. Related Requirements:
  - 1. [Section 061000 "Rough Carpentry"] [Section 061053 "Miscellaneous Rough Carpentry"] for wood blocking for anchoring casework.
  - 2. Section 092216 "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring casework.
  - 3. Section 096513 "Resilient Base and Accessories" for resilient base applied to solid-plastic casework.
  - 4. Section 123661.16 "Solid Surfacing Countertops."

### 1.3 DEFINITIONS

- A. Definitions in the AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" apply to the Work of this Section.
- B. CNC Machine: Computer numerical control automated cutting machine.
- C. HDPE: High-density polyethylene plastic.

### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.
- B. Keying Conference: Conduct conference at [**Project site**] <**Insert location**>. Incorporate keying conference decisions into final keying requirements.

### 1.5 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that casework can be supported and installed as indicated.
- B. Do not deliver or install polyethylene casework until the flooring required to be placed under polyethylene casework is complete.
- C. Field Measurements: Verify actual dimensions of adjacent construction by field measurement before fabrication. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays. Where field measurements cannot be made without delaying the work, establish dimensions and proceed with fabrication without field measurements. Coordinate construction to ensure actual dimensions correspond to established dimensions.

### 1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product, include component dimensions and configurations, construction details, description of joinery, preparation and installation instructions, and maintenance recommendations.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show fabrication details, including types and locations of hardware. Show installation details, including field joints and filler panels. Indicate manufacturer's catalog numbers for casework.
- C. Keying Schedule: Include schematic keying diagram and index each key set to unique designations that are coordinated with the Contract Documents.
- D. Samples: For cabinet panel material and full range of colors available.
- E. Samples for Initial Selection: For cabinet finishes.

F. Samples for Verification: Samples for each type of finish[.][**and the following:**]

1. One full-size finished cabinet door.

#### 1.7 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver casework only after painting, utility roughing-in, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas where environmental conditions meet requirements specified in "Field Conditions" Article.

1. Store casework vertically. Do not store on back, sides, or face.
2. When handling and storing casework, do not rest or slide the finished surface of the casework on any rough surfaces such as concrete, brick, or pavers.

B. Keep finished surfaces covered with a protective covering during handling and installation.

#### 1.9 FIELD CONDITIONS

A. Established Dimensions: Where casework is indicated to fit to other construction, establish dimensions for areas where casework is to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

B. Locate concealed framing, blocking, and reinforcements that support casework by field measurements before being enclosed, and indicate measurements on Shop Drawings.

#### 1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of casework that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Werever Products, Inc.; Solid High-Density Polyethylene cabinetry or comparable product by one of the following:

1. **<Insert manufacturer's name>**.

- B. Source Limitations: Obtain solid-plastic cabinets from single source from single manufacturer.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Casework body to be waterproof.
- B. Casework to be UV stabilized for direct-sun exposure.
- C. Casework to be manufactured from solid-color HDPE material.
- D. Casework to be FDA approved for food-safe contact.
- E. Material Rating: Not less than Class C according to ASTM E 84.
- F. Casework to be self-supporting and predrilled for connection to adjoining casework.
- G. Casework to be capable of supporting not less than **0.4 lb/cu. in. (11 071 kg/cu. m)**.
- H. Drawers to be capable of supporting not less than **0.026 lb/cu. in. (720 kg/cu. m)**.
- I. Wall casework to be capable of supporting not less than **0.026 lb/cu. in. (720 kg/cu. m)**.
- J. Shelves to be capable of supporting not less than **0.026 lb/cu. in. (720 kg/cu. m)**.
- K. Casework to be modular and able to be relocated without requiring application of finished ends or other parts.

## 2.3 CASEWORK

- A. Product Designations: Drawings indicate sizes, configurations, and finish materials of manufactured HDPE cabinets by referencing designated manufacturer's catalog numbers. Other manufacturers' casework of similar sizes and door and drawer configurations, of same finish materials, and complying with the Specifications may be considered. See Section 016000 "Product Requirements."
- B. Casework bodies, drawer heads, drawer bodies, drawer glides, shelves, and door assemblies fabricated from HDPE.
- C. Door and Drawer Styles: As selected by Architect from full range of standard door and drawer styles available from manufacturer.
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Werverver Products, Inc.; **[Plano] [Classic] [Traditional] [Classic with cove] [Sport] [Double cove] [Shaker] [V-groove] [Raised panel] [French]** or comparable product.

## 2.4 MATERIALS

- A. Solid-Plastic Material: Marine Grade HDPE, containing UV inhibitor and FDA approved for food-safe contact.

- B. Stainless Steel: ASTM A 666, Type 304, satin finished.
- C. Plastic Glazing: Transparent acrylic sheet; ASTM D 4802; see Section 088400 "Plastic Glazing" for requirements.

## 2.5 COLORS AND FINISHES

- A. HDPE Colors: As selected by Architect from casework manufacturer's full range.

## 2.6 FABRICATION

- A. Solid-Plastic Cabinet Construction: As required by referenced quality standard, but not less than the following:
  - 1. Side Panels: Cut from **3/4-inch (19-mm)** solid HDPE.
  - 2. Floor Panel: Cut from **3/4-inch (19-mm)** solid HDPE.
  - 3. Back Panel: Cut from minimum **1/2-inch (13-mm)** solid HDPE.
  - 4. Drawer Face: Cut from **3/4-inch (19-mm)** solid HDPE.
  - 5. Drawer Box Front, Sides, Back, and Bottom: Cut from minimum **1/2-inch (13-mm)** HDPE.
  - 6. Door Panels: Cut from **3/4-inch (19-mm)** solid HDPE.
  - 7. Shelves: Cut from **3/4-inch (19-mm)** solid HDPE.
  - 8. Top Spreaders: Constructed of **3/4-inch (19-mm)** solid HDPE.
  - 9. Drawer Guides: Constructed of **1/2-inch (13-mm)** solid HDPE.
  - 10. Plastic Glazing: Constructed of **1/4-inch (6-mm)** solid transparent acrylic sheet.
- B. Casework Assembly: HDPE casework cut and assembled without substantial supporting metal or hardware. Make each casework cut using the CNC machine. Assemble as follows:
  - 1. Cut polyethylene panels with channels that allow panels to slide together snugly and lock in place.
  - 2. Predrill interior side panels of base and wall casework using the CNC machine, except as otherwise indicated, for uniform attachment of adjacent casework.
  - 3. Provide adjustable shelves with a mechanism for securing the shelves from moving, using nonmetal, corrosive-resistant pins.
  - 4. Casework panels may not be connected with cam bolts, cam-lock screws, Rafix connectors, or other similar knock-down cabinet-style fasteners.
  - 5. Attach drawer faces to face of drawer box.
  - 6. Fabricate drawer slides from HDPE material.
  - 7. Attach door panels to side panels using not less than three stainless-steel, 110-degree, self-closing hinges.
  - 8. Design top spreaders to enable use of a countertop adhesive to adhere countertop to casework.
  - 9. Ensure that each surface and joint is free of welds.
  - 10. Bevel, clean, and deburr each exposed casework edge and corner for a safe and finished appearance. Deburr each door corner.
  - 11. Attach adjustable-leg bases to underside of bottom panels using stainless steel screws.

## 2.7 CASEWORK HARDWARE AND ACCESSORIES

- A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard stainless-steel hardware meeting BHMA A156.6.
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, Type B01602, 110-degree opening, self-closing stainless-steel hinges, securely fastened to doors and casework with stainless-steel screws. Provide three hinges for doors less than 42 inches (1067 mm) high, and provide four hinges for doors more than 42 inches (1067 mm) high.
- C. Pulls: Stainless steel; fastened from back with two stainless-steel screws.
- D. Cabinet Legs: Plastic, adjustable from 3-3/4 inches (95 mm) to 5-3/4 inches (146 mm) with a load capacity of not less than 250 lb (113.4 kg) per leg.
- E. Adjustable Shelf Supports: Corrosive-resistant nonmetal shelf pins to secure shelf in place.
- F. Casework and extendible elements may contain stainless-steel screws and/or nails for non-support purposes.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

### 3.3 CASEWORK INSTALLATION

- A. Do not write or mark casework with pencils, pens, or permanent markers. Use dry-erase markers if necessary to mark casework during installation.
- B. Do not rest casework on faces that will be exposed when installation is complete. Take care to put protective padding between the cabinet and the ground during installation.
- C. Install casework components level, plumb, and true; shim wall cabinets as required, using concealed nonwood shims. Adjust base cabinet leveling legs as needed in lieu of shims. Where casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.

- D. Base Cabinets: Set base casework straight, level, and plumb. Adjust subtops within **1/4 inch (6 mm)** of a single plane. Fasten casework to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners.
1. Adjust base cabinet leveling legs as needed in lieu of shims. Cabinet doors will align with adjustment of the legs to level cabinetry. Align similar adjoining doors and drawers to a tolerance of **1/16 inch (1.5 mm)**.
  2. Bolt adjacent cabinets together with joints flush, tight, and uniform. Secure sides of casework with not less than two fasteners.
  3. Predrill hole for each fastener. Remove excess material from drilling before fastening adjoining cabinet.
- E. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within **1/4 inch (6 mm)** of a single plane. Fasten to hanging strips, masonry, framing, wood blocking, or reinforcements in walls and partitions. Align similar adjoining doors to a tolerance of **1/16 inch (1.5 mm)**.
- F. Install hardware uniformly and precisely. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- G. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind.

### 3.4 CLEANING

- A. Repair or remove and replace defective work as directed on completion of installation.
- B. Clean finished surfaces with commercial products.
- C. Remove protective covering upon Substantial Completion.

END OF SECTION 123416