



PRODUCT GUIDE SPECIFICATIONS

Manufactured Solid Plastic Casework

Section 12 34 16

Part 1 General

1.1 Description of Work.

- A. All polyethylene casework shall be furnished, installed and shall be demonstrated to properly perform in accordance with the specifications stated herein.

1.2 Products

- A. Polyethylene Casework of a Stock or Custom Design.

1.3 Related Sections

- A. Division 6
 - 1. Section "Rough Carpentry" for wood blocking to anchor manufactured polyethylene casework.
 - 2. Section "Solid Surface Fabrications" for countertops, including backsplash.

1.4 Product Handling

- A. Schedule delivery of polyethylene casework after installation area is sufficiently complete to allow for immediate installation.
- B. Protect finished surfaces from soiling or damage during handling and installation with a protective covering.

1.5 Project Conditions

- A. Do not deliver or install polyethylene casework until the flooring required to be placed under polyethylene casework is complete.
- B. Field Measurements: Verify actual dimensions of construction contiguous with manufactured polyethylene casework by field measurements 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 that actual dimensions correspond to established dimensions.

1.6 Submittals

- A. Comply with the requirements of Section 01 33 00 – Submittal Procedures, unless otherwise indicated.
- B. Product Data: Manufacturer's data and installation instructions on each item of casework to be used. Include component dimensions and configurations, construction details, description of joinery, preparation and installation instructions and maintenance recommendations.
- C. 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 filler panels. If available, indicate manufacturer's catalog numbers for casework.
- D. Samples: Submit samples of polyethylene panel material and the full range of colors available.

1.7 Quality Assurance

- A. Manufacturer Qualifications: Not less than five (5) years of experience in the actual production of polyethylene casework.
- B. Single Source Responsibility: Polyethylene casework shall be manufactured from a single source and from a single manufacturer.

1.8 References

- A. Comply with all applicable trade standards, ordinances, building codes and regulations and those standards and references listed (where applicable).
- B. Approval for Food-Safe Contact from the Food and Drug Administration (FDA).
- C. Meet or exceed standards established by American Nat'l Stand. Institute/Business & Institutional Furniture Mfr. Assoc. (ANSI/BIFMA) for casework, X5.9-2004 – Storage Units, in each of the categories listed below:
 - 1. Section 4.2 Functional Load Test
 - 2. Section 4.3 Proof Load Test
 - 3. Section 5 Leg/Glide Assembly Strength Test
 - 4. Section 6 Racking Resistance Test
 - 5. Section 7.1 Top Load Ease Test - Cyclical
 - 6. Section 8.2 Upward Force Disengagement
 - 7. Section 9.3 Stability Test Type I Units with at least 1 Extendible Element
 - 8. Section 9.4 Stability Test Type I Units with Multiple Extendible Element
 - 9. Section 10 Storage Unit Drop Test
 - 10. Section 12 Rebound Test
 - 11. Section 13 One Stop Test
 - 12. Section 15.2.2 Cycle Test for Extendible Elements Wider than Deep
 - 13. Section 17.2 Strength Test for Hinged Doors
 - 14. Section 17.3 Hinge Override Test
 - 15. Section 17.6 Wear and Fatigue Test
 - 16. Section 17.11 Slam Closed Test
 - 17. Section 20 Pull Force Test
- D. Adjustable to ADA Height Requirements of 33-1/2”.

1.9 Materials

- A. Appendix 1: Typical Properties of UV-High Density Polyethylene (HDPE).
- B. Appendix 2: Test Results for X5.9-2004 – Storage Units.

1.10 Warranty

- A. Polyethylene casework and hardware shall be warranted for a period three (3) years, from the date of delivery by Manufacturer, and shall cover only defects in material and/or workmanship. Defects reported to Manufacturer in writing prior to the expiration of the warranty period shall be repaired or replaced at Manufacturer's option.

Part 2 - Products

2.1 Manufacturers

- A. Acceptable Manufacturer. Werver Products, Inc., 6120 Pelican Creek Circle, Riverview, FL 33578 (813) 241-9701, www.werver.com. All polyethylene casework shall be the product of one manufacturer and shall be fabricated at one geographic location to ensure product consistency, shipping continuity, and single-source responsibility.
- B. Products of other polyethylene casework manufacturers may be used as an approved equal provided they meet the product characteristics specified herein. No known equal exists.
- C. For manufacturers and/or suppliers not listed, submittal for approval must be received by the Architect ten (10) calendar days prior to bid. No exceptions.

2.2 Materials, General

- A. Materials:
 - 1. Casework.
 - a) Casework bodies, drawer heads, drawer bodies, drawer guides, shelves, and door assemblies shall be fabricated from marine grade high density polyethylene (HDPE) that contains a UV inhibitor, and is FDA approved for food-safe contact.

- b) Colors shall be chosen by the Architect from the full range of standard colors available from the manufacturer.
 - c) Door and drawer styles shall be chosen by the Architect from the full range of standard door and drawer styles available from the manufacturer.
2. Casework Hardware
- a) Doors shall be equipped with 304 stainless steel 110 degree self-closing hinges securely fastened to doors and casework with stainless steel screws.
 - b) Door and drawer pulls shall be made of stainless steel, securely fastened to doors and drawers with screws (if applicable).
 - c) Casework and extendible elements may contain stainless steel screws and or nails for non-support purposes.
 - d) Casework shall be equipped with plastic cabinet legs adjustable from 3 ¾" to 5 ¾" with a load capacity of not less than 250 pounds per leg.
 - e) Shelving height shall be adjustable, but shelf pins shall secure the shelf in place using corrosive resistant pins.

2.3 Casework Fabrication.

- A. Polyethylene Material: All polyethylene casework shall be constructed using polyethylene sheets with the following thicknesses:
 - 1. Side panels shall be cut from ¾" solid HDPE.
 - 2. Floor panel shall be cut from ¾" solid HDPE.
 - 3. Back panel shall be cut from ¾" solid HDPE.
 - 4. Drawer face shall be cut from ¾" solid HDPE.
 - 5. Drawer box front, sides, back and bottom shall be cut from ¾" solid HDPE.
 - 6. Door panels shall be cut from ¾" solid HDPE.
 - 7. Shelves shall be cut from ¾" solid HDPE.
 - 8. Top spreaders shall be constructed of ¾" solid HDPE.
 - 9. Drawer guides shall be constructed of ¾" solid HDPE.
- B. Casework Assembly: Polyethylene casework shall be cut and assembled without any supporting metal or hardware. All casework cuts shall be made using a computer numerical control (CNC) machine, to ensure precision cutting for consistent quality and rigidity of completed casework, and shall be assembled as follows:
 - 1. Each polyethylene panel shall be cut with channels that will allow all polyethylene panels to slide snugly together and lock in place.
 - 2. Interior side panels of base and wall casework shall be pre-drilled using a CNC machine, except where otherwise indicated, for uniform attachment of adjacent casework.
 - 3. Adjustable shelves shall have a mechanism for securing the shelves from moving, using non-metal corrosive-resistant pins.
 - 4. Drawer faces shall be attached to the face of a drawer box to provide for additional strength to the drawer.
 - 5. Drawer slides shall be made from a non-metal corrosive resistant material.
 - 6. Door panels shall be attached to side panels using not less than three (3) 304 stainless steel 110 degree self-closing hinges.
 - 7. Top spreaders shall be designed to enable use of a countertop adhesive to adhere the countertop to the casework.
 - 8. All surfaces and joints shall be flat and free of any welds.
 - 9. All exposed casework edges and corners must be beveled, cleaned, and deburred for a safe and finished appearance. All casework must have deburred door corners.
 - 10. Casework adjustable leg bases shall be attached from the underside of the bottom panels using four (4) stainless steel screws.
- C. Performance Requirements. All Polyethylene Casework shall meet the following MINIMUM standards:
 - 1. Casework body shall be waterproof;
 - 2. Casework shall be UV stabilized for direct sun exposure;
 - 3. Casework shall be manufactured from solid color material;
 - 4. Casework shall be FDA approved for food-safe contact;
 - 5. Casework material shall be rated as not less than a Class C under ASTM E-84;

6. Casework shall be self-supporting and pre-drilled for connection to adjoining casework;
7. Casework shall support not less than 0.4 lbs. per square inch of countertop;
8. All drawers shall be able to functionally support not less than 0.026 lbs. per cubic inch;
9. Wall casework shall be able to support not less than 0.026 lbs. per cubic inch;
10. All shelves shall be able to support not less than 0.026 lbs. per cubic inch; and,
11. Casework shall be modular and able to be relocated at any time without requiring application of finished ends or other such parts.

Part 3 - Execution

3.1 Examination

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2.1 Coordination

- A. Coordination with appropriate contractors, who shall furnish plumbing and electrical services which shall be passing through the casework.

3.3 Preparation

- A. Clean surfaces thoroughly prior to installation.

3.4 Installation of Casework.

- A. All exterior surface protective covering shall be left in place and removed only when the casework is ready for installation and only on surfaces that will be concealed during installation.
- B. Set casework components plumb, square, and straight with no distortion. Adjust leveling legs as needed. Where casework abuts other finished work, apply filler panels and scribe for accurate fit with fasteners concealed where practical.
- C. Set all base casework straight, level, and plumb. Adjust subtops within 1/4 inch of a single plane. Fasten casework to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners. Bolt adjacent casework together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch.
 1. Where base casework is not installed adjacent to walls, fasten to floor at toe space with fasteners. Secure sides of casework to floor, where they do not adjoin other casework, with not less than two fasteners.
- D. 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.
- E. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.5 Cleaning and Protecting.

- A. Repair, or remove and replace, defective work as directed upon completion of installation.
- B. Clean finished surfaces to match original factory finish, as approved by Architect.
- C. Remove protection upon Substantial Completion.
- D. Do not write or mark casework with pencils, pens or permanent markers. Use dry erase markers if necessary to mark casework during installation.

-- END OF SECTION --