



## 12245

### **Laboratory Casework**

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### **A. Summary**

This section contains general design criteria for laboratory casework, countertops, sinks and service fixtures.

### **B. System Design and Performance Requirements**

1. Casework must be manufactured, delivered, and installed under the direct supervision of a single manufacturer to ensure a single source of responsibility.
2. Depending on lab use, select lab casework material on a case-by-case basis.

### **C. Submittals**

Contractors must submit the following design and construction documents to Yale University.

#### **1. Product Data**

Provide product data for appliances and equipment, cabinet hardware, sinks, and tailpieces.

#### **2. Shop Drawings**

Indicate component dimensions, configurations, elevations, construction details, joint details, and attachments.



### 3. Samples

- a. Submit samples of casework finish designating the finish and color.
- b. Submit samples of countertop materials.

### 4. Test Reports

Submit product test data. The following product performance tests must be performed and certified by an independent testing agency.

- Base cabinet construction—racking test
- Wall cabinet construction—racking test
- Wall cabinet construction—static load test
- Drawer corner or joinery strength test
- Drawer construction—static load test
- Cabinet adjustable shelf and support devices—static load test
- Cabinet interior, exterior, and edging materials—acid resistance tests

### 5. Warranty

Provide a five-year manufacturer's warranty covering all casework furnished.

## D. Product Standards

All casework must conform to Scientific Equipment and Furniture Association publication SEFA 8-1998: Performance and Recommended Practices.

## E. Manufacturers

Subject to compliance with the design requirements, provide products by Fisher-Hamilton or Kewaunee.

## F. Materials

Use the following laboratory casework materials.

### 1. Steel

- ASTM A366, mild steel, cold-rolled, pickled, double annealed patent leveled
- Free from rust, scales, scratches, buckles and other defects
- Steel sheets must be metallic furniture stock
- Electro-statically applied urethane powder coat finish



### **2. Stainless Steel**

- ASTM A240, Type 304 stainless steel for tops, sinks, shelves, and casework
- #4 satin finish

### **3. Epoxy Resin Bench Tops**

- Molded, modified epoxy resin sheets
- Uniform mixture throughout
- Not depending on a surface coating that can be readily removed by chemical abuse

### **4. Glass**

- 1/4" thick clear, laminated, safety glass for framed and unframed cabinet doors

### **5. Solid Surface Countertops**

- Corian by DuPont or an approved equivalent

### **6. Plastic Laminate and Chemically-Resistant Plastic Laminate**

- Nevamar, Formica, or an approved equivalent

## **G. Specialized Casework**

1. The top, bottom, sides and doors of flammable liquid storage cabinets must be not less than 18-gauge, double-walled steel construction, with 1-1/2" between the walls. Cabinet doors must be equipped with a three-point latch system. Provide a liquid-tight pan that can hold 2" of liquid. Cabinets must be ventilated, with flame arrestors provided on all vents. Cabinet fronts must be clearly labeled "FLAMMABLE-KEEP FIRE AWAY" with 1" high letters.
2. Corrosive chemical storage cabinets must be constructed from a complete corrosion-resistant liner. Cabinets must be ventilated. Provide a liquid-tight pan that can hold 2" of liquid. Cabinet fronts must be clearly labeled "ACID STORAGE" with 1" high letters.



## H. Countertops

Table 1 is a guide for selecting laboratory countertop materials. Select countertop materials based on the use of the laboratories and an evaluation of the chemicals.

**Table 1. Laboratory Countertop Materials**

Countertop Material	Relative Cost	Life Expectancy	Type of Use
Plastic laminate	\$40/LF	20	Offices, electronics lab, dry activities
Chemical-resistant plastic laminate	\$55/LF	20	Clinical labs
Solid surfacing (Corian), Group C Sink bowl	\$120/LF \$275/ea	50	Clinical labs, some chemical labs
Phenolic resin composite	\$75/LF	50	Chemical labs
Epoxy resin – black, 1" thick Sink bowl	\$80/LF \$150/ea	50	Chemical labs
Epoxy resin – gray, 1" thick	\$95/LF	50	Chemical labs
Epoxy resin – white, 1" thick, factory quote only	\$105/LF	50	Chemical labs
Stainless steel, type 302/304 Sink bowl	\$125/LF \$400/ea	Life	Wet Labs with frequent cleaning and high durability

1. Cost per lineal foot assumes that the counter top is 25" deep with 4" high square backsplash (except covered at stainless steel).
2. Cost per lineal foot includes installation.
3. Sink installation and connections by others.

**End of Section**