



## 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                               | Life Expectancy | Type of Use   |
|---|-----------------|---|
| Plastic laminate                                  | 20              | Offices, electronics lab, dry activities            |
| Chemical-resistant plastic laminate               | 20              | Clinical labs                                       |
| Solid surfacing (Corian), Group C Sink bowl       | 50              | Clinical labs, some chemical labs                   |
| Phenolic resin composite                          | 50              | Chemical labs                                       |
| Epoxy resin – black, 1" thick Sink bowl           | 50              | Chemical labs                                       |
| Epoxy resin – gray, 1" thick                      | 50              | Chemical labs                                       |
| Epoxy resin – white, 1" thick, factory quote only | 50              | Chemical labs                                       |
| Stainless steel, type 302/304 Sink bowl           | Life            | Wet Labs with frequent cleaning and high durability |

## I. Yale School of Medicine

1. Countertops: (Color: Grey)
  - a. Epoxy, or when authorized, acid resistant plastic laminate.
    1. (plastic laminate is only authorized in limited applications where there is little moisture and no caustic reagents)
  - b. Epoxy reagent shelving at peninsulas.
2. Acid resistant plastic laminate wall shelving on plywood. When acid resistant plastic laminate is authorized for counter tops, epoxy counter tops shall be used at sink cutouts and 2'-0" +/- on either side.
3. Handicap adaptability of all lab bench to 30" height is required. All bench top joints to be silicone sealed to facilitate removal. (See General Design Guidelines for further information on adaptable laboratories)

## Yale University Design Standards

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4. Laminate panel box chases are to enclose all piping from ceiling to bench top.
5. Epoxy reagent shelving to be supported on 1 ½" X 11 ½" stock frames.
6. In laboratories, when casework abuts existing radiator, drawer base and support panel at carrels are to be removable for access to adjacent radiator. This requires that drawer units and panels next to the radiator NOT be part of the support structure for the carrel.
7. Provide locks at all carrel drawers, including drawers in adjacent lab bench if assigned to carrel. One key is to be used for all locks at a given carrel. NOT a different key per drawer.

End of Section



# 12500

## Window Treatments

### CONTENTS

I. [Summary](#)

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### A. Summary

This section contains general design criteria for window treatments.

#### Yale School of Medicine

##### VERTICAL BLINDS:

Required at all exterior windows. Exterior color must be white.

Note: Any exception to this standard must be approved by the Director of Capital Planning for YSM.

##### PIVOT MECHANISM:

Manufacturer's standard geared rotating mechanism providing full synchronous 180 deg. rotation for each louver blade. Cord linkages are not acceptable as rotating mechanism.

##### LOUVER BLADES:

Manufacturer's standard louver blades. Width: 3 ½"

End of Section