



# **Gujarat University**

## **TECHNICAL SPECIFICATIONS**

### **LABORATORY FURNITURE WORK**

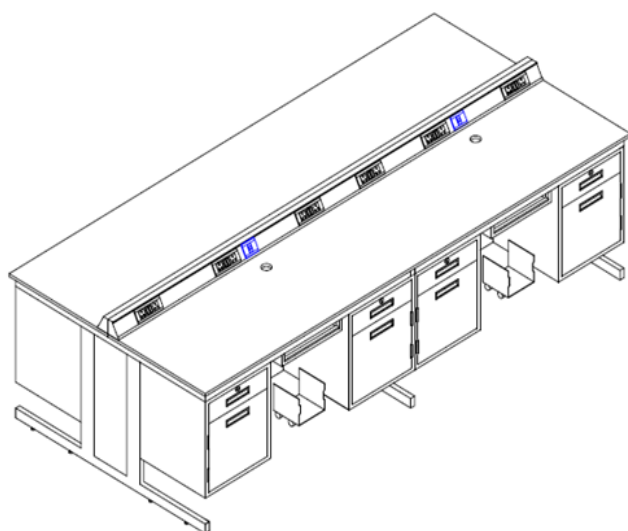
Tender No: GU/ESTATE/ZOO/2018-19/01

**Tender Document  
For  
Construction of Department of Zoology at  
Gujarat University**

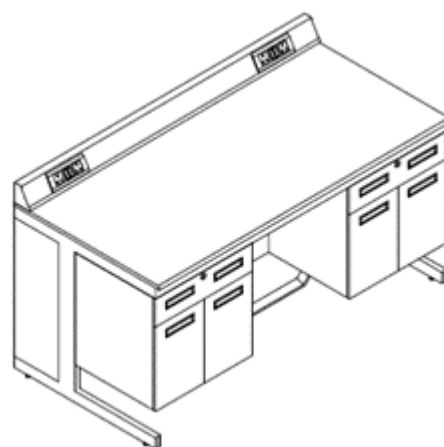
## LABORATORY FURNITURE & ACCESORIES

- ❖ The entire laboratory furniture should be tested as per **SEFA-8M standards** in SEFA approved labs with latest **2016 Guidelines** published by SEFA.
- ❖ The laboratory furniture should be modular construction & design made of mainly Skin Passed / Zero Spangle G.I. (Galvanized Iron) duly coated with at least 50-60 micron Epoxy Powder coated in panel form and in CKD (Completely Knocked Down) construction so it can be erected at site as per attached layout. The design should have provision for reconfiguration for change in layout using simple tooling and should provide independent access to the utilities installed, electrical panel & instrumentation panel.
- ❖ All GI sheet components (TATA Steel / SAIL / Jindal Make) should be fabricated by precision shearing, levelling, notching, piercing, machines to achieve consolidated dimensions within close tolerances under the strict quality checks and assembled with the aid of fixtures. Exposed welding marks should be polished smooth to improve aesthetic. Corner intersections of vertical and horizontal members should be in the same plane with bolted joints and should be suitably aligned.

**A. Laboratory work tables with a C-frame design** provide excellent strength and weight bearing capacity to the work tables. The work top is mounted on a “C” frame structure made of 60 mm x 30 mm x 2 mm pipes welded together and powder coated with pure epoxy powder for high chemical resistance.



*Island bench in C-frame design*



*Wall bench in C-frame design*

### **❖ Under bench modules for Laboratory work tables:**

All modules are manufactured from **IS 277 standards Zero Spangle Galvanized Iron sheets** in a **weldless construction**, to ensure excellent corrosion resistance of the base material itself.

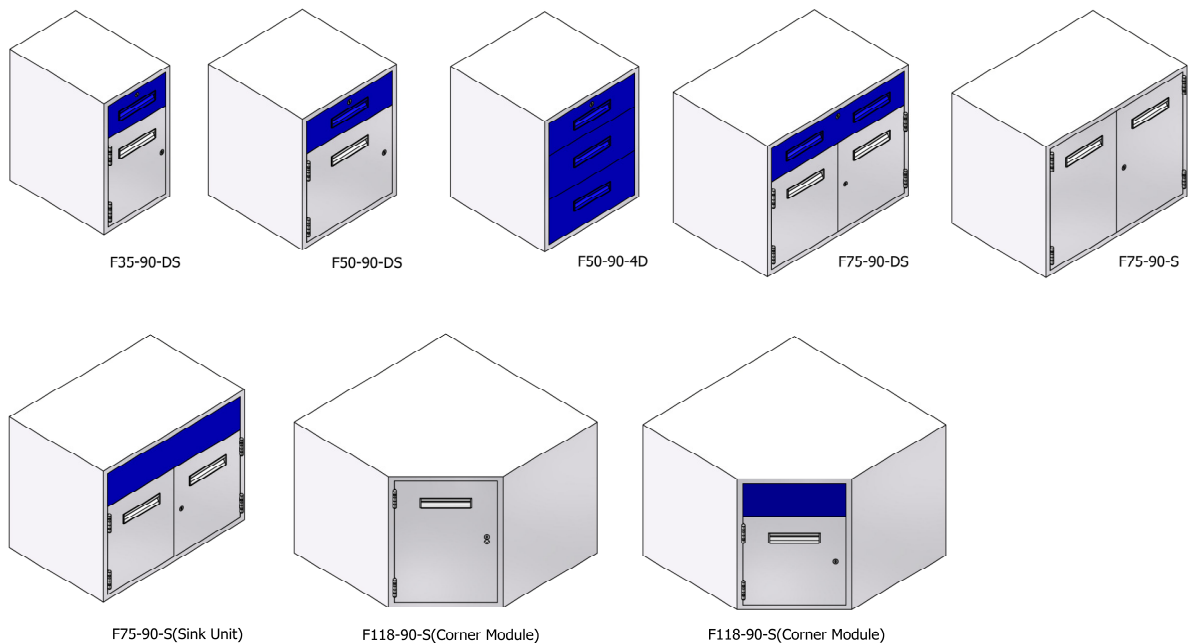
Before assembly, each panel is individually powder coated with 50 to 60 micron thickness using pure epoxy powder. In addition to **SEFA-8M certification**, the coating quality and strength is ensured through 1000-hours salt spray test and other physical tests conducted for each batch.

Fabrication of all panels is carried out using CNC punching and folding machines to ensure perfect accuracy and precision which adds to the overall finish of lab furniture. All shutters and drawer fronts are provided in a double skin construction with buffers to eliminate banging sound.

These modules should be certified for latest **SEFA-8M standard** which is a proof of quality and rugged construction. The modules must be fabricated in standard and tailor-made designs to meet customer's requirements of dimensions and configuration.

Necessary leg space can be provided between two cabinets wherever required with additional accessories like foot rest, keyboard tray, CPU trolley etc. Rear portion of the leg space will be covered with the enclosure panel.

**Standard Module**  
Type:- C-Frame Module




The following table provides general specifications and details related to modules for laboratory work tables.

	<b>C-Frame Modules</b>
<b>MOC</b>	IS 277 standard, Zero Spangle GI
<b>Module sheet thickness</b>	<ul style="list-style-type: none"> <li>- Cabinet end panels: Min. 1.0 mm thick G.I. Sheet</li> <li>- Cabinet rear panel and top panel: Min. 1.0 mm thick G.I. sheet</li> <li>- Cabinet drawers: 1.0 mm thick G.I. Sheet</li> <li>- Cabinet shutters &amp; drawer front panels: Double skin const. min 0.8 mm thick G.I. sheet</li> <li>- Shelf: 1.0 mm thick G.I. sheet (adjustable height)</li> <li>- Cabinet shutter frame 1.6 mm thick G.I. Sheet</li> </ul>

<b><i>Cabinet mounting</i></b>	Fixed on C-frame structure
<b><i>Hinges</i></b>	Knuckle-Barrel type hinges in SS construction for extra-ordinary strength & full 270 degree opening (exposed type)
<b><i>Drawer rails</i></b>	Telescopic channel; up to load bearing capacity 45 kg (100 lbs)
<b><i>Handles</i></b>	Aluminium flush handles; pure epoxy powder coated
<b><i>Locks</i></b>	Lock with two keys for drawers only OR Lock with two keys for drawers and shutters

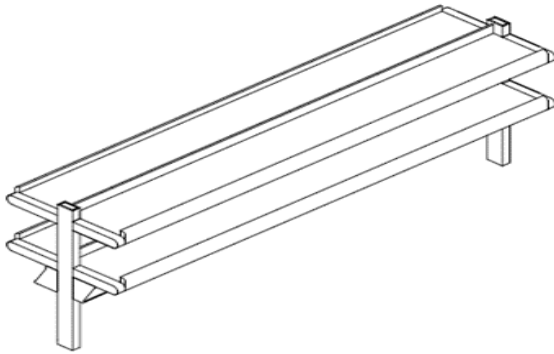
❖ Worktop options for work tables:

	<i>Worktop</i>	<i>Colour</i>	<i>Thickness</i>	<i>Properties &amp; Application</i>
	Granite with chamfered edges and drip groove	Jet black or other colors of natural granite	18(±1mm) mm	Reasonably good chemical and stain resistance, good scratch resistance, flat but slightly porous surface, most economical; Natural marks and slight variation in thickness

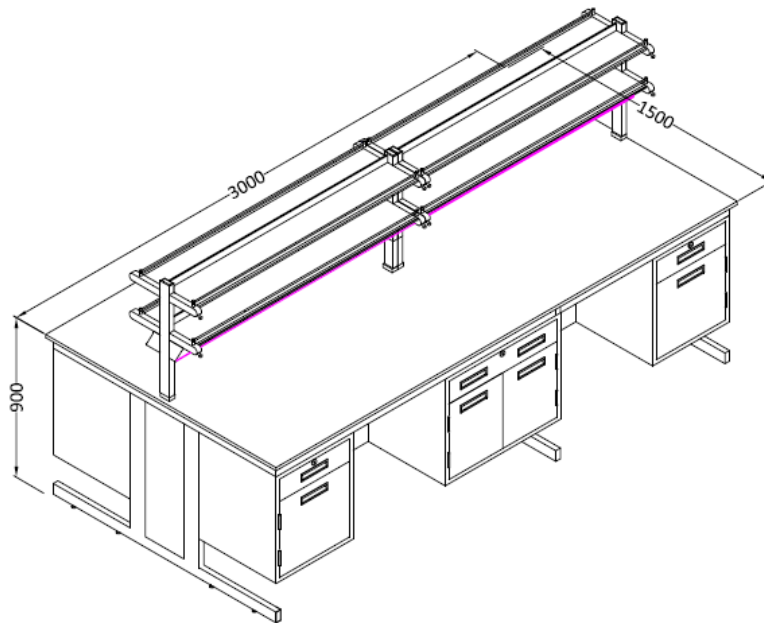
❖

❖ **Reagent Rack:**

- Double sided reagent rack for wall benches and island benches respectively
- Double tier racks depending on storage requirement
- Reagent racks to be offered mainly in following design,  
Special profile extruded Aluminum construction with hard anodized epoxy powder coated surface. Shelf tops to be provided in 6mm phenolic resin or wire reinforced glass construction. Shelf height shall be adjustable as per requirement.



*Double sided two tier reagent rack  
with fixed shelves for island benches*



*C-frame Island bench with double sided two-tier reagent rack with fixed shelves*

### ❖ Electrical Raceways:

Electrical raceways to be offered in triangular or rectangular box type design in 1 mm thick GI construction finished with epoxy coating. Internal wiring is carried out using reliable make copper conductors with FRLS insulation. Raceways to be mounted on vertical members of reagent racks or on work surface of the table when not provided with reagent rack.

Electrical Switches / Sockets - Legrand or Equivalent make.

### **Other electrical accessories:**

- 6A/16A multi-plug sockets and switches



### ❖ Sink:

In one piece, molded sink in Polypropylene (PP) construction. Sink size shall be L 600 mm x W 450 mm x H 315 mm.



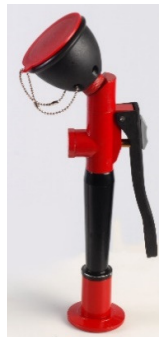
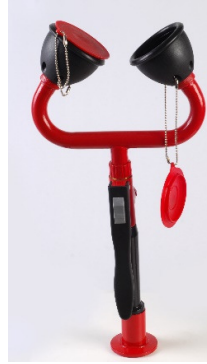
### ❖ Peg Board:

Peg Board in Phenolic Resin with 20 Nos. PP Pegs.

❖ **Emergency Shower and Eye Wash:**

Floor standing, overhead emergency shower with eyewash unit, main frame in S.S fabrication.

Worktop mounted, hand held type, single/double outlet eye wash with SS braided flexible hose.





**List of recommended make of materials for laboratory furniture:**

<b>SR. NO.</b>	<b>MATERIAL</b>	<b>RECOMMENDED MAKE</b>
1.	ZERO SPANGLED GALVANIZED IRON (GI) SHEET	TATA STEEL / SAIL / JINDAL MAKE
2.	HINGES	HETTICH / HAFELE
3.	DRAWER RAILS	HETTICH / HAFELE
4.	LOCKS	HETTICH / HAFELE
5.	LABORATORY FITTINGS	WATER SAVER / FAG/ TOF / FAR / PREMIER POLYMERS
6.	LABORATORY SINKS / DRIP CUPS	WATER SAVER / ALLOYPLAS / K L LAB MALAYSIA / PREMIER POLYMERS
7.	LABORATORY ELECTRICAL SOCKET	NORTHWEST / LEGRAND / MK / NORISYS
8.	DATA & VOICE SOCKET	NORTHWEST / LEGRAND / MK / NORISYS
9.	EYEWASH / SHOWER	WATER SAVER / FAG/ TOF / FAR / PREMIER POLYMERS
10.	SPOT EXTRACTOR	FUMEX / ALSIDENT / NEDERMANN / PREMIER POLYMERS
11.	FLAMMABLE STORAGE TALL CABINET	JUSTRITE / SECURALL / ASECOS / LABOR SECURITY / DUPERTHAL