

## TECHNICAL SPECIFICATIONS - Laboratory Furniture

### 1- LABORATORY FURNITURE

#### **BENCH SYSTEM**

Protech Company offers five different bench systems depending on the need of our clients and the type of laboratory being built:

##### **1. PRO-1000 Pedestal Base-Frame System**

under-bench cabinets are supported by base frames. The worktop is directly supported by the under-bench cabinets. All doors and drawers are interchangeable between like size units without use of tools.

Base frames constructed from 30x30x1.5 mm square steel section. Legs are supplied with adjustment feet  $\pm 15$  mm to correct eventual unevenness of the floor. All frame-work are epoxy powder coated after pre-treatment (pure 100% epoxy based coating).

##### **2. PRO-1500 Pedestal Plinth System**

Under-bench cabinets are supported on wooden box carrying the cabinets. The worktop is directly supported by the under-bench cabinets. The system is rigid and changing the cabinets requires dismantling the tops.

Box frame constructed from 18 mm plywood covered with 0.7 mm HPL on both sides with 0.5 mm PVC edge on all exposed sides, nickel plated steel glide with intermediate rubber layer is provided on the bottom for the cabinet to prevent direct contact with the ground.

##### **3. PRO-2000 Suspended H-Frame System**

The suspended bench system is supported on heavy-duty steel frames fully carrying the worktops. Under-bench cabinets are suspended on the frames. And can be relocated with simple hand tools. All doors and drawers are interchangeable between like size units without use of tools.

Frames constructed from 50x25x1.5 mm rectangular steel section. Legs supplied with adjustment feet  $\pm 15$  mm to correct eventual unevenness of the floor. All frame-work are epoxy powder coated after pre-treatment (pure 100% epoxy based coating).

##### **4. PRO-3000 Suspended C-Frame System**

The suspended bench system is supported on heavy-duty steel frames fully carrying the worktops. All sides and middle frames are constructed without a vertical front leg to avoid obstruction for the user. Under-bench cabinets are suspended on the frames. And can be relocated with simple hand tools. All doors and drawers are interchangeable between like size units without use of tools.

Cantilever frames constructed from 60x30x2 mm rectangular steel section. Cantilever leg supplied with adjustment feet  $\pm 15$  mm to correct eventual unevenness of the floor. Visible ends of steel frames are supplied with black plastic head caps. All frame-work are epoxy powder coated after pre-treatment (pure 100% epoxy based coating).

##### **5. PRO-4000 Gliding C-Frame System**

The gliding bench system is supported on heavy-duty steel frames fully carrying the worktops. All sides and middle frames are constructed without a vertical front leg to avoid obstruction for the user. Under-bench cabinets are suspended on the frames and can easily glide to the right or left with simple hand push. All doors and drawers are interchangeable between like size units without use of tools.

Cantilever frames constructed from 60x30x2 mm rectangular steel section. Cantilever leg supplied with adjustment feet  $\pm 15$  mm to correct eventual unevenness of the floor. Visible ends of steel frames are supplied with black plastic head caps. All frame-work are epoxy powder coated after pre-treatment (pure 100% epoxy based coating).

## **WORKTOP**

Being one of the most important part of laboratory furniture, Protech offers a variety of worktops to best suit the laboratory depending on its type and usage:

### **1. EPOXY RESIN WORKTOP**

Epoxy resin worktops are monolithic and molded from a modified epoxy resin with smooth, non-glare finish. Worktops are supplied with a continuous drip groove 3 mm wide and 3 mm deep on the underside of the exposed edges. All exposed edges are finished with 3mm bevel. Worktop supplied with 100mm back splash on walls.

### **EPOXY RESIN WORKTOP WITH MARINE EDGE**

Epoxy resin worktops are monolithic and molded from a modified epoxy resin with smooth, non-glare finish. Worktops are supplied with marine edge. Worktop supplied with 100 mm back splash on walls.

### **2. TRESPA TOPLAB PLUS WORKTOP**

Flat panel based on thermosetting resins, homogeneously reinforced with cellulose fibers and manufactured under high pressure and temperature. Trespa Toplab Plus has an excellent chemical resistance and integrated, decorative surface based on pigmented, electron beam cured resins. Worktop supplied with a continuous drip groove 3 mm wide and 3 mm deep on the underside of the exposed edges. All exposed edges are finished with 3 mm bevel. Worktop supplied with 100 mm back splash on walls.

### **3. TRESPA ATHLON WORKTOP**

Flat panel based on thermosetting resins, homogeneously reinforced with cellulose fibbers and manufactured under high pressure and temperature. Trespa Athlon panels have an integrated, decorative structure based on modified melamine impregnated decorative paper, providing good chemical resistance with excellent durability and resistance to heat, fumes and vapors

All exposed edges are finished with 3 mm bevel. Worktops supplied with 100mm back splash on walls.

### **4. ANTACID CERAMIC TILES WORKTOP**

The worktop made of anti-acid unglazed ceramic tiles with raised edges on four sides produced in accordance with the DIN 12912. Physical and chemical requirements are specified by DIN EN 176, Group B1. Tiles come in red-brown color and 13 mm thickness. Tiles are fixed on plywood panel using two components acid resistant epoxy grouting.

### **5. ANTACID CERAMIC WORKTOP**

The FULL-SIZE laboratory worktops are made from industrial ceramic (chemical stone ware), non-toxic and free of solvent material, produced in accordance with the DIN 12 916 Part 1. Tops are supplied with ceramic-glazed pigmented colors. The ceramic glazed used on the finish surface of the slab and sinks are fused on as part of the same thermal process. Ceramic tops have very high resistant to most of chemicals used in labs.

### **6. LAMINATED PLYWOOD WORKTOP**

Laminated plywood worktop made of 18 mm plywood covered with 0.9 mm quartz finish High Pressure Laminate (HPL), with 3 mm black PVC edging strips.

### **7. POST FORMED TOP**

Post formed tops are made of 38 mm one piece top with integrated backsplash.

Core made of particleboard covered with 0.8 mm Formica.

## SINKS

Depending on the worktop, Protech chooses the appropriate sink for the best solution.

### **1. EPOXY RESIN SINKS**

Epoxy resin sinks are monolithic and molded from a modified epoxy resin with smooth, non-glare finish. All exterior edges, corners, and interior corners are rounded. Sink supplied with laboratory grade polypropylene bottle trap. Color: black

### **2. POLYPROPYLENE SINKS & BOTTLE TRAPS**

Sink made of polypropylene, supplied with strainer, plug with PP chain. Sink supplied with laboratory grade polypropylene bottle trap. Color: white

### **3. CERAMICS SINKS**

The laboratory ceramic sinks are made from industrial ceramic (chemical stone ware), non-toxic and free of solvent material, produced in accordance with the DIN 12 916 Part 1. Sinks have integral ceramic waist out-lets and overflows, loose plastic strainer and plug.

### **4. STAINLESS STEEL SINK WITH WATER MIXER**

Stainless steel sink made of 1.5 mm thick stainless steel AISI 304 (18/10). Sinks are supplied with polypropylene bottle trap.

## CABINETS AND FILLER PANEL

### **CARCASS**

Made of 18 mm plywood covered with 0.7 mm white mat finish High Pressure Laminate (HPL) on both sides with 0.5 mm white PVC edging strips. Back of under-bench cabinets and over-bench cabinets made of 3 mm thick white MDF set into grooves. Back of sink cabinets made of 18 mm plywood covered with 0.7 mm HPL on both sides with 0.5 mm white PVC edging strip (100mm high). Carcass components are pre-drilled before assembly by CNC machine.

### **DOORS AND DRAWER FRONTS**

Made of 18 mm plywood covered with 0.9 mm quartz finish HPL on both sides with 3 mm black PVC edging strips. Each door is mounted with snap-on hinges with 165° opening angle. Drawers bottom made of 12 mm plywood covered with 0.7 mm white mat finish HPL on both sides. Back of drawers made of 18 mm plywood covered with 0.7mm HPL on both sides.

### **SHELVES**

Interior shelves in cupboards made of 18mm plywood covered with 0.7mm white mat finish HPL on both sides with 0.5mm white PVC edging strips on four edges. Shelves are adjustable for regular heights of 32mm. Each shelf is mounted on four shelf supports.

### **FILLER PANELS**

Panels made of 12 mm plywood covered with 0.7 mm white mat finish HPL on both sides with 0.5 mm white PVC edging strips on all edges. Panels are removable without using tools.

## **HARDWARE**

### **HINGES**

Hinges have a maximum opening angle of 165°. These hinges are heavy duty self closing, snap-on type, adjustable in all three sides and no tools are needed to remove or mount the doors.

### **DRAWER SLIDES**

Integrated drawer slide type that acts both as drawer slide and side panel. Automatically assembled using press machine. Made of epoxy powder coated steel running on nylon runners. Self closing feature with 60mm closing range and with height and side adjustment facility. Continuous load capacity: 30 kg. Finish: White RAL 9010.

### **ADJUSTMENT FEET**

Frame work sides supplied with adjustment feet to avoid unevenness of floor  $\pm 15$  mm. Adjustment feet made of black polyethylene plastic material with M10 galvanized steel thread. Thread length 38mm to obtain  $\pm 15$ mm adjustment.

### **HANDLE**

Under-bench and wall cabinets supplied with flush full length grab-rail made of epoxy powder coated anodized aluminum profile in black color, set into groove on top of doors and drawer fronts.

### **WALL SUSPENSION FITTINGS**

Wall cabinets are hung using 2 suspension fittings. Fittings are adjustable in 3 dimensions. with load capacity of 150 kg per pair.

## **FITTINGS & ACCESSORIES**

### **LABORATORY MECHANICAL FITTINGS**

Fittings are manufactured according to ISO 9001 standard/EN 29001/BS 5750 part 1. Made from best quality brass (DIN 17660). Fittings are surface-treated with highly chemical resistant powder lacquer. Fittings usually delivered in light grey color No. 2700. Handles are color coded according to DIN 12920.

Maximum working pressure for water fittings and gases with needle valves: 10 bar (147 psi).

Maximum working pressure for gas fittings with safety valves: 7 bar (100 psi).

- Cold water fitting
- Water mixer fitting
- Gas fitting (available for all gases)
- Distilled water fitting
- Vacuum fitting

Gas fittings are available in 1-way, 2-way (45° & 90°) and 4-way.

### **EMERGENCY SHOWER & EYE WASH**

Wall mounted body shower with self draining head combined with eye shower and stainless steel bowl, manufactured according to ISO 9001 standard / EN 29001/ BS 5770 Part 1. Parts made of best quality brass, polypropylene chloroprene and stainless steel.

### **PULL OUT STORAGE SYSTEM**

Cabinet's body made of 18 mm plywood covered with 0.7 mm white mat finish HPL on both sides with 0.5 mm white PVC edging. Cabinet's back made of 3 mm white MDF set into grooves.

Pull out doors made of 18 mm plywood covered with 0.9 mm quartz finish HPL on both sides with 3 mm PVC edging strips. Pull out sliding system is complete supplied with full extension rails with load carrying capacity of 100 kg, upper and lower guides, support frame, front guide, and holder. Each compartment supplied with five hook-on baskets. Ventilated pull-out cabinet is available upon request.

#### **CHEMICAL SAFETY STORAGE CABINETS**

Completely made of electro galvanized sheet-steel FE P01, thickness 10/10mm cold pressed bended, and varnished, 3 basket shelves made of steel for possible liquids control in case of break. Conforming with EN 61010-1 – CEI 66-5 DPR 303/56, CE marked.

#### **CHEMICAL SAFETY STORAGE CABINETS WITH ASPIRATORS**

Completely made of electro galvanized sheet-steel FE P01, thickness 10/10mm cold pressed bended, and varnished, 3 basket shelves made of steel for possible liquids control in case of break. With window fan capacity 120 mc/h with case in polyamide resin reinforced with auto-extinguishable antistatic glass fiber, resistant to corrosive agents, IP 44, with active carbons filter, suitable for acid substances with high filtering surface, the replacements simplified by a hinged with key-opening Conforming with EN 61010-1 – CEI 66-5 DPR 303/56, CE marked.

#### **FLAMMABLES SAFETY STORAGE CABINETS**

Completely made of electro galvanized sheet of 1/1 and 5/2 mm gauge, cold pressed-formed, with external monolithic casework painted with acid-resistant epoxy resin powders and passage in thermal gallery at 200 °C. special calcium silicate insulation to DIN 41020 O class REI 120, which releases water molecules to reduce the internal temperature in case of fire. High temperature Rock wool panels (free from Fibroceraamic) secured with adhesive (800 °C) certificate MO CSTB No. 9324624.3, and RINA certificate of non-combustibility. Certificate according to the new din 12925-1 standard, update in April 1998 with FWF technique (thermo Cutting). The cabinet Came s with automatic hydraulic door closure system, spark resistant pure hinge with brass plug, thermo expanding seal of about 3+3 cm (DIN 4102), 1 tray adjustable shelf (100 kg load), 1 boom basket, Earthling clamp, closure with lock and key

#### **FUME EXTRACTION SYSTEM**

Exhaust arms, pipes and suction hoods are made of white matt chemical resistant polypropylene. Ceiling or wall-mounted types are available with 3 joints with range of 1400 mm. Hood diameter is 385 mm.

#### **PEGBOARD**

Back panel made from single mould of 4mm rigid High Impact Polystyrene with closed end peg sockets to eliminate leakage. Pegboard comes with 72 pegs mounting kit, draining hose, and fixing template.

Pegboard size: 450x600mm.

#### **BALANCE TABLE**

Top made of 18mm plywood covered with 0.9mm quartz finish HPL on both sides with 3mm black PVC edging strips. Sides made of 18mm plywood covered with 0.7mm white matt finish HPL on both sides with 0.5mm white PVC edging strips. Balance slab made of granite, size 300x400x30mm. Balance slab is supported on framework made of 40x40x2 mm steel section coated with epoxy powder (70 micron), and supplied with vibration dampers.

#### **SERVICE BRIDGE**

Service box is made of aluminum trunking profiles extrusion with 3mm removable fascia to provide flexibility and easy servicing with ability to mount fittings horizontally and vertically.

Cover is made of 6mm Trespa Athlon.

#### **TRANSPORT TROLLEY**

Entirely made of Stainless Steel AISI 304, with four rubbers rolling costars and pushing handle, with one shelf.

**ELECTRICAL SOCKETS HOLDER**

Electrical sockets holder made of epoxy powder coated steel and supplied with two single electrical outlets, 13 Amp, produced in accordance with BS 1363 and BS 3676.

**POWDER COATING**

Electrostatic EPOXY based powder coating applied after pre-treatment of metal parts.