

TECHNICAL SPECIFICATIONS

Note to the bidders: Bidders are requested to quote their rates as per the technical specification given below, the scope of the works is supply, installation, testing and commissioning of all the equipments and other accessories with all leads and lifts. Wherever possible approved makes of different kitchen equipment/materials/products have been specified in the item wise specifications and Images of the products, however in case any bidder wants to suggest equivalent additional makes of any product/equipment he is free to do so with complete technical specifications of the equipment/product, market rate of the item/product and technical brochure of the product during the pre-bid meeting, so that additional equivalent makes of the products can be approved subjected to meeting the requirements of IISER Pune. Any request for approval of the equivalent makes after opening the commercial bids shall not be entertained. IISER Pune reserves the right to disapprove the suggested additional equivalent make and IISER Pune decisions shall be final and binding on the bidders.

1. Fabricated Equipment:

All fabricated equipment must be as per specifications and to the satisfaction of IISER, Pune. Sample of each manufactured/fabricated products are to be got approved from the engineer in charge at site/in factory before mass production. Minor changes/additions/improvements in the final finish or method of fabrication suggested by IISER needs to be incorporated without additional cost.

2. Welding and Soldering:

All seams and joints shall be shop welded or soldered as the nature of the material may require. Welds to be ground smooth and polished to match original finish.

3. Sound-Deadening

The underside of all sink units in dish-wash area shall have a hard-drying mastic 1/16" (2mm) minimum thickness with all reinforcements completely covered, sealed and painted with two or more coat of silver aluminum paint.

4. Table Tops

All table tops will be one piece construction. Reinforced on the underside with Stainless Steel 304 welded in place so tops can support heavy weight without deflection. Cross bracing of SS 304 to be provided at not more than 750mm centre to centre.

- A. **Plain Work Top:** 16swg SS 304 sheet duly mounted on base frame with SS 304 studs. 45mm down & 6mm in turn on front & side where backsplash is provided, otherwise on all sides. All bends to be rounded & smooth.
 - B. **Sunk Work Top:** 16swg SS 304 sheet duly sunk in 25mm to avoid water spillage.
 - C. **Sink Top:** 16swg SS 304 sheet duly mounted on the base frame with SS 304 studs. 12mm raised marine edges turned out 12mm @ 45 deg., Down 45mm & in 6mm turn on front & both sides. Vertical & Horizontal corner coved. All bends to be rounded & smooth.
 - D. **Garbage Chute Top:** 16swg SS 304 sheets duly sunk in 25mm to avoid water spillage having 200mm diameter and 200mm deep integral garbage chute. Care to be taken to ensure neck weld of garbage chute with top does not protrude and allows for easy flow of waste.
 - E. **Rolling & Batter Top:** 16swg SS 304 sheet duly mounted on base frame with SS 304 studs. 45mm down & 6mm in turn on front & side where backsplash is provided, otherwise on all sides. All bends to be rounded & smooth.
 - a. With suitable cut outs to house GN Pans as required.
 - b. Additional reinforcement of 25x25x6mm angles required at 150mm intervals
- 5. Fasteners:**
Exposed bolt heads will not be permitted on fixtures.
Butt joints made by reverting straps under seams and then filled with solder will not be accepted.
Rivets of any kind, including pop-rivets, will not be accepted.
Exposed screw heads, when necessary, shall be of the same material as the pieces joined and countersunk flush.
- 6. Rolled Edges:**
Rolls shall be as detailed with corners bull nosed, welded, ground and polished.
- 7. Corners:**
Dish tables, splash backs and turned up edges shall have 15mm or larger radius bends in all horizontal and vertical corners, covered at intersections unless specified otherwise.
- 8. Framework (All Tables)**
38x38x5 mm thick SS 304 angle. Rubber gasket to be inserted between table top SS 304 sheet & framework for sound deadening.

9. Backsplash

SS 304 backsplash of thickness same as the table top. 150mm high turned up 25mm at 60° towards the back & 12mm down at 90° with rounded junction for easy cleaning. Back splash to be fully covered at the back with minimum 20swg thick SS 304sheet.

10. Under shelf

Made of 18swg SS 304sheet, strengthened with one number SS 304 25x100x25mm (inverted “U” shape) channel underneath throughout length duly welded shelf width up to 600mm, and two numbers “U” shape channels between 600mm to 900mm shelf. Width & length of the shelf shall be as per table dimension (inside to inside of table uprights).

11. Uprights and Cross Rails:

Legs and cross rails shall be 38mm 16-gauge SS 304square tubing unless otherwise specified. All welds at cross rails shall be continuous and ground smooth. Tack welds are not acceptable. Top of legs to be fitted with 16-gauge SS 304gusset plate. Bottom of legs to be fitted with heavy duty adjustable SS 304bullet foot/floor leveler of approved make. Foot plug to be welded, ground and polished.

Note: All rear uprights of equipment in any Preparation Areas must be 75mm away from wall to allow for unencumbered passage of LPG Line.

12. Closures:

Backs of all fixtures, splash back, shelves, etc., shall be closed.

13. Castors:

Castors shall be heavy duty, non-marking, SS ball-bearing with grease proof neoprene or polyurethane tyres. Wheels shall be 150mm dia. Minimum width treads of 30mm. Minimum capacity per castor 115 kg.

14. Sinks:

Fabricated sinks shall have corners same as for metal tops. One piece welded construction with individual partitions, bottoms connected to drains and gap between the sink units to be closed with SS 304 16 swg sheet.

Sinks bowl shall be 16-gauge SS 304 welded as integral part of top.

Accessories for Two and Three Sink Tables: GI pipe 40mm dia overflow assembly with 40mm dia SS drain valve for sink to be provided &flexible PVC drain pipe after the drain valve to lead to floor trap.

Aprons: 16 SWG SS 304 front apron to be provided to all the sink units down to sink depth.

15. Drains, Wastes:

All necessary drains and wastes shall be furnished by the Kitchen Equipment contractor with his equipment.

16. Hardware:

All hardware shall be of heavy duty construction and identified on shop drawings. All hardware shall be identified with manufacturer's name and number so that broken or worn parts may be replaced.

17. Ice Pans/Bins:

All ice pans, ice bins, refrigerated pan and cabinets shall be provided with breaker strips where adjoining top or cabinet face materials to prevent condensation. Breaker strips shall be fastened with SS 304, counter sunk screws. Pop rivets will not be accepted.

18. Refrigerated Items:

All evaporators for fabricated refrigerators/freezers shall be installed for accessibility and replacement. All reach-in refrigerators and freezers with remote refrigeration systems shall be complete with thermo-static expansion valves at the evaporator.

Fabricated compartments, refrigerated shelves, plates, etc., shall be provided with a 20-gauge steel box to house expansion valves when valve is remote from evaporator. Install in base of fixtures or in a concealed position.

All refrigerated compartments shall be fitted with thermometers.

19. Masonry Pads:

Masonry pads when indicated on drawings shall be constructed by the kitchen vendor without any additional cost.

Fixtures resting on masonry pads shall be sealed to pads to eliminate all crevices.

20. SS 304 Storage Rack

Shelves: As specified

Shall be constructed in 18swg SS 304sheet duly mounted on 4 Nos 14swg thick SS 304angle of size 40x40 mm with the help of corner brackets and SS 304 nuts & bolts, (no welding shall be allowed). Shelves shall be turned down 25mm & 5mm in on all sides. Shelves shall be strengthened with 25x100x25mm (inverted "U" shape) channel underneath. All bends to be rounded & smooth.

Load Carrying Capacity: Minimum 90 kgs/shelf.

For SS 304 Racks in Cold Rooms and Veg Stores, all shelves shall be duly perforated and ribbed to allow for air circulation. Ribbing to be at minimum/maximum distance of **100/150mm**.

For SS 304Racks in all other areas, shelves shall be plain.

GENERAL SPECIFICATIONS: COLD ROOMS

1. To provide all materials and labour necessary for the fabrication and installation of the Cold Storage Rooms in the size and shape in accordance with the equipment layout drawing, sizes as per BOQ and specifications as enumerated in this section.
2. All pre-fabricated cold storage rooms shall be manufactured and installed by approved vendor.
3. Work shall be accomplished so as not to delay the project construction schedule, interfere or conflict with the work being performed by other contractors. Work shall be coordinated and integrated in cooperation with them to prevent conflict of work necessitating changes to work already completed. Should conflicts occur, Kitchen Equipment Contractor shall notify the IISER for his coordination in its resolution.
4. The Kitchen Equipment Contractor shall provide not less than 20mm thick Kota stone flooring as a wearing floor inside the cold storage rooms to prevent prolonged exposure of the floor insulation.
5. During installation, curing and cleaning of the wearing floors inside the cold storage rooms, the cold storage room doors shall be left open and the rooms well ventilated to prevent damage to the interior. "Keep Out" signs shall be posted at each open door.
6. After the installation of the cold storage rooms and prior to the installation of the wearing floor and after the wearing floor has been cured, the cold storage room doors are to be closed and locked.
7. The Kitchen Equipment Contractor shall be responsible for making sure the cold storage rooms are not used by any other trade for storage or work areas. The Kitchen Equipment Contractor shall repair or replace any damaged areas on the interior of the cold storage rooms being used for storage or work areas.
8. The Kitchen Equipment Contractor shall fully familiarize himself with the job site and the architectural drawings and specifications. The Kitchen Equipment Contractor shall provide the necessary job site coordination with the various traders to insure job site conditions will meet the requirements of the cold storage rooms.
9. The cold storage rooms shall be cleared and ready for operation at the time the building is turned over to the Owner.