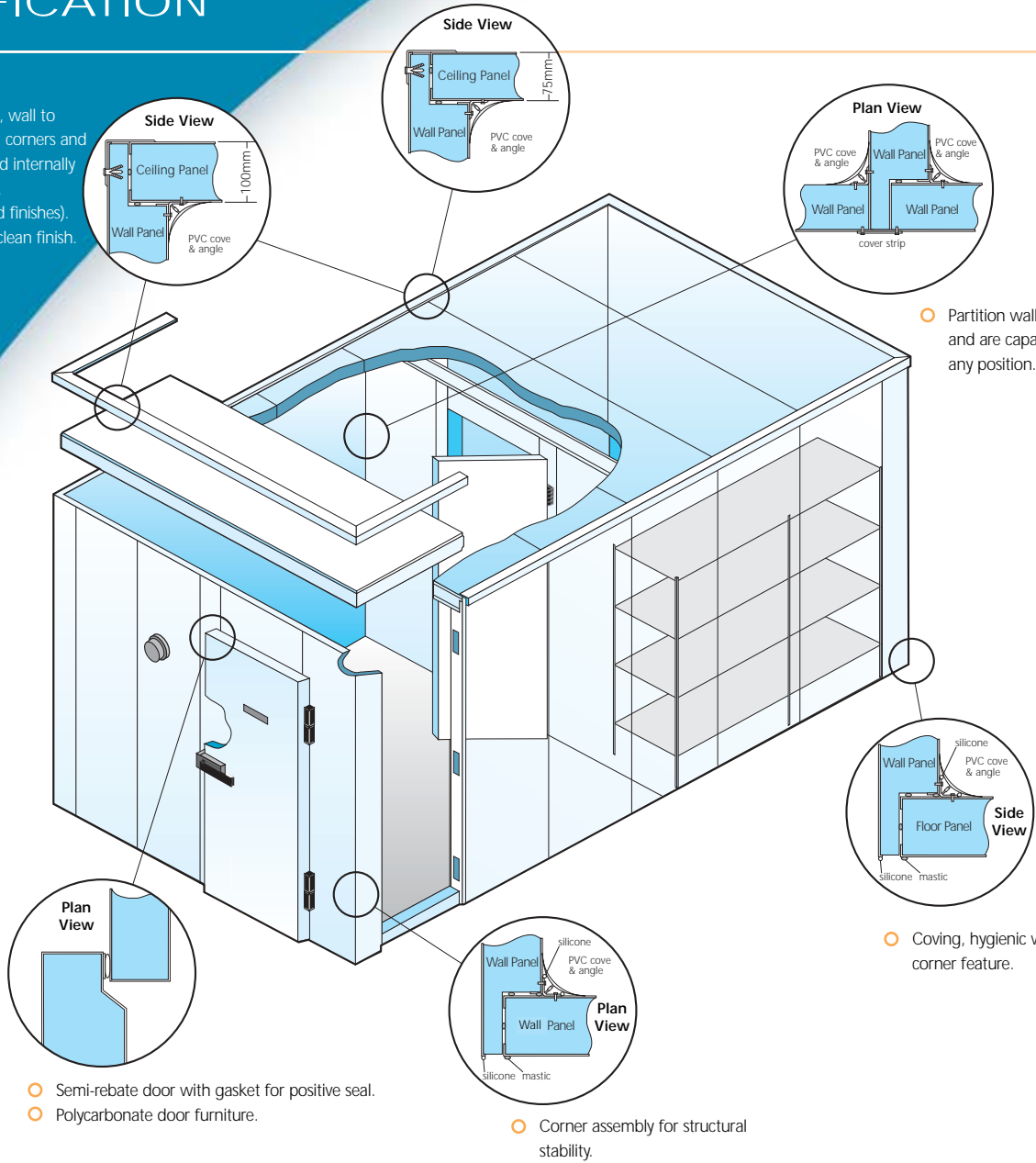




COLDROOMS

ARCHITECTURAL SPECIFICATION

- Wall to ceiling joints, wall to modular floor joints, corners and partitions are secured internally by aluminium angle.
- Fully coved (standard finishes).
- White trim ensures clean finish.



- Partition walls are fully covered and are capable of location in any position.

- Semi-rebate door with gasket for positive seal.
- Polycarbonate door furniture.

- Corner assembly for structural stability.

- Coving, hygienic with ball corner feature.

Quality Management

The manufacturer shall be registered to ISO 9001 quality systems for the design, manufacture, installation and service of the refrigeration equipment and panel products. This means that the management procedures and control systems set up ensure the quality of products and services have been independently assessed to be effective.

Supervision (Applies only to the UK)

The facility shall be available for the installation to be controlled by an Installation Supervisor from the initial receipt of order to the final handover. His services shall be made available for pre-installation sites visits and meetings, control of drawings and paperwork, and supervising the actual installation in accordance with ISO 9001.



Construction

The coldroom shall be constructed on the modular principle with each panel being locked securely to adjacent panels and drawn tightly together by the 'Fosterlok' cassette cam-operated locking system. The locks shall be securely foamed in place without any wood or metal being used and locking hole buttons shall be provided.

Panel edges shall be precision box-formed for strength and rigidity with all round tongue and groove jointing to ensure a good, strong, hygienic joint, eliminating the need for gaskets, cover strips, screws or rivets.

Two beads of mastic sealer are to be applied to the female recess of each panel before locking tight to the male profile of the next panel. A silicone sealer is to be applied between the returned metal edges of the panels inside and outside the coldroom to prevent any ingress of moisture.

The coldroom will be erected from 1200mm wide panels with corner and partition joints fabricated to suit the site to ensure exact dimensional requirements. Corner, partition, wall to ceiling and wall to modular floor joints shall be secured internally by aluminium angle section complete with UPVC coved profile with spherical ball corner pieces for ease of cleaning. External exposed corner and ceiling to wall joints to be fitted with 80 x 80 ABS angle secured by thermoplastic drive rivets. All coldrooms shall conform to BS 2502.

Fire Retardancy

Insulation contains a fire retardant additive. Panels are tested to:

- BS 476: Part 7 - Class 1
- BS 476: Part 6 - Index I<12, 1<6
- BS 4735

(Panels shall conform to the requirement of The Building Regulations (1985) - Fire Spread - Class 'O'). Coldrooms are supplied to BS 5588 Part 11 section 17 when specified for retail store/shop applications.

Important Note:

The fire test results stated relate only to the behaviour of the test specimens of the product under the particular condition of test. They are not intended to be the sole criteria for assessing the potential fire hazard of the product in use. Test results should be read in conjunction with the relevant standard and local fire regulations.

Panel Finishes

Standard panels shall be finished in a white 'food-safe' corrosion resistant anti-static stay clean longer PVC laminate film on galvanised steel substrate to all wall surfaces and interior of ceiling. Exterior of floors and ceilings shall be finished in galvanised steel.

Alternative finishes available upon request:

- Stainless steel (walls/ceilings)
- Galvanised steel (walls/ceilings)

Panel Reinforcing

Where specified for fixing lightweight items to the insulated wall panels, reinforcing plates shall be incorporated at the manufacturing stage.

Insulation

Each panel shall be insulated with closed cell rigid polyurethane foam, injected using high pressure technology, and securely bonded to facing material to form a 'one-piece' construction. The foam insulation is CFC free and has a zero ODP. Panels shall have a maximum 'K' factor (initial) of 0.021 W/MK at 23°C mean temperature. Foam density shall be between 38kg/m³ to 44kg/m³ to provide optimum thermal insulation efficiency and a strong lightweight panel construction.

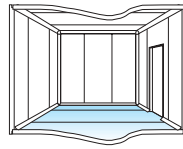
'Fosterloks' shall be securely foamed into panels without wood, metal or conducting means.

Panels shall be of 75mm or 100mm thickness to specification.

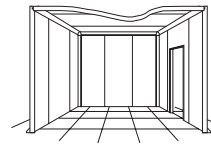
Coving System

Standard rooms will be supplied with coving to all vertical and horizontal joints. This consists of screw in aluminium retainer, clip on coving corner retainers, corner cover pieces and coving end pieces.

All are available in white or grey for stainless steel rooms and are fitted after erecting the room.



Standard fully coved (floored room)



Standard fully coved (floorless room)

Doors and Door Jamb

Standard doors shall be located in a 1200mm panel section having a clear opening of 900mm wide x 1975mm high.

Alternative standard door openings shall be available to the same specification as above:

- 675mm wide x 1975mm high
- 675mm wide x 1825mm high

Doors shall be mounted on reinforced polycarbonate rising butt hinges fixed by concealed screws. Hinging shall be left or right hand, where specified. Standard doors shall be Semi-rebate type. Sealing gaskets are provided as an integral part of the door leaf.

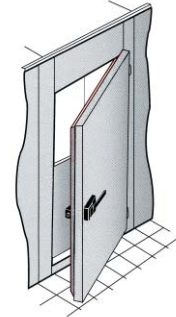
Each door shall be furnished with a handle and strike of non corrosive material and be complete with security lock and two keys. Each handle shall be provided with an internal safety release, which shall override the locking mechanism. An 'Emergency' exit instruction label shall be supplied.

A non conductive thermal break shall be provided to the door jamb aperture.

The door mullions for temperature range of -2°C or below shall be furnished with 24 volt anti-condensation safety heaters, which shall be readily accessible for replacement and rated at 13.1 watts/m length. Philips head or similar screws shall not be employed. Wires shall exit the top of each door jamb.

Threshold plates (supplied for modular floors) shall be provided in heavy duty, 304 grade stainless steel and shall also be furnished with a 24 volt heater for temperature ranges of -2°C or below. Transformer (when

supplied) shall be 230v/24v/50hz/1ph AC - 100VA to BS 2757 Class 'E' of steel sheet construction with epoxy powder finish, suitable for temperature range -10°C to +50°C. One transformer is required per standard door when the room is below 0°C.



Alternative Door Options

A number of door options are available, please consult Foster Walk-In Customer Support Department for full details:

- Semi-rebate door type, standard clear opening 1975mm x 900mm. Other options:
 - 1975mm x 600mm
 - 1975mm x 675mm
 - 1975mm x 800mm
- Door openings above 900mm are available upon request.
- Sliding door mounted with 'Fermod' tracks and hardware (or equivalent) shall be available upon specification for door openings.
- Two-way swing personnel double action hygienic doors, giving various clear opening sizes. The door blade will be made from seamless glass fibre reinforced polyester moulded around a core of closed cell rigid PVC.
- For extra heavy-duty application, a heavy duty, chrome plated handle and latch assembly shall be supplied - upon specification ('JUMBO' type) - complete with integral lock and two keys. This option should be considered where trolley/cart traffic is likely to cause damage. (Only available on semi-rebate door).
- Door viewing panel (Not available on slab type)
- Door kick plate
- Plastic Strip Curtain which shall be fixed on hinges to the inside of the door opening and made from strips of clear plastic.
- Air curtain, which shall be fixed above the outside of the door opening and electrically operated when the door is opened.

Stepped Entry

Where coldrooms are supplied with modular floors resulting in a stepped entry the vinyl door gasket will ensure a positive thermal seal to the perimeter.

Flush Entry

Where coldrooms are supplied without floors or level entry is attained, a rubber wiper gasket shall be furnished to the base of the doors to ensure a positive thermal seal to floor. The wiper gasket blade shall be replaceable for maintenance.

Floor Construction

Modular

Interior of floors finished in a choice of:

Note:

Foster does not recommend mild steel galvanised floors in acidic/saline environments.

For floor loadings greater than those stated below, contact Foster Walk-In Customer Support.

Floor Types	Static Load (distributed)	Concentrated Load (300mm x 300mm)	Concentrated Load (25mm x 25mm)	Rolling Load	Recommended Application
1.5mm rigidised mild steel galvanised non reinforced	1500kg/m ²	900kg	400kg	250kg	Light duty trolley Shelving Supports
1.5mm rigidised mild steel galvanised reinforced	1500kg/m ²	900kg	400kg	400kg	Heavy duty trolley
1.5mm 304 patterned stainless steel non reinforced	1500kg/m ²	900kg	400kg	250kg	Light duty trolley Shelving Supports
1.5mm 304 patterned stainless steel reinforced	1500kg/m ²	900kg	400kg	400kg	Heavy duty trolley
1.5mm patterned aluminium reinforced	1500kg/m ²	900kg	400kg	N/A	Pedestrian traffic

Floor Options

Floorless

Where specified, the coldrooms shall be supplied floorless. The wall panels will be secured to the subfloor by means of white plastic perimeter channel. If an 'Altro' type floor covering is to be laid, it shall then be taken through and covered up the base of the wall panels to give an easy to clean, hygienic finish as part of a separate contract.

In situ

Where specified, the floor shall be of *in situ* construction consisting of:
1000 gauge polythene vapour barrier overlaid with Styrofoam slabs with the joints staggered to give a good thermal barrier; and then a reinforced granolithic concrete topping trowelled smooth. A recess in the subfloor will be necessary to allow for level entry.
A heater mat may also be required (see Heater Mat options).

Altro

If an 'Altro' type floor covering is to be laid, the modular floor panels are to be finished internally in smooth galvanised steel and overlaid with 9.5mm thick plywood.

Overlays

Overlay options only apply to smooth galvanised and smooth galvanised reinforced.
9.5mm plywood overlay.
2mm aluminium overlay.
3mm aluminium overlay.
1.5mm rigid galvanised overlay.
1.5mm 304 stainless steel overlay.

Heater Mats

If a coldroom is installed on floors other than ground floors or for temperatures below 0°C heater mats are recommended. If a level entry is required, the recess depth should be increased by the heater mat thickness.

Flexible

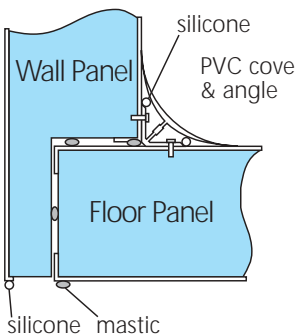
A low voltage **flexible** heater mat approximately 5mm thick is to be laid onto the subfloor and will be complete with transformer and control panel.

Modular

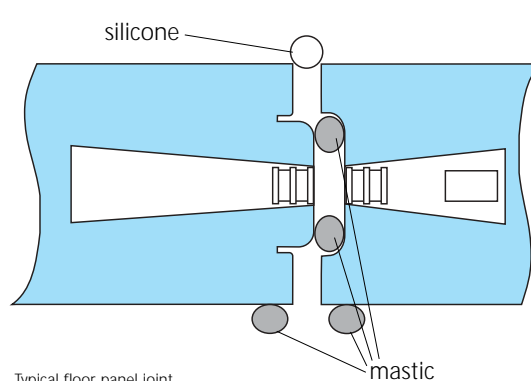
A low voltage **modular** heater mat 25mm thick is to be laid onto the subfloor and will be complete with transformer and control panel.

Traditional

A low voltage **traditional** heater mat incorporated within a 50mm thick screed is to be laid onto the subfloor and will be complete with transformer and control panel.



Typical wall/floor joint.

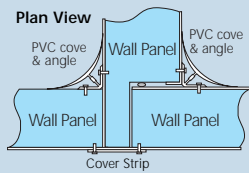


Typical floor panel joint.

Further Options

Partitions

Partition sections shall be capable of location in any position and are fully covered.



Typical partition assembly.

Infill Panels

Provisions shall be made to infill between coldroom and walls or suspended ceilings. These match the coldroom finish and shall be suitably supported and sealed. High level infill panels shall normally be fitted to the top of the coldroom and extend 100mm beyond the false ceiling height.

Wall Protection / Bumper Bars Options

- **Plastic Dunnage Batten**
 50mm wide plastic sections and can be secured to walls to provide protection against trolleys etc.
- **Stainless Steel Dunnage Batten**
 50mm wide stainless steel sections and can be secured to walls to provide protection against trolleys etc.
- **Further Options**
 Other options such as Acrovyn and Fixatrad are available on request.

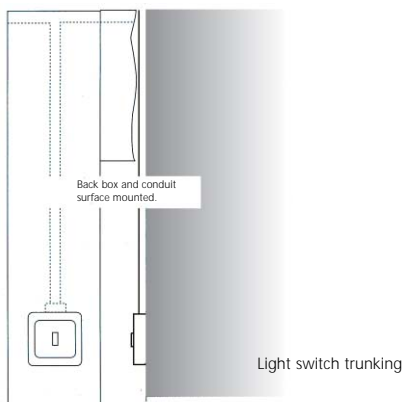
Viewing Panels

Where specified to improve the working environment within preparation rooms, dual glazed windows shall be fitted into the insulated walls or doors.

Internal Lighting

Ceiling lamps (2 tungsten filament lamps) shall be fitted with clear impact resistant polycarbonate diffusers. Index of protection for IP 55 Class 1. Construction (must be earthed). Type tested to BS 4533. 230 volts/50hz/1ph. 0.5 amps @ 120 watts. Suitable for operation down to -25°C.

Where a light switch is specified for task lighting it shall be surface mounted, on the strike side. This switch shall incorporate a neon light to indicate operation and conform to IP 54.



Pressure Relief Valve

It will be essential to fit pressure relief valves to those coldrooms operating below -2°C to assist in equalising pressure during defrost or after lengthy door openings.

Further Optional Extras

Ceepy temperature monitoring systems (UK only).
 Self-contained Solo Plus refrigeration systems.
 Remote Duet refrigeration systems.
 Free-standing Fosterack shelving.
 External ramp systems.
 Support beams for ceiling spans greater than 4.2m for 75mm thick panels and 6mm for 100mm panels.
 Allowance must be made for suitable heights.

Ancillaries

Each standard coldroom shall be provided with:
 One hexagon panel lock wrench.
 Lock hole capping buttons.
 Coving system.
 Supply of silicone sealant and mastic sealer.
 One panel layout/assembly drawing.
 Safety instruction labels x 2.
 Erection instructions.

Panel Heights

Coldrooms are available in the following standard heights:

	Exterior	Available from stock
	2000mm*	
	2100mm*	
	2200mm*	
	2300mm	
	2400mm	
	2500mm	
	2600mm	
	2700mm	
	2800mm	
	2900mm	
Panel Thickness 75mm & 100mm	3000mm	
	3100mm	
	3200mm	
	3300mm	
	3400mm	
	3500mm	
	3600mm	
	3700mm	
	3800mm	
	3900mm	
	4000mm	
	4100mm	
	4200mm	
	4300mm	
	4400mm	
	4500mm	
	4600mm	
	4700mm	
	4800mm	
	4900mm	
Panel Thickness 100mm	5000mm	
	5100mm	
	5200mm	
	5300mm	
	5400mm	
	5500mm	
	5600mm	
	5700mm	
	5800mm	
	5900mm	
	6000mm	

Note:
 For non-standard heights, consult Foster Walk-In Customer Support Department.
 *Reduced door heights required.
 304 Optisheen stainless steel is not available for panel heights greater than 4000mm.

Standard References

- BS 476: Fire test on building materials and structures
- BS 476: Part 6: Method of test for fire propagation of products
- BS 476: Part 7: Method of classification of the surface spread of flame of products
- BS 2502: Specification for the manufacture of sectional coldrooms (walk in type)
- BS 5588: Part 11 Fire precautions in the design, construction and use of buildings (on application)
- BS 4533: Lummaires (on application)

Other References

- BS 7671: Institute of Electrical Engineers: regulations 1992 for the Electrical Equipment of Buildings. The Electricity at work-Regulations 1989 SI 1990 No 1431.
- Otto Graf Institute Forschungs - Und Material Prufunganstalt Baden Wurttemberg (F.M.Pk) Food Safe Certificate for hard PVC laminate (KH 2366).



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