# INTERNATIONAL COLD STORAGE CO., INC.
# SECTIONAL WALK-IN
# ARCHITECTURAL SPECIFICATIONS

This Model Specification is designed as an aid to specification writers in preparing walk-in refrigeration equipment specifications. Where items appear in brackets [ ] a selection of one of the alternatives is required by the specifier. Due to our policy of continuous product improvement ICS reserves the right to change specifications without notice.

## 1.0 GENERAL

1.1 The equipment provided under this specification shall be factory prefabricated and of sectional design and construction. This design allows for convenient installation and future enlargement through the assembly of standard size sectional insulated panels. The equipment shall require a level concrete equipment pad for proper installation. Walk-in shall be designed and manufactured by ICS.

1.2 The walk-in shall bear the label of the following national certification agencies:

1.2a NSF International, Ann Arbor, MI. under Standard #7.

1.2b Underwriters Laboratories, Northbrook, IL. (Electrical Appliance Directory for Door Panel Assemblies E 73782).

1.2c. Underwriters Laboratories, Northbrook, IL (All Major Refrigeration Components).

1.3 The walk-in shall be constructed in accordance with the following additional criteria when destined for areas requiring the following:

1.3a State of Oregon, Department of Commerce, Building Codes Division, Authorized Prefabricated Structures manufacturer for prefabricated coolers and freezers. State of Oregon I.D.#M155-87-1005.

1.3b City of Los Angeles Department of Building and Safety, Los Angeles, CA., equipment built in accordance with Research Report RR#-25146, under state Fabricators License.

1.4 Full size wall panels supply typically 7% more usable floor space than nominally sized panels, therefore the preference is for full size exterior dimensions. Nominal size wall panels are to be supplied only if necessary because of construction restraints. Standard wall panels are 12", 24", 36", and 48" in width. Standard heights are 7'0" through 14'-0" in six inch increments. Maximum overall height is side wall panel height plus 1/4" at each panel connection point.

1.5 Panels are provided with a tongue and groove perimeter edge profile. Permanent foamed in place cam lock fasteners are supplied for fast, easy installation of panels. These locks are placed so that all panels when installed provide an air tight, vapor proof joint at each seam. The locks are activated by a hex wrench provided by the manufacturer. Access ports to the locking device shall be covered by snap caps. All access ports are located on the interior side of the room so that equipment can be installed in any location.

1.6 Each exposed edge of the insulated panel is provided with an NSF approved closed cell gasket to meet the requirements of NSF Standard #7.

1.7 Equipment is to be supplied [with] [without] prefabricated insulated floor panels. When floor panels are specified the wall panels lock to the floor panels. Floorless compartments are supplied with an NSF approved vinyl floor screed. Screeds are either nailed or screwed to the equipment slab. Uneven slabs need to have the screed caulked by the installing contractor to the concrete before installation of the wall panels.

1.8 Floor panels are designed to be used as a finished wearing surface. Floor [will be] [will not be] recessed. Floor [will] [will not] be covered by [tile and grout] [concrete wearing surface] [epoxy flooring surface].

## 2.0 SIZE AND CAPACITY

2.1 The walk-in shall be built to specified interior and exterior dimensions as shown on ICS plans and drawings.

2.2 The walk-in shall have sufficient refrigeration to maintain [+35°F] temperature inside the [cooler] and/or [-10°F] temperature inside the [freezer] compartment when the ambient temperature is 100°F, the average number of door openings is [1] [2] [3] [4] [10] per hour, and there is [no] [_____ BTUH ] load

from warm product entering unit. The refrigeration systems shall be wired to run on [208V/60Hz/1ø] [208-230V/60Hz/1ø] [208-230V/60Hz/3ø] [460/60Hz/3ø] electrical service.

## 3.0 CONSTRUCTION

3.1 All standard panels shall be 100% foamed-in-place, Non-CFC urethane construction. Panels shall be manufactured in full foot increments; once erected the finished walk-in will measure the full dimension required.

3.2 Panels shall be manufactured with interior and exterior metal pans precisely formed from steel dies and roll form equipment so as to maintain consistency and accuracy of fit. The standard pans shall be stucco embossed, promoting an even stronger bond by making available a greater area for foam adhesion.

3.3 Panel edges shall be roll formed to provide a box flange that extends into the foam for superior strength and adhesion.

3.4 All ceiling panel ends for split configurations, shall have an alternating tongue and groove arrangement for ceiling panel rigidity, strength, and interchangability. Maximum ceiling length shall be 14'-0" to maintain UBC requirements.

3.5 "T" panels shall be used at common wall connections whenever possible.

## 4.0 METAL FINISHES

4.1 Interior walls and ceilings shall be finished with the following:

- ☆ 26 Ga. White Stucco Embossed Galvanized Steel.
- ☆ 26 Ga. Stucco Embossed Galvanized Steel.
- ☆ 26 Ga. Black Stucco Embossed Galvanized Steel.
- ☆ .032" Stucco Embossed Aluminum.
- ☆ .032" White Stucco Embossed Aluminum.
- ☆ .040" Stucco Embossed Aluminum.
- ☆ .040" White Stucco Embossed Aluminum.
- ☆ 26 Ga. Mill Finish Galvanized Steel.
- ☆ .060" (FRP) Fiberglass Reinforced Polyester Board.
- ☆ 24 Ga. Stainless Steel #304, #3 mill brush
- ☆ 1/2" AC Rated Plywood.
- ☆ .040" Ivory Rose Stucco Embossed Aluminum.

4.2 Floors shall be finished with the following:

- ☆ .090" 5052 H32 Mill Finish Aluminum.
- ☆ 16 Ga. G-90 Galvanized Steel.
- ☆ .090" 6061 Treadplate Aluminum.
- ☆ 18 Ga. Stainless Steel #304, #3 mill brush

4.3 Exterior walls and ceilings shall be finished with the following:

- ☆ 26 Ga. White Stucco Embossed Galvanized Steel.
- ☆ 26 Ga. Stucco Embossed Galvanized Steel.
- ☆ 26 Ga. Black Stucco Embossed Galvanized Steel.
- ☆ .032" Stucco Embossed Aluminum.
- ☆ .032" White Stucco Embossed Aluminum.
- ☆ .040" Stucco Embossed Aluminum.
- ☆ .040" White Stucco Embossed Aluminum.
- ☆ 26 Ga. Mill Finish Galvanized Steel.
- ☆ .060" (FRP) Fiberglass Reinforced Polyester Board.
- ☆ 24 Ga. Stainless Steel #304, #3 mill brush
- ☆ 1/2" AC Rated Plywood.
- ☆ .040" Ivory Rose Stucco Embossed Aluminum.

## 5.0 INSULATION

5.1 All insulation shall be poured in place, 2.0 lbs./$ft^3$ rigid polyurethane foam bonded to inner and outer metal pans.

5.2 The thermal conductivity (K) shall not exceed .14 (BTU) (IN) / (HR.) ( $Ft^2$) (°F). "R" factor shall be no less than 29 in a four inch thick cross section.

5.3 The insulation shall be Factory Mutual System classified Class I (per ASTM E-84) having a flame spread of no more than 25, fuel contributed of 0, and smoke developed of >400 when tested in a four inch cross section. Test Report J.I. 1P2A4.AM (FMRC Standard 4880).

5.4 Panels are available and shall be furnished in the following insulation thickness:
☆ 5" ☆ 4" ☆ 3.5".

## 6.0 LIGHTS

6.1 Unit shall be complete with one incandescent fixture at each door, with NSF approved housing. All light fixtures are to be field connected to a factory installed switch at the main entrance door.

## 7.0 PERSONNEL ENTRY DOORS

7.1 Doors shall be of the size and swing and in the location shown on the plans and drawings. They shall be complete with 4" of insulation, magnetic gasket, metal finish the same as adjacent walls, and with chrome plated hinges, keeper, and latch. Hardware has a provision for locking., and a safety release which prevents entrapment of personnel within the walk-in. Door jamb shall be complete with heater cables, vapor proof light switch. Door jamb frame shall be UL listed.

7.2 Nominal Door width: 24", 30" , 36" Standard, 42", 48", 54", 60", 66", 72".

7.3 Nominal Door height: 78" Standard, 84", 92", 96", 108".

7.4 Door mounting system is complete with 11 Ga. steel plates around the exterior and interior of door jamb section and at all hinge, latch and accessory mounting locations.

7.5 Doors [are] [are not] raised to allow for installation of [quarry tile] finish through doorway.

7.6 Infitting doors up to 42" in width shall receive a chrome latch with a inside release handle, with two chrome hinges. Doors 48" wide and over shall receive a polished aluminum latch with safety release handle and three 18" durable cam lift hinges with a bright zinc dipped finish. All latches shall have a padlock provision.

7.7 Doors shall have a three sided magnetic gasket, forming a positive airtight seal when door is closed. Bottom of door shall have a wiper gasket and both door gasket and wiper shall be snap-in type for easy replacement. The door gasket and wiper shall be water, oil, sunlight, and fat resistant.

7.8 All standard door section openings shall utilize a foamed in place PVC vinyl extrusion between the interior and exterior skin to reduce thermal conductivity.

7.9 All freezer doors shall contain a four sided heater cable system and heated air vent as required. Heater cable shall be easily replaceable.

7.10 A flush mounted pilot light switch shall be provided on each door section and be easily replaceable.

7.11 All infitting door sections shall utilize a heavy gage jamb liner on both the exterior and interior at the top and both sides of the door opening. These jamb liners shall extend 1 3/4" onto the face of the door section.

7.12 All 48" and 60" wide infitting door sections shall incorporate 20 gage galvanized steel jamb protectors, measuring 48" from bottom of the door section to protect the jambs from damage.

## 8.0 DIAL THERMOMETER

8.1 A two inch dial thermometer shall be provided and installed at each walk-in size door.

## 9.0 OPTIONAL ACCESSORIES:

**The following optional equipment and/or accessories are to be provided with the walk-in where indicated:**

### ☐ 9.1 INTERIOR FLOOR RAMP

Shall be sized the width of the door x 30" long and shall be complete with metal surface matching the floor metal specified and with nonskid strips.

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### ☐ 9.2 EXTERIOR FLOOR RAMP

Shall be sized the width of the door x 30" long, shall attach to the front of the door jamb by means of removable bolts, and shall have an aluminum treadplate surface.

### ☐ 9.3 INTERIOR 18 GA. STAINLESS STEEL DOOR KICKPLATE

Shall be not less than 18"H x width of door and of 18 ga. type 304 stainless steel with corners beveled and deburred.

### ☐ 9.4 EXTERIOR 18 GA. STAINLESS STEEL DOOR KICKPLATE

Shall be not less than 18"H x width of door and of 18 ga. type 304 stainless steel with corners beveled and deburred.

### ☐ 9.5 INTERIOR .090" ALUMINUM TREADPLATE DOOR KICKPLATE

Shall be not less than 48" high x width of door and of .090" alloy 3003 aluminum treadplate with corners beveled and deburred.

### ☐ 9.6 EXTERIOR .090" ALUMINUM TREADPLATE DOOR KICKPLATE

Shall be not less than 48" high x width of door and of .090" alloy 3003 aluminum treadplate with corners beveled and deburred.

### ☐ 9.7 CYLINDER LOCK DOOR LATCH

Shall be key operated (furnished with two keys), chrome plated and complete with inside release mechanism to prevent malicious entrapment.

### ☐ 9.8 DIGITAL DOOR THERMOMETER

Shall be factory installed on each door jamb at eye level, battery operated type, and shall be factory calibrated for +/- 2°F accuracy.

### ☐ 9.9 DOOR CLOSER (HYDRAULIC ARM TYPE)

Shall be International Model No. 953 bolted to door and jamb by means of 1/4" steel foamed-in-place hardware mounting plates.

### ☐ 9.10 STRIP DOOR CURTAIN

Shall be NSF approved and labeled and not less than 1/8" thick clear vinyl material. Curtain shall remain clear at compartment operating temperatures. Individual panels of strip curtain shall overlap jamb and each other by not less than 1" and shall touch (-/+ 1/4") floor of walk-in.

### ☐ 9.11 FRAMED WALL OPENING

Shall be of the dimensions shown and located as shown on the plans and drawings and shall be finished with same material and in same manner as the door jamb.

### ☐ 9.12 OBSERVATION WINDOW

Shall be [_____]" x [_____]" and factory mounted in entrance door. The window shall be [double] [triple] pane glass. The window shall be heated for use on compartments +32°F and below.

### ☐ 9.13 PILOT LIGHT SWITCH

Shall be provided as shown on plans and drawings. Switch shall be factory mounted and shall show red indicator when switch is in the "on" position. Switch shall be vapor proof.

### ☐ 9.14 FLUORESCENT LIGHTING

Fixtures shall be for surface mount, four foot, two bulb, -20°F· ambient type ballast, NSF approved, and so labeled.

### ☐ 9.15 THREE WAY LIGHT SWITCHES

Shall be factory installed in unit. Switches shall be flush mounted, vapor proof, and shall allow the lighting system to be turned "off" or "on" at either switch location.

### ☐ 9.16 PRESSURE RELIEF VENT

Shall be factory installed in location as shown on plans and drawings. Pressure relief vent shall include interior and exterior metal covers, 120V/60Hz/1p anti-freeze heater assembly, fully closable spring loaded metal damper assembly to close vent when not venting, and a PVC sleeve to protect urethane foam in wall structure. The pressure relief vent shall be not less than 12 sq. in. in size.

### ☐ 9.17 WIRE/SOLID SHELVING

Shall be adjustable, sectional type of size and number of tiers shown on the plans and drawings. Shelving shall be NSF approved and so labeled. Shelving system shall be free standing and shall include all necessary posts, shelves, shelf stops, post closures and floor plates required for complete system.

### ☐ 9.18 NONSKID ABRASIVE FLOOR STRIPS

Shall be site installed in aisle ways of unit. Strips shall be 2" x 30" each and on 6" center lines. Strips shall be installed in a neat and workmanlike manner with an adhesive that is resistant to oils, grease, and water and is suitable for +40°F and below temperatures.

### ☐ 9.19 TRIM

Shall be factory provided for installation by others. Each base trim piece shall be of the same material and color as the finish of the walk-in, and shall be complete with fasteners and installation instructions.

### ☐ 9.20 RAISED DOOR

Shall be factory provided for use at each compartment to be tiled. Finish height shall be 1/2" above the total mud and tile height. Total mud and tile height is [ ].

## 10.0 REFRIGERATION SYSTEM(S)

10.1 Refrigeration system(s) shall be supplied by the walk-in unit manufacturer.

10.2 Systems shall be complete and ready to operate with the connection of the necessary electrical and refrigerant piping.

10.3 Refrigerants shall be non-flammable type [R-404a] or [NON-CFC R-22].

10.4 Electrical controls, including system electrical disconnect switch shall be installed and ready to operate with electrical connection by others.

10.5 Refrigeration system(s) shall be complete with the following: Horizontal discharge air-cooled condenser, [Copeland] [Tecumseh] brand [semi-hermetic], [hermetic], [scroll] compressor with overload protection, contactors (as required), UL listed outdoor weather hood, fan guards, receiver tank with liquid shut off valve, suction line accumulator (semi-hermetic systems), liquid line filter/drier and sight glass, high/low pressure control and liquid line solenoid valve, crankcase heater, low ambient controls, and UL labeled electrical panel.

10.6 Evaporator coils shall be furnished with appropriate defrost for operating temperature range. Electric defrost shall be included on all refrigeration systems operating at +32°F and below. Electric defrost shall be time initiated and time/temperature terminated with fan delay to reduce room condensation. All condensate pans shall be piped by the installing contractor in Copper or PVC drain lines complete with heat tape (except +35°F and above systems) exiting the wall nearest to drain pan. Evaporators shall be located as shown on plans and drawings. Evaporator blower coil(s) are to be listed for sanitation and electrical safety by NSF and/or UL.

## 11.0 ROOF SUPPORT

11.1 Where required, support of ceiling panels shall be achieved by use of an exterior type suspension system, with weight uniformly distributed upon wall panels. No interior or exterior vertical support posts shall

be used making the interior of the walk-in free and clear of any attachments or penetrations from the support steel.

11.2 When steel support is required for top panel loads, it must be designed to carry 10 pounds per square foot live loads and four pounds per square foot dead load with a total load of 14 pounds per square foot for interior use per UBC. When unit is utilized outdoors the structural support will be designed upon customer communicated loads as required by local building authorities.

## 12.0 INSTALLATION INSTRUCTIONS

12.1 A complete set of installation instructions shall be included with walk-in. These instructions cover the assembly of the insulated panels, doors, and refrigeration systems. Each walk-in is shipped with a print of the walk-in detailing all the panels, and a complete parts shipped list. Each panel is also shipped with a label denoting its part number, for ease of installation.

12.2 Customer Service personnel will be available 24 hours a day to assist in explaining the installation of the equipment.

## 13.0 GENERAL STATEMENT OF WARRANTY

13.1 Insulated Panels - Ten years. Painted surfaces 18 months.

13.2 Miscellaneous Parts and Accessories - One year.

13.3 Refrigeration System - One year.

13.4 See “ICS SECTIONAL WALK-IN LIMITED WARRANTY” for complete warranty information.