WALK-IN COOLER/FREEZER SPECIFICATIONS
Callaway Middle School
Troup County Schools

GENERAL SPECIFICATIONS:

The THERMO-KOOL walk-in specified shall be prefabricated modular construction. It shall be designed and constructed to allow fast and easy field assembly, disassembly, relocation and enlargement by the addition of like modular panels. Walk-in shall be designed and constructed as shown on plan. Overall exterior size of the walk-in cooler/freezer shall be approximately 32' 8" x 19' 3" x 8' 6" High to fit exact job site requirements. Cooler section shall be approximately 12 ft 11-1/2 in x 18 ft 7 in (ID) and the freezer section approximately 18 ft 8-1/2 in x 18 ft 7 in (ID). **All measurements must be field verified prior to construction by vendor.**

PANEL CONSTRUCTION:

Wall and ceiling panel widths shall be within 1" increments up to 48" wide. Corner panels shall be 90 degree angle, 12" x 12". All panels shall be interchangeable with like panels for fast and easy assembly.

All panels shall consist of metal pans formed to precise dimensions. Exterior finish of unexposed sides and rear panels to be galvanized steel. Exterior finish of exposed left side and front panels to be Stucco Aluminum. Interior finish to be Stucco Aluminum walls and Pre-painted White Stucco Aluminum on the ceiling panels.

Exposed front panels shall have aluminum diamond treadbrite 36" high on the exterior. Diamond treadbrite shall be mounted with adhesive and sealed with silicone. No external fasteners such as screws or pop rivets shall be applied as fastening for the diamond treadbrite.

Insulation shall be "foamed-in-place" urethane to bond permanently to complete inner surfaces of both interior and exterior metal pans to form strong rigid unit. Panels shall not have internal wood or metal support, framing, straps, or other non-insulating members. Each panel shall be 100% urethane foam insulation exclusive of metal pans. Perimeter structure shall be formed of DURATHANE, high density urethane insulation forming tongues and grooves to assure vapor and airtight joints and to prevent pre-installation damage and deterioration of exposed urethane surfaces.

WARRANTY:

Panels shall be covered by a Ten-Year Factory Warranty.

INSULATION:

Insulation shall be 4" thick rigid, zero ozone depleting HFC 134a blown Class I urethane foam classified according to UL 723 (ASTM-E-84) as tested by Underwriters Laboratories, Inc. The core material has a flame spread of 25 or less and a smoke density of 250.

The urethane foam is foamed-in-place to bond to inner surfaces of metal pans having an average thermal conductivity (K factor) of 0.13 BTU/hr./sq. ft. per degrees /Fahrenheit/inch. As tested in accordance with ASTM C 518-2004, the R factor for coolers at temperatures of 55 degrees F is greater than 29.0 for 4" thick panels, freezers at temperatures of 20 degrees F the R factor is greater than 32.0 for 4" thick panels.

The prefabricated urethane foamed panels shall be supplied with a Class I fire hazard classification according to UL 723 (ASTM-E-84) as tested by Underwriters Laboratories, Inc. Panels shall have a flame spread rating of 25 or less and bear a certifying Underwriters Laboratories, Inc. label.

This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions

PANEL LOCKING ASSEMBLIES:

Assembly of walk-in shall be accomplished by "Insta-Loks" consisting of cam-action hook arm assembly set in one panel and a self-aligning, self-centering, pin assembly set in the matching panel. All vertical joints must have a minimum of three Insta-loks. Rotation of the cam-action hook arm shall pull and lock panels together to form airtight, vapor proof joints. No metal straps or connecting rods shall be used inside the panels. Rotation of the cam-locks shall be operated from inside the walk-in through access ports that are sealed with vinyl snap-in closures.

PANEL GASKETS:

NSF listed double-bead vinyl gasket shall be applied to the tongue side of all panels, on both interior and exterior. Gaskets shall be impervious to stains, grease, oils, mildew, sunlight, etc.

ENTRANCE DOOR AND FRAME:

Walk-in cooler and freezer compartments shall be equipped with a 36" x 76" hinged-type, flush-mounted entrance door and located in location as shown on drawing. Door placement shall be within 1" increments to meet shelving space and job site requirements. Doors shall be manufactured to accommodate floor construction. Door

and frame shall be listed by Underwriters Laboratories and bear the UL Seal of Approval and be equipped with the following:

Door shall be equipped with a one-piece perimeter PVC accordion type removable gasket with magnetic core at the top and along the side perimeter of the door. An adjustable wiper gasket shall be mounted along the bottom edge of the door.

Doors shall have aluminum diamond treadbrite 36" high on the interior and exterior. Diamond treadbrite shall be mounted with adhesive and sealed with silicone. No external fasteners such as screws or pop rivets shall be applied as fastening for the diamond treadbrite.

Latch shall be break-a-way type with cylinder lock and inside safety release handle so the door can be opened from the inside even if locked. A positive action hydraulic door closer shall be included to ensure gentle closing action of door to opening and to ensure positive closing of door. The latch shall be of high pressure zinc die cast with highly polished chrome finish.

Doors shall be supplied with two adjustable hinges, one of which is spring-loaded, and are a self-closing design. Cooler door and freezer door must be right hinged.

Door frames shall consist of heavy reinforced steel "U" channel frame to encompass entire perimeter of opening, foamed-in-place to give extra support and rigidity to frame and to prevent racking, distortion, warping and twisting. A backup must be welded for added strength.

An armored anti-sweat heater cable shall be run in a breaker strip located behind a removable heavy gauge stainless steel trim for easy access to heater cable. Heater cable shall be run under threshold consisting of heavy reinforcement "U" channel breaker strip and heavy gauge stainless steel threshold. The optional second heater wire and thermostatically controlled thermostat should be installed.

Door sections shall be provided with an operating toggle switch and pilot light mounted on the exterior side of the door frame. A face mounted inlet box with an CFL, vapor proof, light shall be mounted on the interior side of the door frames for 115 volt, 60 cycle, 1 phase A.C. service. All wiring shall be in concealed rigid conduit. A 2-1/2" diameter chrome face, flush mount, dual reading, adjustable dial thermometer shall be provided on exterior of door sections to provide temperature reading of -40 degrees C to +150 degrees C.

To minimize infiltration of air when doors are open vinyl strip curtain doors shall be provided.

FLOOR CONSTRUCTION:

Walk-in floor shall be insulated panels with 1/8" Aluminum Treadplate on top.

HEATED PRESSURE RELIEF VENT:

Freezer shall be equipped with a two-way heated pressure relief vent to equalize pressure between the interior and exterior caused by defrost cycles and opening of door. Electrical service to be 115v/60/1 phase.

LED LIGHT FIXTURES:

Five - 4' LED light fixtures shall be provided in the freezer and Five – 4’ LED light fixtures shall be provided in the cooler. Cooler light fixtures must be connected to the cooler door section toggle switch for the CFL vapor proof light and the freezer light fixtures must be connected to the freezer door section toggle switch for the CFL vapor proof light.

TRIM AND ENCLOSURES:

Trim matching the walk-in finish and fabricated to fit building conditions shall be supplied to close all joints between walk-in walls and the building wall.

REFRIGERATION :

Basic refrigeration components shall consist of a 2 hp condensing unit of the Scroll type for the walk-in cooler, model RFO200E4SEANT. The freezer shall consist of a 8 hp Scroll type condensing units, model RFOS08L4SEA. Condensing units shall be remote, self contained, factory assembled and UL approved. The condensers shall be air-cooled. Condensing unit voltage to be 208-230v 3ph**. Condensing units shall be installed in a similar position where existing units are located. All measurements must be field verified prior to construction by vendor.**

Evaporators shall be forced air type with air flow parallel to the walk-in ceiling. The cooler evaporator shall be a standard low profile series, model RL6A141ADASC, and the two freezer evaporators shall be a standard low profile series, model RL6E105DDASC. All evaporators to include electronically commutated motors.

Evaporator coil components shall be housed in heavy gauge aluminum housing. The freezer evaporator unit voltage to be 208-230v 1 ph. Cooler evaporator unit voltage to be 115v 1ph.

Units shall have drain pan with drain pipe connection.

Refrigerant for cooler and freezer systems shall be R448-A.

Refrigeration components shall be supplied in remote configuration and shall include condensing units, evaporator coils. All parts shall be factory mounted. A lead-lag controller for the freezer must be supplied.

All connection requirements including tubing, electrical hook-up, drain line and refrigerant charge shall be supplied by qualified refrigeration, electrical and plumbing contractors.

A low ambient kit and weatherproof housing shall be supplied with condensing units. The low ambient kit shall consist of a crankcase heater and headmaster valve.

DRAIN LINES: All evaporator coils shall be provided with proper sized copper drain lines, supplied and field installed by contractor. Drains shall include a “P” trap outside of walk-in. Freezer drain shall be heated and insulated to prevent freezing. All plumbing to be in accordance with applicable codes. Contractor must run drain lines outside of building if floor drains are not available inside.

Contractor shall be responsible for providing units completely installed and operational. Cooler to operate at +35 degrees F and Freezer to operate at -10 degrees F.

NSF CONSTRUCTION: The walk-ins provided in the above specifications shall be constructed in accordance with National Sanitation Foundation, Standard No. 7. The NSF approval seal shall be affixed to the serial plate of the walk-in.

QUALITY INSPECTION REQUIREMENTS:

Walk-ins shall be set up at the manufacturer's facility prior to shipment and a quality control inspection performed on the product. A digital photograph of the walk-ins set up at the manufacturer's facility shall be provided for the Food Equipment Contractor's permanent records.

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS:

The walk-ins shall be supplied with a complete set of installation, operational and maintenance instructions to cover erection of the walk-in, installation operating procedures and routine maintenance schedule.

Bidders must obtain prior approval if not bidding specified items. Any and all variances in construction, design, performance and accessories from the item specified must be submitted in writing to the owner supervisor in addition to detailed manufacturers specifications ten days prior to bid opening.

WARRANTY

One year for replacement parts and labor on all hardware, accessories, and electrical components. Ten year warranty on the foamed-in-place panels including the wall, floor, ceiling, and door. Five year repair or replacement warranty on the compressor motor. **Dealer warrants all installation-related workmanship for one year**.

Dealer is responsible for start up and checking all pressures and pull down of unit to 38 degrees F and -10 degree F operating temperatures per ThermoKool installation instructions. Dealer is to maintain on-site temperature check for 2 hours after start-up with pressure gauge check at the end of this time and is to also visually inspect and pressure gauge check the unit the next day.

All space (about 4”) between both sides of the box and the school walls must be flashed. All space between the top of the walk-in and the kitchen ceiling (about 24”) must be flashed.

All penetrations and conduit into the walk-in must be properly sealed. All penetrations through the school walls must be properly sealed.

Internal sprinkler system must be installed by others. Contractor must coordinate installation. Sprinkler head penetrations must be properly sealed.

TURNKEY INSTALLATION:
KEC to demo old walk in cooler/freezer along with refrigeration. KEC is responsible for disposing of all old panels and refrigeration. KEC to erect new walk in cooler/freezer. Run refrigeration lines and perform start up of walk in cooler/freezer. KEC to handle all electrical work needed to make units operational.