STANDARD ARCHITECTURAL SPECIFICATIONS 01.0.25

GENERAL SUMMARY

Amerikooler manufactures Walk-In Coolers and Freezers as prefabricated modularly panels and doors designed to spec per order. The panels are designed for fast and easy field assembly, disassembly, expansion, and replacement. In addition, every order includes a set package of accessories.

1.0 Panel Fabrication

1.1 Standard wall, ceiling and floor panels are fabricated from a selection of metal finishes [Section 5.0] for the interior and exterior layer. 4" Extruded Polystyrene (**XPS Grey**) rigid foam insulation [Section 4.0] is bonded permanently to the inner surface of both interior and exterior pre-primed metal layers which have been pre-cut and shaped with a ½" lip. Each panel is cut to a standard 47" or 23" in width and can be interchangeable with like panels.

1.2 Additional widths are cut as necessary for given tolerances of specified design requirements. Partition and other panels placement are within ½ in increments to meet job site conditions. Finished panels are insulated without any low insulating perimeter framing.

1.3 Tongue and groove edges of panels (7/16" H x 1 5/16" W Bevel) are made of the same panel core insulation with non-corrosive thermoplastic cam-action panel fastener. NSF approved compression gasket are applied to the tongue side of all panels on both interior and exterior to form airtight vapor-proof joints.

1.4 Panels are assembled together with corrosion resistant cam-action locking mechanism (**Cam Lock**). Access to locking mechanism via interior of panels through pre-made access ports. A hex-wrench (provided) activates the cam-action locking devices. PVC press-fit caps provided to seal 3/8" diameter hex-wrench ports, after assembly is completed.

1.5 Indoor walk-in maximum panel height and ceiling length is 21 ft. Outdoor walk-in maximum panel height and ceiling length is 12 ft. Hurricane walk-in maximum panel height and ceiling length is 9 ft.

1.6 Available standard height with floor panels: 7' 7", 8' 2 ¼", 8' 7"

1.7 Available standard height without floor panels + NSF vinyl screed: 7' 2 1/4", 7' 7", 8' 2 1/4"

2.0 Doors

2.1 Standard Entrance Door

2.1.1 Each walk-in is fitted with a standard one 36" x 76" or 30" x 76" swing-type entrance door. The door is a flush type in fitting; assembled, prewired for installation, and uses only UL approved component (bearing the NSF and UL seal of approved). Door lip edge lined with self-closing magnetic gasket seal and double sweep wiper at the bottom edge of door to retain internal temperature.

2.1.2 Door is equipped standard with [Section 7.0] two lift-off adjustable super cam-rise spring assisted hinges, deadbolt keyed handle latch with safety inside release, spring actuated door closer.

2.1.3 The door jamb is provided with a center mounted vapor proof LED light fixture, digital thermometer with safety pilot light on-off switch, and conduit between switch box and outlet junction box.

2.1.4 Freezer door includes a thermostat used to control heater wire with on/off temperature switch and a heated air pressure relief vent.

3.0 Floors

3.1 Floor Construction

3.1.1 Floor panels are fabricated with 4" Extruded Polystyrene (XPS Grey) rigid foam insulation [Section 4.0] to withstand a minimum uniformly distributed load of 700 lbs. per sq. ft., (Standard Category 1) recommended suitable for foot traffic only. Higher level categories of floors are available with a selection of metal finishes (integral and/or overlay), Marine grade plywood underlayment reinforcement (**UR**), and a load-bearing capacity structural reinforcement acetal resin pylon grid (**PG**).

3.1.2 The joint between the floor and wall panels is 4 1/2" to incorporate a 1/2" NSF radius cove on interior perimeter, to facilitate cleaning. Floor and Wall panels are securely connected by male/female camlock and form airtight seal with gasket seal attached on metal lip of each side of panel and male/female 1 1/2" x 1/2" bevel ridge on face edge of each panel.t

3.1.3 Floorless orders come with NSF vinyl screeds. Screed will be coved with 1/2" radius, designed to sit flat on a finished tile/concrete floor. Screed is lag fastened to floor.

3.1.4 Built-in mass insulated floor: Is to be constructed on the job site. It must consist of 8" depressed, above a 2" thick concrete sub-slab. The insulated floor must consist of 4-inch thick XPS Grey sheets, placed in four layers of 1" X 48" X 96" (to suit temperature requirements), with staggered joints, over a .004" polyethylene vapor barrier.

3.1.5 Add a minimum of 4-inches of reinforced concrete wearing floor over a .004" polyethylene vapor barrier on top of the insulation. Adequate ventilation or other heat source must be provided beneath the sub-slab.

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3.2 Floor Options

3.2.1 Floor options are separated into 5 distinct types by the load rating in lbs. per sq. ft. and the recommended use case based on what metal finishes are chosen in combination with/without underlayment reinforcement (**UR**), and with/without a pylon grid (**PG**). Below the available floor types are listed by Type, Category #, Metal(s), Overlay, Reinforcement, Weight Rating in pounds per square foot, and the heaviest recommended application.

3.2.2 Floor Terminology

- **UR:** Marine Grade Plywood Underlayment Reinforcement
- **PG:** Load-Bearing Capacity Structural Reinforcement Pylon Grid
- **DTP:** Diamond Tread Plate

3.2.3 Standard Floor

- Category 1: .090 Smooth Aluminum rated for 700 lbs. per sq. ft. (Recommended for Foot Traffic - No Rolling Carts)

3.2.4 Standard+ Floor

- Category 1: 20 Gauge Stainless Steel type 304 smooth floor rated for rated 850 lbs. per sq. ft. (Recommended for Foot Traffic - No Rolling Carts)

3.2.5 Premium Floor

- Category 2: .090 **DTP** rated for rated 900 lbs. per sq. ft. (Recommended for Hand Trucks/Log Carts)

3.2.6 Deluxe Floor

- Category 2: .090 Smooth Aluminum + 1/2" **UR** rated for 1000 lbs. per sq. ft. (Recommended for Pann Rolling Racks/Dunnage Racks)
- Category 2: 20 Gauge Stainless Steel + 1/4" **UR** rated for 1100 lbs. per sq. ft. (Recommended for Pann Rolling Racks/Dunnage Racks)
- Category 2: .090 **DTP** + 3/4" **UR** rated for 1300 lbs. per sq. ft. (Recommended for Pann Rolling Racks/Dunnage Racks)

3.2.7 Ultimate Floor

- Category 3: 18 Gauge Stainless Steel + 3/4" **UR** + **PG** rated for 2600 lbs. per sq. ft. (Recommended for Dollie Carts/Manual Pallet jacks)
- Category 3: .090 **DTP** + 3/4" **UR** + **PG** rated for 2700 lbs. per sq. ft. (Recommended for Dollie Carts/Manual Pallet jacks)

4.0 Insulation

4.1 All panel Insulation is 4" thick, consisting of specially formulated DuPont™ Styrofoam™ Brand Panel Core 20 Freezer **XPS GREY (Extruded** Foam Insulation, specifically designed for walk-in cooler industry use.

4.2 **XPS** is a high performance, void free, high density, closed cell insulation that performs as well or better than foamed in place (**FIP**) insulation panels of the same thickness in every category and complies with (**ASTM C578**) standards.

4.3 Thermal Resistance: Amerikooler meets or exceeds **(ASTM C518)** standards for; Cooler wall, ceiling, door, and floor panels are R-28.8, this exceeds the minimum required R-25. Freezer wall, ceiling, and door panels are R-32, meeting the minimum required R-32. Freezer floor panels are R-28, meeting the minimum required R-28. All panel insulation comes standard with a 50 Year R-value warranty included from Dupont.

4.4 Thermal Conductivity: (K factor) is 0.13 BTU/hr./sq. ft., per degrees/Fahrenheit/inch (**ASTM C518**)

4.5 100% Hydrophobic: Water Absorption (**ASTM C272**), Water Vapor Permeance (**ASTM E96**), Compressive Strength (**ASTM D1621**)

4.6 100% Recyclable: Certified by third party environmental product declaration (**EPD**) through ULSpot® to be manufactured with 20% pre-consumer recycled content and is fully recyclable.

4.7 Certified by third party environmental product declaration (**EPD**) through ULSpot® to be produced with reduced greenhouse gas (**GHG**) emissions, lowered global warming potential (**GWP**) and lower embedded carbon profile (**ECP**). (**Document #: 224531-4150/234614-4150**)

4.8 Compliant with International Code Council Evaluation Service Report (**ICC-ESR 4755**) and (**ICC-2142**) with LEED certification for environmental product declaration (**EPD**) for blowing agents, no HCFCs or CFCs

4.9 Insulation ignition: Self ignition temperature rating at 896°F (480°C) (**ASTM D1929**), Flash ignition temperature rating at 734°F (390°C) (**ASTM D 1929**).

4.10 Finished panel: burning characteristics comply with (**ASTM E84**) and (**UL 723)** with flame spread of 15 or less and a smoke developed of 450 or less.

5.0 Finish

5.1 Wall & Ceiling

5.1.1 Stucco embossed 26 gauge Acrylume® (Acrylic Coated Galvalume®)
5.1.2 Stucco embossed 26 gauge White Acrylume® (Acrylic Coated Galvalume®)
5.1.3 Stucco embossed 26 gauge Black Acrylume® (Acrylic Coated Galvalume®)
5.1.4 Smooth finish 24 gauge type 304 #4 brushed finish stainless steel
5.1.5 Smooth embossed .o4 aluminum

5.2 Floors

5.2.1 Smooth .090 Aluminum
5.2.2 Smooth finish 22 gauge type 304 #4 brushed stainless steel
5.2.3 Smooth finish 20 gauge type 304 #4 brushed stainless steel
5.2.4 Smooth finish 18 gauge type 304 #4 brushed stainless steel
5.2.5 Smooth finish .090 Aluminum Diamond Tread Plate

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6.0 Refrigeration

6.1 Heatcraft Worldwide BOHN

6.1.1 Refrigeration is provided by Heatcraft Worldwide BOHN (preferred vendor). Condensing units and evaporators are factory pre-wired and pre-assembled. New 1/2HP to 6 HP air cooled condensing unit with exclusive HYPERCORE microchannel coil technology, electronic expansion valves, and variable-speed compressors to optimize system performance, uses less refrigerant, saves energy, reduces operational cost, improves durability and system performance.

6.1.2 Self Contained Pro 3 Top Mount refrigeration system combines a unit cooler and condensing unit into one. System is fully assembled, evacuated, charged, run-tested and wired. Unit comes with Stucco-aluminum finish. *Recommended for: Commercial refrigeration, food service, food retail, cold storage warehouses, and process cooling.* [Literature]

6.1.3 Remote Low Profile Unit Cooler cabinets with removable front side panels for easy maintenance with the option to upgrade from traditional mechanical components to intelliGen™ Refrigeration Controller and Quick Response Controller. *Recommended for: supermarkets, convenience stores, small cold rooms, and restaurants.* [Literature]

6.1.4 Remote Medium Profile Unit Cooler cabinets come with two-speed EC motors. They have an angled drain fitting, allowing for increased shelving for more product storage. Their hinged and removable access panels and hinged drain pans make service easier and more accessible. Option to upgrade from traditional mechanical components to intelliGen™ Refrigeration Controller and Quick Response Controller. *Recommended for: medium and large cold rooms, pharmaceutical applications, and agricultural applications.* [Literature]

6.1.5 Remote Center Mount Units can be mounted flush against the ceiling, which creates space for shelving and more product storage. Bi-directional airflow ensures uniform cooling with the option to upgrade from traditional mechanical components to intelliGen™ Refrigeration Controller and Quick Response Controller. *Recommended for: meat storage, meat cutting and packing rooms, and freezer applications.* [Literature]

6.1.6 Remote Low Velocity Center Mount Units can be mounted flush against the ceiling, which creates space for shelving and more product storage. Bi-directional airflow ensures uniform cooling with the option to upgrade from traditional mechanical components to intelliGen™ Refrigeration Controller and Quick Response Controller. *Recommended for: food prep areas, meat cutting and packing rooms, and flower storage.* [Literature]

6.2 Control System Upgrades

6.2.1 intelliGen™ Refrigeration Controller mounted with an intelliGen Refrigeration Controller (**iRC**) improves product integrity and generates energy savings and operational savings for end users by replacing several separate components with one unit. intelliGen diagnose issues and sends alerts immediately when products are at risk. Unit automatically recalibrates to optimal conditions in minutes. Defrost only when needed. Unit has intuitive and user-friendly interface. See Literature

6.2.2 Quick Response Controller (**QRC**) comes pre-installed and tested and provides superior system performance and energy savings by performing three key functions: Automatic Superheat Control, Room Temperature Control, and Optimized Defrosts for refrigeration unit coolers. See Literature

6.2.3 Remote Refrigeration Control with intelliGen Webserver Card (**iWC**): an optional component to the (**iRC**) that enables local and remote control and monitoring of your refrigeration system on any smart device (Phone, Tablet, PC). Also available is the intelliGen Integration Card (**iIC**) an optional component to the iRC that enables connectivity to the Building Management system via BACnet or Modbus. You only need one (**iWX**) or(**iIC)** per system (Up to 8 Connected Evaporators, 1 Condensing Unit).

7.0 Accessories

7.1 Standard

7.1.1 Doors

- Kason 0027 Safeguard® deadbolt keyed, padlock capable, pull handle latch with Interior safety lock release handle in polished or brushed chrome finish. Deadbolt is secured using cylinder lock or padlock, or both. Standard, twist-off glow in the dark inside release knob prevents lock-ins. Two 1/4 turn inside release options meet ADA requirements for fast exit. [Literature]
- Kason 1346 Performer™ lift-off adjustable super cam-rise spring assisted hinges in polished or brushed chrome finish. Strap adjusts horizontally, providing door lift and rotation to compensate for sag over time, cam-rise technology assists closing and reduces gasket wear, even with uneven floors. 1346 has 40% more rise than traditional on-rise hinges to magnify the benefit. Flange has a removable cap, allowing lift-off of door without removing hinges. Meets NSF/ANSI Standard 2 for food equipment components. [Literature]
- Kason 1825 is mounted with pre-wired PRV narrow jamb heated pressure relief vent on freezer doors. Lightweight, springless valves provide greater air flow at lower pressure than spring-loaded valves. Port installs through 2 1/2" (63.5mm) diameter hole with minimal wiring. [Literature]
- Kason 1095 Spring actuated door closer. Operates by direct force adding to natural swing momentum of closing door. Designed to overcome slowing action of gaskets and air pressure. Provides fast, full closure for heavy walk-in doors. Easy installation; simply snaps onto concealed mounting plate. Rubber roller ensures quiet operation. [Literature]

7.1.2 System

- 24 DTL Digital LED thermometer with on/off pilot light switch. illuminated light switch allows operators to turn on the walk-in light easily. [Literature]

7.1.3 Lights

- Kason 1807L Vapor-proof LED light fixture centered on interior door jamb. Low profile high impact Lexan lens with anti-glare technology. Wall-mount design directs light into aisle for better visibility of product on shelves. Junction box with 12 cubic inches of wiring volume with ground boss provided. Minimal heat generation will lower utility cost. Exceed Federal Energy Act requirements, rated for 50,000+ hours of life. [Literature]

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8.0 Certificates & approvals

8.1 ASTM International Hydrophobic insulation (**C272/C272M-18**)
8.2 EPA energy Independence & Security act compliant
8.3 State of Florida, Outdoor Hurricane High Velocity Wind (175 mph) (**#FL 22413**)
8.4 Miami-Dade County, FL Outdoor Hurricane High Velocity Wind (175 mph) (**NOA #22.0914.05**)
8.5 City of Houston, TX Fabrication (**Certificate No. 694**)
8.6 Oregon State Component Insignia Compliance (**No. M-PFC 688**)
8.7 National Sanitation Foundation, NSF International (**Standard No. 7**)
8.8 Underwriters Laboratories (**UL**) Certified, (**ASTM E84**) & (**UL-723.11**)
8.9 Department of Energy (**DOE**) Compliant (**Title 10 CFR 431.306**) & (**ASTM C518**)
8.10 LA department of building & safety (**LARR 26189**)

9.0 Warranties

9.1 Manufacturer will provide a written warranty to the owner stating the product is free from defect or workmanship under normal use and service. See limited protection warranty document for complete information.
9.2 50-Year Dupont Thermal Warranty on panel insulation.
9.3 15-Year Limited Warranty on wall and ceiling panels.
9.4 5-Year Limited Warranty on door and floor panels.
9.5 5-Year Limited Warranty on compressor *(optional), *1-Year standard on remote, 2 year standard on Self contained Pro 3
9.6 1-Year Limited Warranty on parts *(door hardware).
9.7 1-Year Limited Warranty on labor *(door hardware).

10.0 Site conditions

10.1 Walk-In should be installed in a well-ventilated location. A minimum of 2" clearance is required between walk-in and building walls for proper air circulation. Top mount self-contained refrigeration units require an additional 24" clearance above Walk-In for proper ventilation to prevent overheating and access to maintenance panel.
10.2 Walk-In floor panels and PVC vinyl floor screeds are designed to sit flat on a clean leveled finished floor.
10.3 Floorless Walk-In Freezers are recommended to be installed over insulated concrete slab.

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