Center 384 Hydrogen Gas Leak Detector

PRODUCT

The Center 384 is the ideal tool for detecting leak-points in piping systems. As the Center 384 detects hydrogen, the smallest of all the elements, It is particularly well-suited at finding the smallest of leaks, leaks that would take traditional soap bubble test a week to form a visible bubble.

FEATURES

- The Center 384 Trace Gas Leak Detector can detect mixtures of 5% Hydrogen (H2) + 95% Nitrogen (N) with extreme sensitivity.

- The unit has both a newly developed heated semi-conductor sensor and a microprosessor control to provide reliable digital signal processing.

- Adjustable leak sensitivity level and multi-color LED visual indicators also offer the users the ease and convienence of operation.

- High/Low leak sensitivity selector

- Low battery indication

- Semiconductor gas sensor

- Detection of hydrogen

- 15" (39cm) flexible stainless probe

- Ambient hydrogen compensation

SPECIFICATIONS

Detectable Gases: Non-critical mixture of 5% Hydrogen (H2) + 95% Nitrogen (N)

Sensitivity: 5ppm; 2g/year

Alarm Method: Buzzer alarm, LED bar Indicator

Detection Tube Length: 15 inch (390mm)

Warm-Up Time: 45 sec

Battery: 1.5V AA x 4

Dimensions: 173 x 66 x 56mm

Weight: 400g

⚠CAUTION

▲ Do NOT exceed 5.7% hydrogen in the mixture with nitrogen.

▲ Replace batteries before each use.

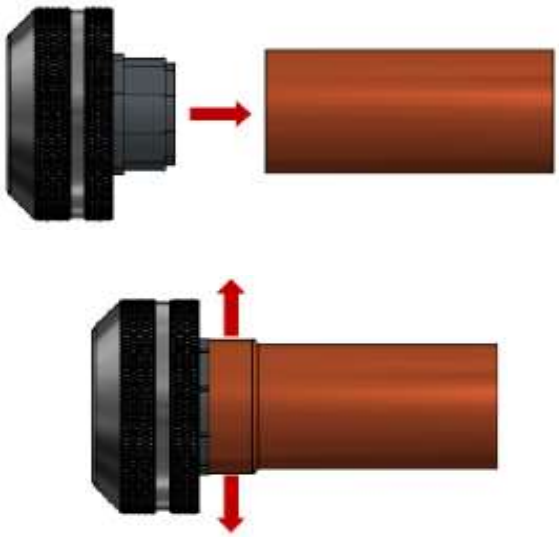
▲ Replace sensor at least once per year.

▲ Store at room temperature in dry location.

SWAGEX

PRODUCT

The Reftekk Swage Expander is a handheld tool designed to swage bendable quality copper tubing, quickly and easily creating brazing sockets with the proper dimensions and tolerances.



SPECIAL FEATURES

Eliminates Need for Copper Fittings: When used with a proper bending tool, the Reftekk Swage Expander allows installers to create brazing sockets at the ends of any bendable quality copper tubing sections. This eliminates the need for elbows and couplings, lowering material costs.

Reduces number of brazes by up to half: The Reftekk Swage Expander, when used in conjunction with bendable quality copper tubing, allows each joint to be sealed with only a single braze rather than two brazes associated with conventionally brazed fittings. This reduces labor and the cost of brazing material while significantly reducing leak potential in the system.

Proper Brazing Tolerance: Creates brazing sockets with tight tolerances, resulting in better capillary action and fewer voids, ultimately reducing leak potential.
Proper Brazing Socket Depth: Only tool on the market designed to produce the correct swage depth for brazing (per ASME B16.50-2013), leading to a more complete braze with less leak potential.

Swages ACR Type-L Copper Tube Sizes: Head sizes come in 3/8", 1/2", 5/8", 3/4", 7/8" 1-1/8",1-3/8", and 1-5/8".

Mobile Military-Grade Tool Case: Fits into a durable and waterproof tool case that includes all head sizes, a battery, and a battery charger, so you have everything you need in one place. A retractable handle and roller wheels allow for easy mobility.

SPECIFICATIONS

Use: Brazing only. NOT FOR SOLDERING.

Materials Approved for Swaging: Soft (annealed, O60 or R220 Temper) or bendable quality (H55 or R250 Temper) copper tubing. Tubing dimensions must be Type-L.

Socket Depths: Confroms to ASME B16.50-2013 while also taking into account the wire diameter of Reftekk Brazing Rings.

Kit Contents: Handheld swage tool, military-grade tool case with wheels and retractable handle, Makita battery and charger, operation manual, and the following interchangeable head sizes:
3/8", 1/2", 5/8", 3/4", 7/8" 1-1/8",1-3/8", and 1-5/8"

Battery: Makita 18V Lithium Ion battery, model number BL1830 (or new model).

Battery Charger: Makita model number DC18RC (or newer model). Input power: A.C. 110-120 V ~ 50-60 Hz.

⚠CAUTION

- **▲ For use with brazing applications only. DO NOT SOLDER.**
- **▲ Only use with soft (annealed, O60 or R220 temper) or bendable quality (H55 or R250 temper) copper tubing. DO NOT USE with hard (H58 Temper) copper tubing.**
- **▲ Not intended for continuous use in a factory setting. This will cause the tool to overheat.**
- **▲ Store at room temperature in dry location**

DIGI BENDER

PRODUCT

The Reftekk Digi-Bender can be used to field-bend Soft (O60) and Half-Hard (H55) ACR-L copper tubing. Using a tubing bender provides several advantages, including fewer brazes, reduced leak potential, lower pressure drop, greater installation flexibility, and no need for expensive elbow fittings. The Reftekk bending app for Android and iOS is an invaluable tool that simplifies the bending process.

SPECIFICATIONS

Voltage: A.C. 110-120 V ~ 50-60 Hz

Power Input: 1700W

Materials Approved for Bending: Soft (annealed, O60 or R220 Temper) or bendable quality (H55 or R250 Temper) copper tubing.

Bendable Angle Range: Capable of bending 1° to 190°

Kit Contents: Digital bending machine, tripod stand, military-grade tool case with wheels, shoe pin, oparation manual, and the following shoe and back-former sizes:

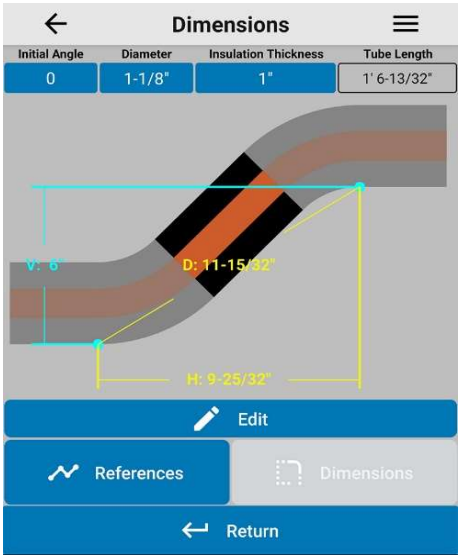
Tube Size (OD)	Measured Bend Radius
5/8"	2.5845"
3/4"	3.0625"
7/8"	3.53125"
1-1/8"	4.5625"
1-3/8"	4.875"

⚠CAUTION

- **Only use with soft (annealed, O60 or R220 temper) or bendable quality (H55 or R250 temper) copper tubing. DO NOT USE with hard (H58 Temper) copper tubing.**
- **Store at room temperature in dry location**

SPECIAL FEATURES

Mobile Bending App: Reftekk's bending app for Android and iOS quickly and easily allows the user to design and dimension their desired piping configuration with multiple in-plane bends. The app then provides the needed information to accurately bend what was just designed.



Easily Make Accurate Bends: Using the digital LED screen and scroll wheel, the Digi-Bender features the ability to pre-set the desired bend angle, resulting in a precise and repeatable bend with each use.

No Need for Expensive Elbow Fittings: With the capability of field-bending tubing on the fly, store-bought elbows are no longer needed.

Fewer Brazes = Fewer Leaks: By taking full advantage of field-bending, multiple bends can be made in a single stick of copper tubing. Each field-bent elbow eliminates (2) brazes associated with traditional elbow fittings. Fewer brazed joints reduces the potential for leaks.

Proper Bend Radius: The bend radii of the back-formers have been designed to keep the resulting elongation of the tubing well under the minimum manufactured elongation specification of 25% for Half-Hard (H55) copper tubing.

Lower Pressure Drop: The longer bend radii result in significantly and noticeably lower pressure drops when compared to the tight bend radii of "long-radius elbow" fittings.

ACR-L Straight Length Bendable Copper Tubing

PRODUCT

ACR / MED / Potable Water straight length seamless bendable copper tube. Field bendable and swageable tubing reduces brazed joints by roughly 50-80%, greatly reducing the number of potential leak points and improving installation time.

SPECIAL FEATURES

Field Bendable: Typically eliminates purchased elbow fittings and allows for field bending without annealing.

Field Swageable: Typically eliminates purchased couplings and two brazes per coupling; requires only a single braze for each swaged joint.

Cleaned and Plugged: All straight lengths are cleaned, eddy current tested, and plugged.

Fewer Leak Opportunities: By eliminating one brazed joint per coupling and eliminating field brazed elbows, the potential number of leak points is greatly reduced.

Compatible on-site Storage: Straight Lengths are 19' long to allow complete closure of job site containers.

Availability: Reftekk offers availability of bendable straight length ACR-L as a standard offering instead of special order.

COPPER SPECS

Material: ACR / MED UNS C12200 Seamless Copper

Specifications: Meets the dimensional, chemical, mechanical strength, cleanliness and eddy current testing requirements of ASTM B75, ASTM B88, ASTM B280, ASTM B819, and NFPA 99, as applicable. Also meets NSF/ANSI 61-G for potable water. Tubing is sealed with plugs to maintain cleanliness.

Mechanical Strength: Minimum 36 ksi tensile strength per ASTM B88, ASTM B280, ASTM B819 and ASME B31.5.

Temper: Simultaneously both H55 (light-drawn) and H58 (general purpose drawn). H55 is a subset of H58.

Length: 19' straight lengths.

Dimensions & Tolerances: Meets ACR-L standards.

Refrigerants: All CFC, HCFC, HFC, HFO, and class A2L refrigerants and refrigeration oils. Can be used with R744 (CO2) with proper design pressure considerations. **NOT** suitable for use with ammonia (R 717) or Methyl Chloride (R40) refrigerants.

⚠CAUTION

▲Use Reftekk approved swaging tool.
▲Use Reftekk approved bending tool.
▲Do not use Swing Benders or T-Benders.
▲Do not swage 1/4" OD tubing.
▲Do not flare.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Total Qty							
Each	Feet	Product #	Tube OD	Wall Thickness	Tube Length (ea.)	Min. Recommended Bend Radius (in.)	Recommended Bender
		HHC02	1/4"	0.030"	19 ft	0.937	Yellow Jacket 60390
		HHC03	3/8"	0.030"	19 ft	1.125	Imperial 370-FH
		HHC04	1/2"	0.035"	19 ft	1.500	
		HHC05	5/8"	0.040"	19 ft	2.188	Reftekk Digi-Bender
		HHC06	3/4"	0.042"	19 ft	2.625	
		HHC07	7/8"	0.045"	19 ft	3.063	
		HHC09	1-1/8"	0.050"	19 ft	3.938	
		HHC11	1-3/8"	0.055"	19 ft	4.813	
		HHC13	1-5/8"	0.060"	19 ft	5.688	TBD

ACR-L Straight Length Bendable Copper Tubing

Important Installation Notes

GENERAL

1) Refer to Reftekk's website (http://www.reftekk.com) for additional information
2) Ensure piping is properly insulated and sealed to keep the piping system dry
3) Keep tubing plugged until final installation to maintain cleanliness
4) Store in clean dry environment and protect from mechanical damage
5) Do **NOT** store directly on concrete or bare metal
6) Do **NOT** flare
7) Do **NOT** direct bury (under concrete, earth, water, etc.)
8) Support intalled tubing per local code requirements and per authority having jurisdiction

BENDING

1) Use **ONLY** Reftekk recommended or approved tubing benders:

Recommended

- Yellow Jacket 60390 for tube sizes 1/4"
- Imperial 370-FH for tube sizes 3/8" thru 1/2"
- Reftekk Digi-Bender for tube sizes 5/8" thru 1-3/8"

Approved

- REMS Curvo
- REMS Curvo 50
- Lever-style hand-benders designed for O.D. tubing and having bending radii greater than or equal to the minimum recommended values

Do **NOT** use

- Any "swing" or "T" style benders
- Any benders with bending radii less than the minimum recommended values
- Any benders not designed for O.D. tubing (including conduit benders)

2) Refer to Reftekk Digi-Bender Instruction manual for complete safety and operating instructions.
3) Do **NOT** attempt to un-bend or re-bend any previous bends

SWAGING

1) Use **ONLY** Reftekk SwageX swage expander for brazing applications
   - Refer to operations manual for complete safety and operating instructions.
   - SwageX socket depth is only for use on BRAZED joints
   - Do **NOT** use for soldered joints
2) Tubing **MUST** be cut square with sharp tubing cutter and properly de-burred
   - Do **NOT** expand (swage) tubing that has not been de-burred

ACR Brazing Rings (BCuP-5)

PRODUCT

Brazing Rings create a high quality and repeatable joint while simplifying the brazing process and reducing waste. The correct amount of brazing material is used every time to create reliable joints.

SPECIFICATIONS

Material Composition:

Silver: 15.0% ± 0.5%
Phosphorus: 5.0% ± 0.2%
Copper: Remainder

Size Range: Available for tubing sizes 3/8" to 1-5/8" OD.

Melting Point: 1190 °F

Brazing Temperature Range: 1300 - 1500°F (705 - 815°C)

Flow Point: 1300°F

Standards:
- American Welding Society (AWS) A5.8/A5.8M BCuP-5
- ASME Boiler & Pressure Vessel Code, Sec II-C, SFA-5.8 BCuP-5

SPECIAL FEATURES

Fewer Leaks: Brazing rings provide high filler penetration in the joint, reducing the amount of voids and leaks when compared to hand-fed brazing rod.

Repeatable: The brazed joint is visibly complete when the filler protrudes around the full circumference of the outside of the joint. This gives the operator a repeatable visual indicator of a completed brazed joint.

Simple Brazing Process: The brazing ring is inserted inside the joint prior to heating, freeing one of the operator's hands and eliminating the guesswork of how much brazing rod to use.

Reduces Brazing Material: Preformed rings provide the right amount of filler material for each size connection, eliminating guesswork as to how much brazing rod to use - This results in reduced material costs.

Double Fillets: Fillets form on both the inside and outside of the brazed joint, indicating full-depth filler penetration. This results in a consistently high-quality connection as opposed to the questionable penetration depth when hand-feeding brazing rod.

⚠ CAUTION

▲ This product contains or produces a chemical known to the State of California to cause cancer and brith defects (or other reproductive harm).

▲ Store at normal room temperature in dry conditions.

▲ Use with proper brazing depths (refer to ASME B16.50 Table 1-3: Dimensions of Braze-Joint Ends), accounting for the depth of the brazing ring.

▲ Use with proper swage IDs per ASME B 16.50.

▲ Use ONLY with copper tubing from Reftekk or that is ASTM B280 certified.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Description
	BRG03	BCuP-5 (15% Silver) Brazing Ring for 3/8 OD Copper Tubing
	BRG04	BCuP-5 (15% Silver) Brazing Ring for 1/2 OD Copper Tubing
	BRG05	BCuP-5 (15% Silver) Brazing Ring for 5/8 OD Copper Tubing
	BRG06	BCuP-5 (15% Silver) Brazing Ring for 3/4 OD Copper Tubing
	BRG07	BCuP-5 (15% Silver) Brazing Ring for 7/8 OD Copper Tubing
	BRG09	BCuP-5 (15% Silver) Brazing Ring for 1-1/8 OD Copper Tubing
	BRG11	BCuP-5 (15% Silver) Brazing Ring for 1-3/8 OD Copper Tubing
	BRG13	BCuP-5 (15% Silver) Brazing Ring for 1-5/8 OD Copper Tubing

ACR Brazing Rings (BCuP-5)

Important Installation Notes

GENERAL

1) Refer to Reftekk's website (http://www.reftekk.com) for additional information
2) Refer to Reftekk Installation Instructions for additional information
3) Instructional video coming soon
4) Use with sockets formed with Reftekk SwageX swaging expander or conventional factory fittings
5) Use **ONLY** with OD sized tubing
6) Recommended to leak-test with 95/5 (95% nitrogen / 5% hydrogen) during pressure test
7) Ensure the system is properly evacuted prior to charging with refrigerant.
    - For additional information, refer to Reftekk's white pape: "Evacuation of Refrigerant Piping Systems"

PREPERATION

1) Clean male and female portions of joint w/ "Scotch-Brite General Purpose Scouring Pad" prior to assembly
2) Place brazing ring in female socket such that it fully seated at the bottom of the socket
3) Brazing ring should fit snuggly in socket, but should not be loose
4) Insert male tube into socket with full contact with brazing ring

BRAZING

1) ***Use **TWO** brazing rings when using fittings with longer, solder-depth sockets***
2) Do **NOT** use separate flux. Phosphorus flux is contained in the brazing ring
3) Do **NOT** braze without nitrogen purge
4) Recommended to braze with Oxy-Propane instead of Oxy-Acetlyne
    - For additional information, refer to Reftekk's white pape: "Brazing with Propane and Oxygen"
5) Apply heat to male tube near the joint and to the fitting or swaged joint
6) Flow temperature 1300˚F
7) Joint is complete when brazing filler material is visible at the tube/socket intersection
8) Do **NOT** overheat

AEROFLEX EPDM™ Insulated Copper Coils

PRODUCT

AEROFLEX EPDM™ Insulated Copper Coils for refrigerant HVAC applications, including VRV/VRF, Mini-Splits, and more.

COPPER SPECS

Tubing: UNS C12200 DHP (phosphorus deoxidized, high residual phosphorus), >99.9%. 060 Temper (Soft Annealed). Dehydrated, Cleaned, and Capped. Meets ASTM B1003-16.

SPECIAL FEATURES

Superior Fire Safety: 25/50 rated (ASTM E84, UL723, CAN/ ULC-S102) and self-extinguishing (ASTM D635).

Compliant with most modern refrigerants: Approved for use with R-32, R-410A, R-454B, and other refrigerants.

High UV Resistance: Minimal cracking or color change caused by UV in accordance with ASTM G7.

Built-in Vapor Retarder: No supplemental vapor retarder required for most applications *(supplemental vapor barrier may be required in extreme low temperature or high-humidity applications. Protective jacket required for direct-bury applications and if insulation may be subjected to mechanical damage)*.

Suitable for Interior & Exterior Applications: *For exterior applications, Aerocoat®, Aerocoat LVOC®, or an insulation jacket are recommended for UV protection to maximize the insulation's life cycle.*

Nonpolar: Does not induce or react with water and is non-corrosive to copper piping.

Naturally Mold-Resistant: No biocides required.

INSULATION SPECS

Material: Low-density EPDM closed cell elastomeric foam with no CFCs, HFCs, HCFCs, PBDEs, formaldehyde, nitrosamine, or fibers.

Water Vapor Permeability: ≤ 0.02 perm-in. (4.38 x 10-11g/Pa*s*m) per ASTM E96.

Water Absorption: ≤ 0.2% by volume per ASTM C209/C1763.

Insulation Thickness: 3/4", 1", and 1-1/2" available.

CONTINUOUS Service Temperature: -297 °F to 257 °F (-183 °C to 125 °C) per ASTM C411.

Surface Burning Characteristics: Meets 25/50 Flame-Spread/Smoke-Generated per UL 723, ASTM E84, and CAN/ULC-S102. Additionally passes UL-94 V-0 and NFPA 90A/90B, and is self-extinguishing per ASTM D 635.

Thermal Conductivity: Maximum thermal conductivity of 0.245 BTU-in/h-f2-°F at a mean of 75°F when tested per ASTM C177/C518.

UV Resistance: Minimal cracking or color change caused by UV in accordance with ASTM G7.

Nonpolar: Non-corrosive to copper and helps repel water vapor.

Color: Black.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Total Qty							
Each	Feet	Product #	Tube OD	Length (Feet)	Insulation Thickness	Burst (psi)	R-Val.
		CCE0206060	1/4"	60	3/4"	6720	6.7
		CCE0306060	3/8"	60	3/4"	4000	6
		CCE0406060	1/2"	60	3/4"	3360	5.6
		CCE0506060	5/8"	60	3/4"	2880	5.2
		CCE0606055	3/4"	55	3/4"	2400	5
		CCE0706055	7/8"	55	3/4"	2674	5.3

Total Qty							
Each	Feet	Product #	Tube OD	Length (Feet)	Insulation Thickness	Burst (psi)	R-Val.
		CCE0208050	1/4"	50	1"	6720	10.1
		CCE0308050	3/8"	50	1"	4000	9
		CCE0408050	1/2"	50	1"	3360	8.3
		CCE0508050	5/8"	50	1"	2880	8
		CCE0608045	3/4"	45	1"	2400	7.7
		CCE0708045	7/8"	45	1"	2674	7.4
		CCE0412060	1/2"	60	1-1/2"	3360	14.1
		CCE0512060	5/8"	60	1-1/2"	2880	13.3
		CCE0612060	3/4"	60	1-1/2"	2400	12.8
		CCE0712060	7/8"	60	1-1/2"	2674	12.7

*Burst pressures based upon the Barlow Formula

⚠ CAUTION

▲ Designer, Specifier, Engineer, and/or Contractor is responsible for suitability of the product for the intended application and pressure requirements.

AEROFLEX EPDM™ Insulated Copper Coils

Important Installation Notes

GENERAL

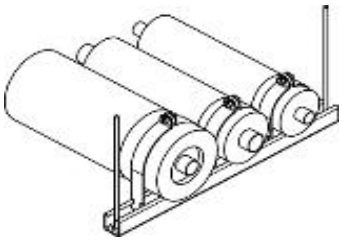
1) Refer to Aeroflex USA's website (https://www.aeroflexusa.com/) for additional information
2) Refer to Reftekk's website (http://www.reftekk.com) for additional information
3) Install insulation with the mindset to **KEEP THE PIPE DRY**
4) Install in straight lines and avoid creating traps due to sagging tubing
5) Install carefully and avoid tearing or crushing the insulation during installation
6) Do NOT allow the insulation to be crushed by unistrut, wire, straps, or wire ties

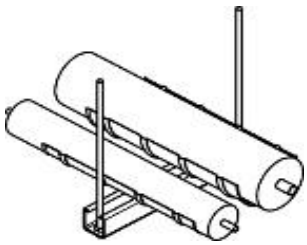
SELECTING INSULATION THICKNESS(ES)

1) Thickness of insulation must be chosen as the thickest requirement from the following criteria:
   - Equipment manufacturers' installation instructions
   - Code requirements (specifically city/county/state/federal adopted energy codes)
   - Calculated minimum thickness required to prevent condensation on outside of insulation
     - Important: See note below if using saddle supports
   - Engineering specifications

SUPPORT

1) Support the piping and space the supports per local code requirements
2) Support pre-insulated coils with Cush-A-Therm supports
   - If Cush-A-Therm supports are not possible and saddle supports are used instead, the insulation will compress at these locations, and condensation may occur if the compressed insulation thickness is less than what is required to prevent condensation. A good "rule of thumb" is to assume the insulation will compress 50% over time. Therefore, if using saddle supports, the installed insulation thickness should be at least twice the minimum thickness than what is required to prevent condensation.
     - Do **NOT** use saddle supports vertically or outdoors





SEALING

1) **KEEP THE PIPING SYSTEM DRY**
2) Repair any tears in the insulation with Aeroseal® contact cement and cover with Aeroflex Protape
3) All seams & joints must be sealed w/ Aeroseal® contact cement
   - When using Aeroseal® contact adhesive, recommended that the joint be taped with Aeroflex Protape
4) All seams and joints must be water and vapor tight
5) Seal all insulation terminations at valves and equipment to be vapor tight
6) Wet seal the insulation to the tubing at equipment terminations
7) The insulation MUST be sealed to prevent rain or condensation from reaching the tube

Aeroflex Pre-Split EPDM Insulation

PRODUCT

Aerocel-SSPT® Pre-Split EPDM Insulation features a split-seal and over-lap seal with peel-off adhesives for a quick and simple installation. It meets 25/50 Fire and Smoke rating and has a working temperature range from -70°F to 257°F (-57°C to 125°C). For use in refrigeration and HVAC applications.

SPECIAL FEATURES

ASTM E84 (25/50) compliant: Flame-Spread index under 25 and Smoke Development Index under 50 (tested according to ASTM E84).

Easy to Install: The EPDM insulation features a split-seal and over-lap seal with peel-off adhesives for a quick and simple installation.

Cel-Link II®: Includes Aeroflex USA's Cel-Link II® adhesives used to quickly and easily connect insulation butt-joints, eliminating the need to glue butt-joints, meeting the requirements for no VOC applications.

Ozone Resistant: Provides ozone resistance in accordance with ASTM D 1171.

Non-Polar: Non-Corrosive to copper and stainless steel and helps repel water vapor.

INSULATION SPECS

Material: Low-density EPDM closed cell elastomeric foam, CFC and HCFC gas free.

VOC Emission: Included Cel-Link II® has no VOC emission

Thermal Conductivity: 0.235 (BTU * in/h *ft2 * °F) at 75°F.

Water Vapor Permeability: <0.03 perm-in. (4.38 x 10-11g/Pa*s*m) per ASTM E96.

Water Absorption: <0.2% by volume per ASTM C 209.

Working Temperature: -70 °F to 257 °F (-57 °C to 125 °C) continuous per ASTM C 411.

Surface Burning Characteristics: Meets 25/50 Flame-Spread/Smoke-Generated per UL 723 and ASTM E84. Additionally meets UL-94 5 V-A, V-0 and is self-extinguishing per ASTM D 635.

UV Resistant: EPDM provides UV Resistance in accordance with ASTM G7/G90.

Ozone Resistant: Meets ASTM D 1171.

Length: Available in 6' sections.

Color: Black

Thickness: 1/2", 3/4", 1", 1-1/2", and 2" available.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
N/A	N/A	1/4"	1/2"	4.1
	719-AC3812SSPT	3/8"	1/2"	3.6
	720-AC1212SSPT	1/2"	1/2"	3.4
	721-AC5812SSPT	5/8"	1/2"	3.2
	722-AC3412SSPT	3/4"	1/2"	3.0
	723-AC7812SSPT	7/8"	1/2"	2.9
	724-AC11812SSPT	1-1/8"	1/2"	2.8
	725-AC13812SSPT	1-3/8"	1/2"	2.6
	726-AC15812SSPT	1-5/8"	1/2"	2.6
	728-AC21812SSPT	2-1/8"	1/2"	2.5
	7380-AC1434SSPT	1/4"	3/4"	6.9
	738-AC3834SSPT	3/8"	3/4"	6.2
	739-AC1234SSPT	1/2"	3/4"	5.7
	740-AC5834SSPT	5/8"	3/4"	5.3
	741-AC3434SSPT	3/4"	3/4"	5.0
	742-AC7834SSPT	7/8"	3/4"	4.8
	743-AC11834SSPT	1-1/8"	3/4"	4.5
	744-AC13834SSPT	1-3/8"	3/4"	4.3
	745-AC15834SSPT	1-5/8"	3/4"	4.2
	747-AC21834SSPT	2-1/8"	3/4"	4.0

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
	7599-AC1410SSPT	1/4"	1"	10.1
	760-AC3810SSPT	3/8"	1"	8.9
	761-AC1210SSPT	1/2"	1"	8.2
	762-AC5810SSPT	5/8"	1"	7.7
	763-AC3410SSPT	3/4"	1"	7.3
	764-AC7810SSPT	7/8"	1"	7.0
	765-AC11810SSPT	1-1/8"	1"	6.5
	766-AC13810SSPT	1-3/8"	1"	6.2
	767-AC15810SSPT	1-5/8"	1"	5.9
	769-AC21810SSPT	2-1/8"	1"	5.6
N/A	N/A	1/4"	1-1/2"	17.0
	799-AC38112SSPT	3/8"	1-1/2"	15.1
	7991-AC12112SSPT	1/2"	1-1/2"	13.9
	800-AC58112SSPT	5/8"	1-1/2"	13.0
	801-AC34112SSPT	3/4"	1-1/2"	12.3
	802-AC78112SSPT	7/8"	1-1/2"	11.8
	803-AC118112SSPT	1-1/8"	1-1/2"	10.9
	804-AC138112SSPT	1-3/8"	1-1/2"	10.3
	805-AC158112SSPT	1-5/8"	1-1/2"	9.9
	807-AC218112SSPT	2-1/8"	1-1/2"	9.2

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
N/A	N/A	1/4"	2"	24.6
N/A	N/A	3/8"	2"	21.9
	8195-AC1220SSPT	1/2"	2"	20.2
	820-AC5820SSPT	5/8"	2"	18.9
	821-AC3420SSPT	3/4"	2"	17.9
	822-AC7820SSPT	7/8"	2"	17.1
	823-AC11820SSPT	1-1/8"	2"	15.9
	824-AC13820SSPT	1-3/8"	2"	15.0
	825-AC15820SSPT	1-5/8"	2"	14.3
	827-AC21820SSPT	2-1/8"	2"	13.2

Aerocel-SSPT® Pre-Split EPDM Insulation

Important Installation Notes

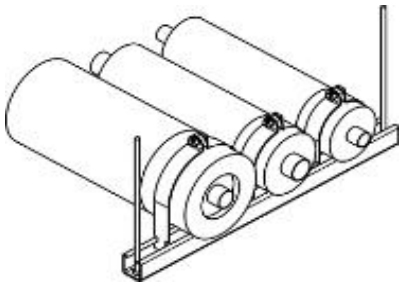
GENERAL

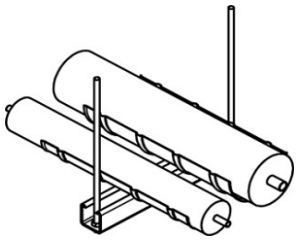
1) Refer to Aeroflex USA's website (https://www.aeroflexusa.com/) for additional information
2) Refer to Reftekk's website (http://www.reftekk.com) for additional information
3) Install insulation with the mindset to **KEEP THE PIPE DRY**
4) Install carefully and avoid tearing or crushing the insulation during installation
5) Do NOT allow the insulation to be crushed by unistrut, wire, straps, or wire ties
6) Recommended to not insulate over joints until finished pressure testing and ensuring a leak-free system

SELECTING INSULATION THICKNESS(ES)

1) Thickness of insulation must be chosen as the thickest requirement from the following criteria:
   - Equipment manufacturers' installation instructions
   - Code requirements (specifically city/county/state/federal adopted energy codes)
   - Calculated minimum thickness required to prevent condensation on outside of insulation
     - Important: See note below if using saddle supports
   - Engineering specifications

SUPPORT





1) Support the piping and space the supports per local code requirements
2) Support using Cush-A-Therm supports (prior to insulating)
   - If Cush-A-Therm supports are not possible and saddle supports are used instead, the insulation will compress at these locations, and condensation may occur if the compressed insulation thickness is less than that required to prevent condensation. A good "rule of thumb" is to assume the insulation will compress 50% over time. Therefore, if using saddle supports, the installed insulation thickness should be at least twice the minimum thickness for what is required to prevent condensation.
     - Do **NOT** use saddle supports vertically or outdoors

SEALING

1) **KEEP THE PIPING SYSTEM DRY**
2) Repair any tears in the insulation with Aeroseal® contact cement and cover with Aeroflex Protape
3) All seams & joints must be sealed w/ Aeroseal® contact cement or Cel-Link II® adhesive discs
   - Cel-Link II® should only be used to join two pieces of EPDM Insulation
     - Do **NOT** use Cel-Link II® to connect to Cush-A-Therm supports
   - When using Cel-Link II® adhesive disks, the joint must be taped with Aeroflex Protape
   - When using Aeroseal® contact adhesive, recommended that the joint be taped with Aeroflex Protape
4) All seams and joints must be water and vapor tight
5) Seal all insulation terminations at valves and equipment to be vapor tight
6) Wet seal the insulation to the tubing at equipment terminations
7) Wet seal the insulation to the tubing every 12 to 18 feet
8) The insulation MUST be sealed to prevent rain or condensation from reaching the tube

Aeroflex® Standard EPDM Insulation

PRODUCT

Aerocel® Standard EPDM Insulation for use in refrigeration and HVAC applications. Meets 25/50 Fire and Smoke rating and has a working temperature range from -70°F to 300°F (-57°C to 149°C).

INSULATION SPECS

Material: Low-density EPDM closed cell elastomeric foam, CFC and HCFC gas free.

Thermal Conductivity: 0.235 (BTU * in/h *ft2 * °F) at 75°F.

Water Vapor Permeability: <0.03 perm-in. (4.38 x 10-11g/Pa*s*m) per ASTM E96.

Water Absorption: <0.2% by volume per ASTM C 209.

Working Temperature: -70 °F to 257 °F (-57 °C to 125 °C) continuous per ASTM C 411.

Surface Burning Characteristics: Meets 25/50 Flame-Spread/Smoke-Generated per UL 723 and ASTM E84. Additionally meets UL-94 5 V-A, V-0 and is self-extinguishing per ASTM D 635.

UV Resistant: EPDM provides UV Resistance in accordance with ASTM G7/G90.

Ozone Resistant: Meets ASTM D 1171.

Length: Available in 6' sections.

Color: Black

Thickness: 1/2", 3/4", 1", 1-1/2", and 2" available.

SPECIAL FEATURES

ASTM E84 (25/50) compliant: Flame-Spread index under 25 and Smoke Development Index under 50 (tested according to ASTM E84).

Ozone Resistant: Provides ozone resistance in accordance with ASTM D 1171.

Non-Polar: Non-Corrosive to copper and stainless steel and helps repel water vapor.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
	298-AC1412	1/4"	1/2"	4.1
	300-AC3812	3/8"	1/2"	3.6
	302-AC1212	1/2"	1/2"	3.4
	304-AC5812	5/8"	1/2"	3.2
	306-AC3412	3/4"	1/2"	3.0
	308-AC7812	7/8"	1/2"	2.9
	310-AC11812	1-1/8"	1/2"	2.8
	312-AC13812	1-3/8"	1/2"	2.6
	314-AC15812	1-5/8"	1/2"	2.6
	318-AC21812	2-1/8"	1/2"	2.5
	398-AC1434	1/4"	3/4"	6.9
	400-AC3834	3/8"	3/4"	6.2
	402-AC1234	1/2"	3/4"	5.7
	404-AC5834	5/8"	3/4"	5.3
	406-AC3434	3/4"	3/4"	5.0
	408-AC7834	7/8"	3/4"	4.8
	410-AC11834	1-1/8"	3/4"	4.5
	412-AC13834	1-3/8"	3/4"	4.3
	414-AC15834	1-5/8"	3/4"	4.2
	418-AC21834	2-1/8"	3/4"	4.0

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
	498-AC1410	1/4"	1"	10.1
	500-AC3810	3/8"	1"	8.9
	502-AC1210	1/2"	1"	8.2
	504-AC5810	5/8"	1"	7.7
	506-AC3410	3/4"	1"	7.3
	508-AC7810	7/8"	1"	7.0
	510-AC11810	1-1/8"	1"	6.5
	512-AC13810	1-3/8"	1"	6.2
	514-AC15810	1-5/8"	1"	5.9
	518-AC21810	2-1/8"	1"	5.6
	631-AC14112	1/4"	1-1/2"	17.0
	632-AC38112	3/8"	1-1/2"	15.1
	633-AC12112	1/2"	1-1/2"	13.9
	634-AC58112	5/8"	1-1/2"	13.0
	635-AC34112	3/4"	1-1/2"	12.3
	636-AC78112	7/8"	1-1/2"	11.8
	637-AC118112	1-1/8"	1-1/2"	10.9
	638-AC138112	1-3/8"	1-1/2"	10.3
	639-AC158112	1-5/8"	1-1/2"	9.9
	641-AC218112	2-1/8"	1-1/2"	9.2

Length (ft)	Product #	Tube Size	Insulation Thickness	R Value
N/A	N/A	1/4"	2"	24.6
	662-AC3820	3/8"	2"	21.9
	663-AC1220	1/2"	2"	20.2
	664-AC5820	5/8"	2"	18.9
	665-AC3420	3/4"	2"	17.9
	666-AC7820	7/8"	2"	17.1
	667-AC11820	1-1/8"	2"	15.9
	668-AC13820	1-3/8"	2"	15.0
	669-AC15820	1-5/8"	2"	14.3
	671-AC21820	2-1/8"	2"	13.2

Aerocel® Standard EPDM Insulation

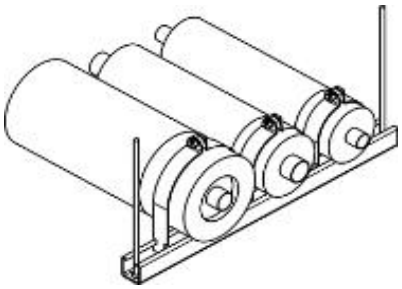
Important Installation Notes

GENERAL

1) Refer to Aeroflex USA's website (https://www.aeroflexusa.com/) for additional information
2) Refer to Reftekk's website (http://www.reftekk.com) for additional information
3) Install insulation with the mindset to **KEEP THE PIPE DRY**
4) Install carefully and avoid tearing or crushing the insulation during installation
5) Do NOT allow the insulation to be crushed by unistrut, wire, straps, or wire ties
6) Recommended to not insulate over joints until finished pressure testing and ensuring a leak-free system

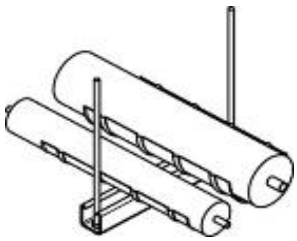
SELECTING INSULATION THICKNESS(ES)

1) Thickness of insulation must be chosen as the thickest requirement from the following criteria:
   - Equipment manufacturers' installation instructions
   - Code requirements (specifically city/county/state/federal adopted energy codes)
   - Calculated minimum thickness required to prevent condensation on outside of insulation
     - Important: See note below if using saddle supports
   - Engineering specifications



SUPPORT

1) Support the piping and space the supports per local code requirements
2) Support using Cush-A-Therm supports (prior to insulating)
   - If Cush-A-Therm supports are not possible and saddle supports are used instead, the insulation will compress at these locations, and condensation may occur if the compressed insulation thickness is less than that required to prevent condensation. A good "rule of thumb" is to assume the insulation will compress 50% over time. Therefore, if using saddle supports, the installed insulation thickness should be at least twice the minimum thickness for what is required to prevent condensation.
     - Do **NOT** use saddle supports vertically or outdoors



SEALING

1) **KEEP THE PIPING SYSTEM DRY**
2) Repair any tears in the insulation with Aeroflex Aeroseal contact cement and cover with Aeroflex Protape
3) All seams & joints must be sealed w/ Aeroflex Aeroseal contact cement
   - When using Aeroseal contact adhesive, recommended that the joint be taped with Aeroflex Protape
4) All seams and joints must be water and vapor tight
5) Seal all insulation terminations at valves and equipment to be vapor tight
6) Wet seal the insulation to the tubing at equipment terminations
7) Wet seal the insulation to the tubing every 12 to 18 feet
8) The insulation MUST be sealed to prevent rain or condensation from reaching the tube

Cush-A-Therms

PRODUCT

Cush-A-Therm is a unistrut style support for tubing used in refrigeration and HVAC applications. It is quick and easy to install and designed to properly support the tube without compressing or crushing from active-piping system loads.

SPECIAL FEATURES

High-Strength Insulating Support: Cush-A-Therm is a rigid insulating pipe support that resists compressing or crushing from active-piping system loads.

Proper Tubing Mount: Cush-a-Therm allows the piping system to expand and contract without inducing additional stresses associated with hard-mounting.

Metal Hanger Strap included: The properly-sized unistrut style metal hanger clamp is pre-packaged with the Cush-A-Therm for simple and easy installation.

Easy to Install: Cush-a-Therm features a split-seal and over-lap seal with peel-off adhesives for a quick and simple installation.

Prevents Condensation: The supports' insulating properties help prevent condensation from forming on the tubing surface.

Water Vapor Retardant: The external EPDM layer serves as a vapor retardant to prevent atmospheric moisture from penetrating the seams.

UV and Weather Resistant: All components are UV and Weather resistant, requiring no protective paint.

INSULATION SPECS

Material: Closed-cell rigid polymeric foam lined with closed-cell EPDM rubber.

Working Temperature: -70 °F to 257 °F (-57 °C to 125 °C) per ASTM C 411.

Fire Response: Self-extinguishing through 2" thick per ASTM D 635.

Compressive Strength: 314 PSI at yield per ASTM D 1621

Thermal Conductivity: .312 K value.

Water Absorption : <7% by weight according to ASTM D 1056.

Water Vapor Permeability: 0.00 Perm according to ASTM E 96, Procedure A and B.

Size Range: Available for tubing from 1/4" to 2-1/8" OD.

Thickness: 1/2", 3/4", 1", 1-1/2", and 2" available.

Length of Support: 3".

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Tube Size	Insulation Thickness	R Value
	UX1412	1/4"	1/2"	3.2
	UX3812	3/8"	1/2"	2.9
	UX1212	1/2"	1/2"	2.6
	UX5812	5/8"	1/2"	2.5
	UX3412	3/4"	1/2"	2.4
	UX7812	7/8"	1/2"	2.3
	UX11812	1-1/8"	1/2"	2.2
	UX13812	1-3/8"	1/2"	2.1
	UX15812	1-5/8"	1/2"	2.0
	UX21812	2-1/8"	1/2"	1.9
	UX1434	1/4"	3/4"	5.5
	UX3834	3/8"	3/4"	4.8
	UX1234	1/2"	3/4"	4.4
	UX5834	5/8"	3/4"	4.2
	UX3434	3/4"	3/4"	4.0
	UX7834	7/8"	3/4"	3.8
	UX11834	1-1/8"	3/4"	3.6
	UX13834	1-3/8"	3/4"	3.4
	UX15834	1-5/8"	3/4"	3.3
	UX21834	2-1/8"	3/4"	3.1

Qty.	Product #	Tube Size	Insulation Thickness	R Value
	UX1410	1/4"	1"	7.9
	UX3810	3/8"	1"	7.0
	UX1210	1/2"	1"	6.4
	UX5810	5/8"	1"	6.0
	UX3410	3/4"	1"	5.7
	UX7810	7/8"	1"	5.5
	UX11810	1-1/8"	1"	5.1
	UX13810	1-3/8"	1"	4.9
	UX15810	1-5/8"	1"	4.7
	UX21810	2-1/8"	1"	4.4
N/A	UX1415	1/4"	1-1/2"	13.4
	UX3815	3/8"	1-1/2"	11.9
	UX1215	1/2"	1-1/2"	10.9
	UX5815	5/8"	1-1/2"	10.2
	UX3415	3/4"	1-1/2"	9.7
	UX7815	7/8"	1-1/2"	9.2
	UX11815	1-1/8"	1-1/2"	8.6
	UX13815	1-3/8"	1-1/2"	8.1
	UX15815	1-5/8"	1-1/2"	7.8
	UX21815	2-1/8"	1-1/2"	7.2

Qty.	Product #	Tube Size	Insulation Thickness	R Value
N/A	N/A	1/4"	2"	19.3
N/A	N/A	3/8"	2"	17.2
N/A	N/A	1/2"	2"	15.8
	UX5820	5/8"	2"	14.8
	UX3420	3/4"	2"	14.1
	UX7820	7/8"	2"	13.4
	UX11820	1-1/8"	2"	12.5
	UX13820	1-3/8"	2"	11.7
	UX15820	1-5/8"	2"	11.2
	UX21820	2-1/8"	2"	10.4

Cush-A-Therms

Important Installation Notes

GENERAL

1) Refer to Reftekk website (http://www.reftekk.com) for additional information
2) Install insulation with the mindset to **KEEP THE PIPE DRY**
3) Cush-A-Therm support and metal hanger clamp **MUST** be sized to match OD of Cush-A-Therm
4) Tighten the metal hanger clamp enough to secure the Cush-A-Therm
   - Do **NOT** over tighten the metal hanger clamp and cause deformation of the Cush-A-Therm

SELECTING INSULATION THICKNESS

1) Thickness of insulation must be chosen as the thickest requirement from the following criteria:
   - Equipment manufacturers' installation instructions
   - Code requirements (specifically city/county/state/federal adopted energy codes)
   - Calculated minimum thickness required to prevent condensation on outside of insulation
   - Engineering specifications
2) **Always** match the Cush-A-Therm OD and ID to match tubing size and insulation thickness

SUPPORT

1) Install Reftekk Cush-A-Therm insulated pipe supports at spacing required by local codes or the authority having jurisdiction

SEALING

1) **KEEP THE PIPING SYSTEM DRY**
2) Insulation **MUST** be glued to the Cush-A-Therm with Aeroflex Aeroseal contact cement
   - Highly recommended for the glued joint to be taped with Aeroflex Protape
   - Do **NOT** use tape only to attach insulation to the Cush-A-Therm
   - Do **NOT** use Cell Link II adhesive disks to attach the insulation to the Cush-A-Therm

Roundup Plus™ Saddle Supports

PRODUCT

The Roundup Plus Saddle is a product designed to better support insulated piping by minimizing the compression of the insulation.

SPECIAL FEATURES

Round Corner Design: No more cuts, scrapes or bruises while handling the Roundup Plus Saddle.

Flared Edges: Flared outside edges protect the Saddles insulation from cutting the pipe insulation.

New Peel & Stick Tape: Aggressive acrylic self-stick tape between the ribs to secure the Saddle to the pipe insulation.

• **O.D. Size Marked on Each Saddle:** This provides easy Saddle identification in the warehouse and on the job site.

Plastic Square Bucket Packaging: Easy to carry buckets offer space savings for maximum storage and snap-on lids. The buckets protect the Saddles in extreme weather. conditions.

SPECIFICATIONS

Material: G90 Zinc-Galvanized Steel per ASTM 653

Material Thickness: 20-22 Gauge depending on size

Length: 12 inches

Combustability: Will not burn per ASTM E-136

Service Temperature: -150ºF to + 500ºF

⚠ CAUTION

▲ **Do NOT use outdoors or vertically**
▲ **See important note below**

IMPORTANT:

If using saddle supports, insulation can compress at these locations, and condensation may occur if the compressed insulation thickness is less than that required to prevent condensation. For EPDM insulation, a good "rule of thumb" is to assume the insulation will compress 50% over time. Therefore, if using saddle supports, the installed insulation thickness should be at least twice the minimum thickness for what is required to prevent condensation.

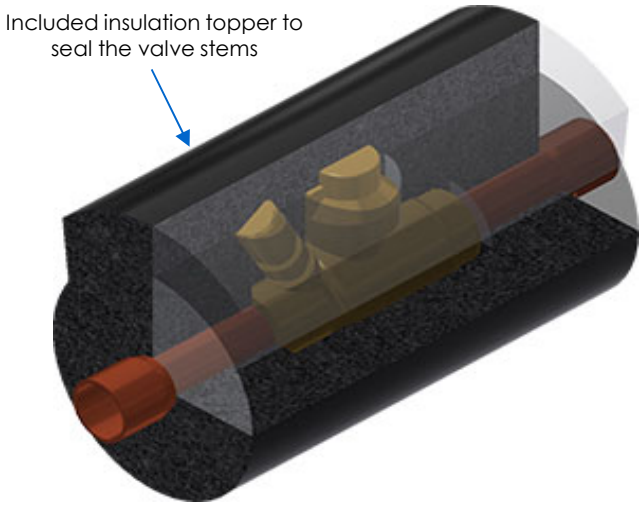
Insulation Thickness	Tubing Size									
	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1-1/8"	1-3/8"	1-5/8"	2-1/8"
1/2"	2	2	2	2	2	2	2.5	2.5	3	3.5
3/4"	2	2	2.5	2.5	2.5	2.5	3	3	3.5	4
1"	2.5	2.5	3	3	3	3	3.5	3.5	4	4.5
1-1/2"	3.5	3.5	3.5	4	4	4	4.5	4.5	5	5.5
2"	4.5	4.5	4.5	5	5	5	5.5	5.5	6	6
2-1/2"	5.5	5.5	5.5	6	6	6	6	6.5	6.5	7.5

Table 1. Size selection chart. Nominal Saddle O.D. in relation to Tubing Size and Insulation Thickness

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	I.D (in.)	Nominal O.D.	Length (in.)	Gauge	Qty / Carton
	102-12-22RD	1.9	2	12	22	150
	1025-12-22RD	2.38	2.5	12	22	100
	103-12-22RD	2.88	3	12	22	100
	1035-12-22RD	3.5	3.5	12	22	80
	104-12-22RD	4	4	12	22	60
	1045-12-22RD	4.5	4.5	12	22	50
	105-12-22RD	5	5	12	22	45
	1055-12-22RD	5.56	5.5	12	22	40
	106-12-20RD	6.13	6	12	20	40
	1065-12-20RD	6.62	6.5	12	20	40
	107-12-20RD	7	7	12	20	40
	1075-12-20RD	7.62	7.5	12	20	30

Refrigerant Ball Valves w/ Insulation Jackets



PRODUCT

Isolation Ball Valves for use in VRF/VRV and other refrigerant HVAC applications. EPDM Insulation Jackets are optional.

SPECIAL FEATURES

EPDM Insulation Jackets: EPDM insulation Jackets are included. They are time-saving and more appropriate compared to field-made 'solutions'. The EPDM Jacket meets 25/50 Fire and Smoke rating and has a working temperature from 70 to 257°F (-57 to 125 °C).

Accepts Brazing Rings: The sockets have a backstop, allowing the use of Brazing Rings for quality, repeatable brazes.

Sturdy Schrader Valve: The isolation valve has the schrader port built into the brass body, minimizing the chances of damage or failure.

VALVE SPECIFICATIONS

Maximum Working Pressure: 700 psig (48 bar, 49 kg/cm^2) Each valve is factory pressure and leak tested to 700 psig prior to shipping.

Valve Working Temperature: -40°F to 300°F (-40°C to 150°C)

Use: Compatible with CFC, HCFC, and HFC Refrigerants/Oils

Valve Type: Bidirectional Ball Valve with Unrestricted Flow

Access Port: Standard Schrader Valve brazed into Brass Body

Valve Certifications: UL/cUL Listed , CE Certified, and RoHS

INSULATION SPECIFICATIONS

Material: Low-density EPDM closed-cell elastomeric foam, CFC and HCFC gas free. Meets 25/50 Flame-Spread/Smoke-Generation per UL 723 and ASTM E84.

Thermal Conductivity: 0.235 (BTU * in/h *ft2 * °F) at 75°F.

Water Vapor Permeability: <0.03 perm-in. (4.38 x 10-11g/Pa*s*m) per ASTM E96.

Water Absorption: <0.2% by volume per ASTM C 209.

Working Temperature: -70 °F to 257 °F (-57 °C to 125 °C) continuous per ASTM C 411.

Surface Burning Characteristics: Meets 25/50 Flame-Spread/Smoke-Generated per UL 723 and ASTM E84. Additionally meets UL-94 5 V-A, V-0 and is self-extinguishing per ASTM D 635.

Thickness: Available in 3/4", 1", and 1-1/2" thicknesses. Additional thickness can be easily added-on in the field.

⚠ CAUTION

▲ **Cover brass body with damp cloth when brazing**

▲ **Ensure valve is fully insulated to be vapor tight**

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Tube Size	Insulation Thickness	R-Value	Cv
	RBV6C	1/4"	Valve Only No Jacket		2.1
	RBV10C	3/8"			4.3
	RBV12C	1/2"			7.0
	RBV16C	5/8"			13.9
	RBV18C	3/4"			21.0
	RBV22C	7/8"			30.3
	RBV28C	1-1/8"			61.3
	RBV35C	1-3/8"			85.2
	RBV42C	1-5/8"			212.4
	RBV54C	2-1/8"			284.7
	JBV0206	1/4"	3/4"	4.5	2.1
	JBV0306	3/8"	3/4"	4.5	4.3
	JBV0406	1/2"	3/4"	4.5	7.0
	JBV0506	5/8"	3/4"	4.5	13.9

Qty.	Product #	Tube Size	Insulation Thickness	R-Value	Cv
	JBV0208	1/4"	1"	6.5	2.1
	JBV0308	3/8"	1"	6.5	4.3
	JBV0408	1/2"	1"	6.5	7
	JBV0508	5/8"	1"	6.5	13.9
	JBV0608	3/4"	1"	6.2	21
	JBV0708	7/8"	1"	6.2	30.3
	JBV0908	1-1/8"	1"	6	61.3
	JBV1108	1-3/8"	1"	5.7	85.2
	JBV1308	1-5/8"	1"	5.5	212.4
	JBV1708	2-1/8"	1"	5.3	284.7
	JBV0212	1/4"	1-1/2"	10.9	2.1
	JBV0312	3/8"	1-1/2"	10.9	4.3
	JBV0412	1/2"	1-1/2"	10.9	7
	JBV0512	5/8"	1-1/2"	10.9	13.9
	JBV0612	3/4"	1-1/2"	10.3	21
	JBV0712	7/8"	1-1/2"	10.3	30.3
	JBV0912	1-1/8"	1-1/2"	9.9	61.3
	JBV1112	1-3/8"	1-1/2"	9.3	85.2
	JBV1312	1-5/8"	1-1/2"	8.9	212.4
	JBV1712	2-1/8"	1-1/2"	8.6	284.7

Reducers Included

- All 3/8" valves include a 3/8" to 1/4" Reducer
- All 5/8" valves include a 5/8" to 1/2" Reducer

Note: Reducers are compatible with brazing rings

Refrigerant Ball Valves w/ Insulation Jackets

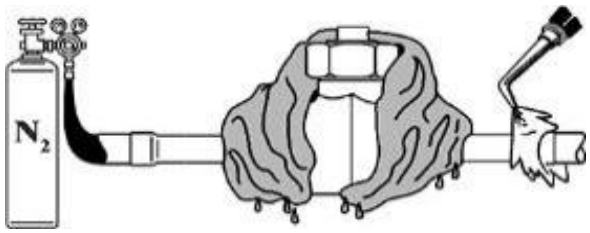
Important Installation Notes

Installation on VRV/VRF Branch Controller Boxes

1) On modern VRV/VRF systems, it is common for the ports on branch controller boxes to be closely spaced. This tight spacing between ports often limits the thickness of insulation that can be used on valves, typically resulting in less insulation thickness than the requirements for the project. On the suction line, if the installed insulation thickness would be less than what is required to prevent condensation, it is recommended to move the valves away from the branch controller to allow space for insulation jackets having enough thickness to prevent condensation.
   - If the valves must be installed at the branch box and if the suction line has insufficient insulation thickness to prevent condensation, then some other means of preventing or dealing with condensation must be used (such as the installation of a drip pan beneath the valves).

BRAZING INSTRUCTIONS

1) DO NOT DISASSEMBLE (other than to remove or slide the two smaller pieces of round inner insulation away from the heat)
2) WRAP THE BODY OF THE VALVE WITH A WET RAG (to dissipate heat - over heating causes damage)
3) Purge with dry nitrogen through the valve while brazing (to reduce internal carbon formation)
4) Flux not required with phoscopper alloys (i.e. Reftekk Brazing Rings) on copper-to-copper joints
   - Flow temperature 1300˚F - 1500˚F
5) Use flux with silver brazing alloys
   - Flow temperature 1100˚F - 1300˚F
6) Use large enough torch to rapidly heat joint to brazing temperature
   - DIRECT FLAME AWAY FROM VALVE BODY
7) Quench to reduce heat spread after brazing



INSULATION JACKET

1) AFTER the valve has been fully brazed:
   a) Installing the two smaller pieces of round inner insulation:
      - Place the two smaller insulation pieces onto each copper stub of the valve
        - If needed, cut insulation piece(s) longitudinally, put into place, then seal the seam with Aeroseal® contact adhesive
   b) Installing the larger piece of round outer insulation:
      - Place the round insulation jacket around the valve
      - Wet-seal the two inner pieces from step "a" to the outer piece from step "b" using Aeroseal® contact adhesive
      - Peel off the yellow/orange strip to reveal the adhesive and press the split-seam together to create a seal
      - Peel off the Protape from the overlap-seal and adhere into place
   c) Installing the insulation topper:
      - Peel off the removable adhesive liner from a rectangular insulation topper
      - Place the topper onto the round insulation jacket, centering it over the valve stems
      - Firmly press the topper down to ensure full adhesive contact
   d) Joining to adjacent line insulation (typically line-sets):
      - Wet-seal the adjacent line insulation to the pipe using Aeroseal® contact adhesive
      - Join the valve insulation jacket to the adjacent line insulation with Aeroseal® contact adhesive
2) The insulation MUST be sealed to prevent rain or condensation from reaching the tube

OPERATING NOTES

1) Opening or closing the valve:
   - Use an adjustable wrench to thread on/off the seal cap (do not overtighten)
   - Turn the valve stem 90 degrees against the mechanical stops to open or close the valve
     - Open is in the counter-clockwise direction (arrows in-line with tubing)
     - Closed is in the clockwise direction (arrows perpindicular to tubing)
     - DO NOT USE EXCESSIVE FORCE AGAINST STOPS OR PERMANENT DAMAGE MAY OCCUR
2) To adjust the valve after the insulation jacket is installed:
   - The insulation jacket must first be removed
   - Adjust the valve
   - Reinstall a new insulation jacket

Aeroflex Protape for Insulation Joints

PRODUCT

Aeroflex Protape is a self-adhering EPDM rubber tape to strengthen the joints of insulation tubes and sheets.

SPECIFICATIONS

Material Composition: EPDM Rubber.

Color: Black.

Thickness: 0.024 (± 0.004) mm.

Adhesion Peel Strength: 1.20 per ASTM D3330.

Tensile Strength: 2.5 per JIS K6301.

Elongation: 50% per JIS K6301.

Temperature Range: -70°F to 257°F (-57° C to 125°C).

UV Resistance: Passes ASTM G 7.

Ozone Resistance: No cracking per ASTM D 1171.

Water Vapor Transmission: .03 in (4.38×10^{-11}) per ASTM E 96

Flame and Smoke Spread: 25/50 per ASTM E 84. Self–Extinguishing.

Corrosion of Copper: Non-Corrosive/Pass per DIN 1988/ASTM C 692.

Nitrosamine Contents: Not detected per U.S. FDA CPG No. 7 17.11, BSEN 12868.

SPECIAL FEATURES

Water Vapor Retardant: Protape serves as a vapor retardant to prevent atmospheric moisture from penetrating the seams.

Easy Application: Protape is easy to wrap and patch elastomeric insulation surfaces securely.

Reinforcement: Protape provides extra holding strength to the insulation butt-joints.

⚠ CAUTION

- **▲ Store at room temperature in a dry location.**
- **▲ Aeroflex Protape is NOT to be used in place of contact adhesive.**
- **▲ Insulation joints still need adjoined with contact adhesive.**
- **▲ Protape is required for all Cell-Link II joints.**

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Width (in.)	Length (in.)
	934V-TPPR06050025	2	82

Aeroflex Aeroseal® Insulation Adhesive

SPECIFICATIONS

Material Composition: Synthetic Rubber base with synthetic resins and fillers added.

Size: Pint-sized cans with brush attached to screw-off lid.

Color: Black.

Fire Performance: 5/25 Flame and Smoke rating per ASTM E84.

Coverage: 200 sq. ft. per gallon under ideal conditions.

Drying Time: 3-6 minutes under ideal conditions.

Net Weight: 6.9 lb. per gallon.

Shelf Life: 1 to 2 years in monitored storage.

PRODUCT

Aeroflex Aeroseal® is a contact adhesive designed to properly join EPDM insulation tubes and sheets.

SPECIAL FEATURES

Permanent Bond: Aeroseal® creates a permanent bond to the applied materials for long lasting service.

High Temperature: Aeroseal® can withstand up to 257 F conditions, perfect for VRV/VRF operating conditions.

Water Vapor Resistance: Aeroseal® has high water vapor resistance and weathering resistance to prevent moisture from penetrating joints.

⚠ CAUTION

- ▲ **Store at room temperature in a dry location.**
- ▲ **Extremely Flammable. Vapors may ignite or cause flash fires. Do not expose to heat.**
- ▲ **Use only in well ventilated areas. Do not inhale fumes for a prolonged period of time or allow prolonged contact with skin.**
- ▲ **Not a low VOC emission adhesive.**

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Description
	ADH-1PBT-BLK	Black Aeroseal Adhesive - 1 Pint w/ Brush-Top

Important Installation Notes

1) Stir Aeroseal® well before applying
2) For best results, apply at a room temperature above 40˚F and not on heated surfaces
3) Surfaces **MUST** be clean, dry, and free of oil
4) Proper installation takes patience
   - Apply a thin, uniform layer to both bonding surfaces
   - Wait for adhesive on both surfaces to dry to touch, but still be tacky
   - To ensure complete bond, apply moderate pressure to the bonding area
   - Allow Aeroseal® to cure a minimum of 36 hours
5) Limit open time of container to 10 minutes

Aeroflex Aerocoat® for Outdoor Insulation

PRODUCT

Aeroflex Aerocoat® is a (pure acrylic water based) latex paint designed to provide a protective coating to insulation. Ideal for outdoor use.

⚠ CAUTION

▲ **Store at room temperature in a dry location.**

▲ **Apply a minimum of 2 coats.**

SPECIAL FEATURES

Protective Coating: Aerocoat® is designed to help protect against ultraviolet rays and other adverse weather conditions.

Superior Adhesion: Aerocoat® has elongation properties of over 400%, which promotes strong adhesion.

Long Lasting: Aerocoat® will last several years before needing to be recoated.

Decorative Coating: Aerocoat® can also be used to provide a decorative coating, providing a smooth aesthetic appearance.

SPECIFICATIONS

Composition: Selected 100% acrylic emulsion paint.

Net Weight: Approximately 10 lb/gal.

Solids: Approximately 50% by weight.

Viscosity: Thick smooth consistency for easy application.

Application: Brush or roller.

Coverage: Up to 400 sq. ft./gal

Shelf Life: 1 year.

Drying Time: 3 to 4 hours for a second coat.

Container Size: Gallons.

Flammability: Not flammable due to its water base.

Color: White.

NOTE: Quantities are estimates only. Contractor is responsible for quantities required on project.

Qty.	Product #	Description
	948-ACGW	White Aerocoat Outdoor Insulation UV Protectant - 1 Gallon