Standard and Mini Split Line Sets

For HVACR Applications

Job Name	**Contractor**
Job Location	**Wholesaler**
Engineer	**Linesets, Inc. Rep**

Product Description: Linesets, Inc. Standard and Mini Split Line Sets are available in either an elastomeric, coated elastomeric or EPDM insulation for use in HVACR applications. All line sets will be manufactured in the United States.

Material: Linesets, Inc. Standard and Mini Split Line Sets copper tube shall be made from C12200 grade of copper. Insulation is choice of an elastomeric, coated elastomeric or EPDM material. All insulation will have a UV retardant added but it is recommended to cover or apply a coating to the elastomeric and EPDM material for long term exposure. Titan® coated elastomeric has a factory-applied jacket for additional UV and physical damage protection and comes with a 5 year warranty.

Key Specifications: Linesets, Inc. Standard and Mini Split Lines Sets are made to meet the requirements of ASTM B1003 and can be used with synthetic refrigerants and sub-critical CO2 systems.

Installation: Installations and insulation material shall comply with the latest applicable building codes for the local jurisdiction. Regardless of insulation composition, it is recommended, at minimum, to coat elastomeric or EPDM insulation on exterior applications with 2 coats of WB Finish a (recoat every 2-4 years). For more substantial protection, place in a protective jacket or protective channel. Titan® coated elastomeric insulation requires no additional protection. Additional coating, jacketing or placement in a channel is optional.

MADE IN USA

R-410A ENGINEERED & TESTED

CO_2 ENGINEERED & TESTED

Standard and Mini Split Line Sets

Copper Tube Data

Standard Line Sets with Elastomeric Insulation

Copper Tube Sizes		Lengths	Insulation Thickness	Optional Finishes
Liquid Line	Suction Line			
1/4" - 5/8"	3/8" - 1-1/8"	5' - 100' using 1' intervals	3/8" - 1-1/2"	Flare nuts, 90-degree bends, custom connections, thermostat wire and taping

Mini Split Line Sets with Elastomeric Insulation

Copper Tube Sizes		Lengths	Insulation Thickness	Optional Finishes
Liquid Line	Suction Line			
1/4" - 5/8"	3/8" - 7/8"	1' - 100' using 1' intervals	3/8" - 1-1/2"	Insulated liquid and suction lines and twin tube system, flare nuts, 90-degree bends, custom connections, mini-split wire or control cable and taping

Line Sets with Coated Elastomeric Insulation

Copper Tube Sizes	Lengths	Insulation Thickness	Optional Finishes
1/4” - 1-1/8”	1’ - 100’ using 1’ intervals	1/2” - 1-1/2”	Flare nuts, 90 dergree bends,custom connections, thermostat wire and taping

Line Sets with EPDM Insulation

Copper Tube Sizes	Lengths	Insulation Thickness	Optional Finishes
1/4” - 1-1/8”	1’ - 50’ using 1’ intervals	1/2” - 1-1/2”	Flare nuts, 90 dergree bends,custom connections, thermostat wire and taping

Standard and Mini Split Line Sets

Elastomeric Insulation Data

Insulation:

"R" Values

Pipe Insulation Size	Wall 3/8"	Wall 1/2"	Wall 3/4"	Wall 1"	Wall 1-1/2"
1/4"	2.9	4.0	6.1	9.6	16.5
3/8"	2.7	3.6	5.6	8.5	14.6
1/2"	2.5	3.4	5.4	7.9	13.5
5/8"	2.5	3.3	5.4	7.5	12.8
3/4"	2.3	3.1	5.4	7.5	12.4
7/8"	2.3	3.2	5.4	7.2	11.6
1-1/8"	2.2	3.1	5.5	7.1	10.8

Specification Compliance:

- ASTM C 534, Grade 1, Type I Tubular
- ASTM E 84, NFPA 255, U L 723
- CAN/ULC S102
- NFPA 90A, 90B
- ASTM G21/C1338
- ASTM G22
- ASTM D 1056, 2B1
- MIL-P-15280J, FORM T
- FMRC Listed
- MEA 186-86-M Vol. V
- UL 181
- UL 94 5V-A, V-0, File E 300794
- UL GREENGUARD Gold Certified
- UL Validated Mold Resistant

Physical Properties:

Property	Values	Test Method
Thermal Conductivity, Btu • in./h • ft2 • °F (W/mK), 75°F (24°C)	0.242 (0.035)	ASTM C 177 or C 518
Water Vapor Permeability, Perm-in. [Kg/(s•m•Pa)]	0.05 (0.725×10^{-13})	ASTM E 96, Procedure A
Water Absorption, % by Volume	0.2 max.	ASTM C 209
Flame Spread Index and Smoke, Developed Index through 2" wall thickness	25/50*	ASTM E 84, UL 723, NFPA 255, CAN/ULC 5102
Flammability, UL, File #E300774	V0 and 5VA	UL 94
UV Weather Resistance*	Good	ASTM G 90
Upper Use Limit	220°F (105°C)	—
Lower Use Limit	-297°F (-183°C)**	—
Sizes, Nominal Wall Thickness Inside Diameter	1/4", 3/8", 1/2",3/4" and 1" 1/4" ID to 1 1/8" ID	
Density, lb/cu.ft^3	3.0 to 6.0	ASTM D 1662 or D 1667
ASTM D1056 Classification	2B1	ASTM D 1056

Standard and Mini Split Line Sets

TITAN® Coated Elastomeric Insulation Specification

Insulation:

"R" Values

Pipe Insulation Size	Wall 1/2"	Wall 3/4"	Wall 1"	Wall 1-1/2"
1/4"	4.0	6.1	9.6	16.5
3/8"	3.6	5.6	8.5	14.6
1/2"	3.4	5.4	7.9	13.5
5/8"	3.3	5.4	7.5	12.8
3/4"	3.1	5.4	7.5	12.4
7/8"	3.2	5.4	7.2	11.6
1-1/8"	3.1	5.5	7.1	10.8

Specification Compliance:

- ASTM B1003
- ASTM C 534, Grade 1, Type I Tubular*
- ASTM E 84, NFPA 255, U L 723
- NFPA 90A, 90B
- ASTM G21/C1338*
- ASTM G22*
- ASTM D 1056, 2B1*
- MIL-P-15280J, FORM T*
- UL 94 5V-A, V-0, HF-I (File E 300774)
- 2012, 2015, 2018 IECC, IMC, IRC
- 2016 CA Title 24, Part 6, Subchapter 3, Section 120.3
- RoHS Compliant

**Base Insulation*

Physical Properties:

Property	Values	Test Method
Thermal Conductivity, Btu • in./h • ft2 • °F (W/mK), 75°F Mean Temperature (24°C)	0.242 (0.035)	ASTM C 177 or C 518
Water Vapor Permeability, Perm-in. [Kg/(s • m • Pa)]	<0.01 perm-in. insulation ≤0.05 perms jacket	ASTM E 96
Water Absorption, % by Volume	0.2	ASTM C 209
Flame Spread and Smoke Developed Index through 1-1/2" (37.5mm)*	25/50	ASTM E 84
Mold Growth Fungi Resistance Bacterial Resistance	UL181 ASTM G21/C1338 ASTM G22	Meets requirements Meets requirements Meets requirements
Water Absorption, % by Volume	0%	ASTM C 209
Upper Use Limit	220°F (105°C)**	ASTM C 534
Lower Use Limit	-297°F (-183°C)**	ASTM C 534
Hot Surface Performance 250°F	ASTM C411, NFPA 90A	Meets requirements
UV Resistance (Artificial Aging)	ASTM G153	Meets requirements

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EPDM Insulation Data

High Temperature

Insulation:

“R” Values

Pipe Size	Insulation Wall			
	1/2”	3/4”	1”	1-1/2”
1/4"	3.7	5.6	8.9	15.2
3/8"	3.3	5.1	8.0	13.7
1/2"	3.1	5.0	7.4	12.6
5/8"	3.1	5.1	7.0	11.9
3/4"	2.9	5.0	7.0	11.3
7/8"	3.0	5.1	6.7	10.8
1-1/8"	2.9	5.1	6.6	10.1

Specification Compliance:

- ASTM C 534, Type I - Tubular, Grade 2
- ASTM E 84, NFPA 255, U L 723
- CAN/ULC S102
- NFPA 90A, 90B to 1”
- ASTM G21/C1338
- ASTM G22
- ASTM D 1056, 2A1
- UL 181
- UL 94 5V-A, V-0, File E 300774

Physical Properties:

Specifications	Values	Test Method
Thermal Conductivity, Btu • in./h • ft2 • °F (W/mK) 75°F Mean Temperature (24°C)	0.263 (0.038)	ASTM C 177 or C 518
Water Vapor Permeability, Perm-in. [Kg/(s•m•Pa)]	0.05 (0.725 x 10–13)	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index through 1” (25mm)*	25/50*	ASTM E 84 CAN/ULC S102
Mold Growth Fungi Resistance Bacterial Resistance	UL181 ASTM G21/C1338 ASTM G22	Meets requirements Meets requirements Meets requirements
Water Absorption, % by Volume	180/220°F (82/105°C)	ASTM C 209
Upper Use Limit	300°F (149°C)	—
Lower Use Limit	-297°F (-183°C)**	—
Ozone Resistance	GOOD	—