

Submittal  
RYNO Line Sets



PT™

PTubes, Inc. D/B/A "PT"  
30 Gross Brothers Way, Waymart, PA 18472, USA  
www.PTubes.us, Info@PTubesInc.com, tel. (+1) 570 616 7818, efax (+1) 201 817 1366

PT™ is the creator of

**RYNO®** LINESETS

PT™ is a Feinrohren S.p.A. Company



Linesets for HVACR Applications

Job Name: \_\_\_\_\_  
Job Location: \_\_\_\_\_  
Engineer: \_\_\_\_\_  
Contractor: \_\_\_\_\_  
Wholesaler: \_\_\_\_\_  
PT™ Rep: \_\_\_\_\_

**Product Description and Material**

RYNO® line sets are refrigeration C12200 grade copper tubes insulated with polymeric insulation with a protective polymeric outer jacket for HVACR applications.

RYNO®hyde is a proprietary polymeric jacket extruded directly on copper under the insulation providing extra protection to the copper against chemical physical offenses.

Line sets are manufactured in Waymart, Pennsylvania, United States of America.

RYNO+ Line Sets is fully patented.

**Key Specifications**

RYNO copper tubing is ASTM B1003 (700 psi - 250 °F rated) compliant.

RYNO® linesets are suitable for refrigerant R-410A, synthetic refrigerant and sub-critical CO<sub>2</sub>.

**Installation**

National and Local Building Codes compliance is mandatory. Insulation is design to resist from 3 up to 5 years according to standard ASTM G153 and ASTM G90. UV exposure and weather offenses may vary drastically. 2018 International Code requires, not just recommends, protection for piping exposed in exterior; see par. C403.2.8.1 on the 2018 International Energy Conservation Code. Decision on covering the pipe is on Customer's sole discretion and liability. PT recommends to protect the insulation.

The proper insulation thickness choice to avoid condensation is on Customer's and Contractor's sole discretion and liability.

Insulation ends must be sealed to increase protection against rain, moisture and any contaminant.

Customer must use proper UV and weather resistant code compliant seal or tape.

**RYNO® linesets Data and Product Range**

OD range: 1/4 in - 1 1/8 in Length range: 25 ft - 164 ft.

Insulation Nominal Wall Thickness: 1/2 in, 3/4 in, 1 in.

Finishes: plain or flare-nut.

Outer jacket color: black or white.

Insulation color: black or white.

RYNO®hyde protective jacket color: grey.

**RYNO® Refrigeration Copper Tube**

C12200, 99.9 % Pure Copper manufactured without scraps

ASTM B1003, Seamless Copper Tube for Refrigeration Line Sets

Cleaned to the highest standards.

	Max Allowable Working Pressure			
	°F	°F	°F	°F
OD	100	150	200	250
in	psi	psi	psi	psi
1/4	1,030	1,094	1,051	1,030
3/8	700	709	700	700
1/2	700	700	700	700
5/8	700	700	700	700
3/4	700	700	700	700
7/8	700	700	700	700
1 1/8	700	700	700	700

**RYNO® Insulation**

Insulation foam assures thermal insulation from surroundings.

- insulation foam: the insulation is low density closed cells polyethylene foam, CFC and HCFC damaging-ozone gas free; product is made according to ASTM C 1427-07, type I (tubular), grade I (insulation material for use on typical commercial system non-crosslinked).
- thermal conductivity: 0,038 W/mK at 40°C (0.263 Btu in/sq.ft.°F h at 104°F) according to ISO EN 8497 and likewise to ASTM C 335-95.
- moisture diffusion coefficient:  $\mu = 5297$  according to EN 13469 and likewise to ASTM E 96-00.
- working temperature: polyethylene foam is suitable for technical applications included in a range temperature from -101°C up to 93°C (-150°F up to 200°F) according to ASTM C 1427-07, type I (tubular), grade I (non-crosslinked). - average bulk density: 30 kg/m<sup>3</sup> (1,87 lb/ft<sup>3</sup>)
- surface covering: polyethylene skin repair foam insulation from scratches; helpful for threading.

**APPLICATIONS**

- colors: WHITE (white foam + white skin) or BLACK (black or dark gray foam + black skin)
- wall thickness: 1/2 in., 3/4 in., 1 in.
- surface burning characteristics:
  - UL 94, HBF;
  - UL 723 - ASTM E84, 25/50;
  - ULC S102.2 25/50.

**RYNO® Insulation R Value**

Copper nominal diameter (in.)	1/4	3/8	1/2	5/8	3/4	7/8	1-1/8
Insulation nominal thickness (in.)	1/2	1/2	1/2	1/2	1/2	1/2	1/2
R value	4	4	4	4	4	4	3
Insulation nominal thickness (in.)	3/4	3/4	3/4	3/4	3/4	3/4	3/4
R value	7	6	6	6	6	6	4
Insulation nominal thickness (in.)	1	1	1	1	1	1	1
R value	10	9	8	8	8	8	6

**Warranty**

Copper tube with RYNO®hyde: 10 years limited warranty.

**All References**

ASTM B1003 Seamless Copper tube for Line Sets  
 ASTM B280  
 ASTM B75 99.9% Pure Copper  
 UL 207 Pressure rating - 700 psi - 250 °F  
 International Building Code  
 International Mechanical Code  
 International Energy Code  
 California Title 24  
 ASME B31.5  
 UL 94  
 UL 723 - ASTM E84 (25/50)  
 ULC S102.2 (25/50)  
 ASTM G153 and ASTM G90  
 ASTM B280  
 ASME 31.5