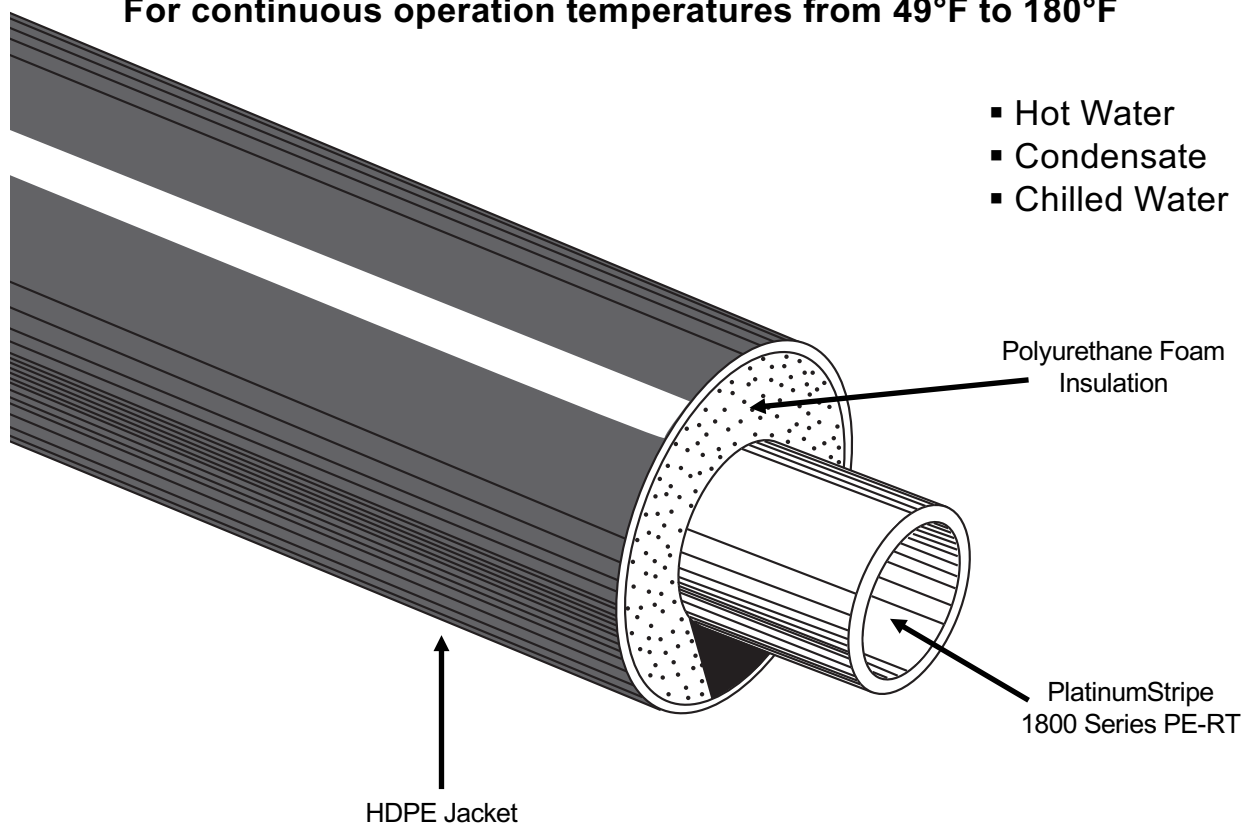


Rovanco PE-RT X HDPE Jacketed Systems

For continuous operation temperatures from 49°F to 180°F



Rovanco's High Density Polyethylene (HDPE) Jacketed System is designed for piping systems above and below ground suitable for inside and outside applications. High quality polyurethane foam insulation combined with a durable watertight jacket supplied in 40' random lengths, means an economical, high-quality system.

Rovanco's System is provided with a jacketing of HDPE, which can be supported from the outside with maximum supports spans. Fittings will factory fabricated as specified.

The HDPE System comes complete with the carrier pipe of your choice, joint insulation materials and jacketing to make the installation completely watertight for applications of process fluids, hot water, pumped condensate, chilled water, etc.

To find out more about Rovanco's PE-RT X HDPE System, you can visit our factory, phone us (815) 741-6700, visit our website at www.rovanco.com or e-mail us at marketing@rovanco.com.

* For higher temperatures, consult factory.

SPECIFICATION FOR PE-RT X HDPE SYSTEM

PERT Piping Systems for Low Pressure Steam, Condensate, Chilled or Hot Water, Fuel Oil, and Process Piping Applications

Carrier Pipe:

PE-RT shall be made of a high-density polyethylene-raised temperature conforming to ASTM D3350, D2837, F2619, API 15 LE, F714, D3261, and FF2206.

PlatinumStripe™ 1800 PE-RT Pipe Material Physical Properties		
Property	Standard	Typical Value+
Material Designation	ASTM F714, ASTM F2613	PE-4710
Cell Classification	ASTM D3353	445574C (black)
Density [4]	ASTM D792	0.950 g/cc (natural)
Melt Index [4]	ASTM D1238	0.1 g/10 min
Flexural Modulus [5]	ASTM D790B	150,000 psi
Tensile Strength [5]	ASTM D638	>3500 psi
SCG (PENT) [7]	ASTM F1473	10,000 hours
HDB at 73°F (23°C) [4] HDB at 180°F (82.2°C)	ASTM D2837	1600 psi 800 psi
Color [C]	D3350	Black

This is not a product specification and does not guarantee or establish specific minimum or maximum values or manufacturing tolerance for material or piping products to be supplied. Values obtained from tests of specimens taken from piping product may vary from these typical values.

Insulation:

Insulation shall be a polyurethane foam injected with one shot into the annular space between carrier pipe and jacket. Insulation shall be rigid, minimum 90% closed cell polyurethane with a minimum 2.0 lbs per foot³ density, compressive strength of 30 psi @ 75°F and a thermal conductivity K factor no higher than 0.180 @ 75°F per ASTM C-518. Maximum temperature of urethane foam can be up to 250°F, but system operating temperature should not exceed the PE-RT maximum temperature limit of 180°F.

Jacketing Material:

The outer casing shall be high density polyethylene (HDPE) conforming to ASTM D3350. Type III, Category 5, Class C and Grade P23/P34. With a minimum of 2% by weight of carbon black. Minimum thickness is 150 mils. No FRP overwrap or sprayed jacketing will be allowed. Minimum jacket thickness shall be in accordance with the following:

IPS		DR7			DR9			DR11			DR17			DR21		
Pipe Size in.	OD, in.	Min. wall, in.	Avg. ID, in.	Wgt. lbs/ft.	Min. wall, in.	Avg. ID, in.	Wgt. lbs/ft.	Min. wall, in.	Avg. ID, in.	Wgt. lbs/ft.	Min. wall, in.	Avg. ID, in.	Wgt. lbs/ft.	Min. wall, in.	Avg. ID, in.	Wgt. lbs/ft.
2	2.375	0.339	1.666	0.90	0.26	1.82	0.77	0.22	1.92	0.64	0.14	2.08	0.43			
3	3.50	0.500	2.440	2.06	0.39	2.68	1.66	0.32	2.83	1.39	0.21	3.06	0.94			
4	4.50	0.643	3.137	3.40	0.50	3.44	2.75	0.41	3.63	2.31	0.27	3.94	1.55	0.21	4.05	1.27
6	6.625	0.946	4.619	7.37	0.74	5.07	5.96	0.60	5.35	5.00	0.39	5.80	3.36	0.32	5.96	2.75
8	8.625	1.232	6.013	12.50	0.96	6.59	10.11	0.78	6.96	8.47	0.51	7.55	5.69	0.41	7.75	4.66
10	10.75	1.536	7.494	19.42	1.19	8.22	15.70	0.98	8.68	13.16	0.63	9.41	8.63	0.51	9.66	7.24
12	12.75	1.821	8.889	27.31	1.42	9.75	22.08	1.16	10.29	18.51	0.75	11.16	12.43	0.61	11.46	10.19
14	14				1.56	10.70	26.63	1.27	11.30	22.32	0.82	12.25	14.98	0.67	12.59	12.28
16	16				1.78	12.23	34.78	1.48	12.92	28.15	0.94	14.01	19.57	0.76	14.38	16.04
18	18				2.00	13.76	44.02	1.64	14.53	36.89	1.06	15.75	24.77	0.86	16.18	20.30
20	20				2.22	15.29	54.34	1.82	16.15	45.54	1.18	17.51	30.58	0.95	17.98	25.07
22	22							2.00	17.76	55.10	1.29	19.26	37.00	1.05	19.78	30.33
24	24							2.18	19.37	65.58	1.41	21.01	44.03	1.14	21.58	36.10
26	26										1.53	22.76	51.67	1.24	23.38	42.36
28	28										1.65	24.51	59.93	1.33	25.17	49.13
30	30										1.77	26.26	68.80	1.43	26.97	56.40
32	32										1.88	28.01	78.28	1.52	28.77	64.17
34	34										2.00	29.76	88.37	1.62	30.57	72.44
36	36										2.12	31.51	99.07	1.71	32.37	81.21
42	42													2.00	37.76	110.54

Pipe weights are calculated in accordance with PPI TR-7. Average inside diameter is calculated using Nominal OD and Minimum wall plus 6% for use in estimating fluid flow. Actual ID will vary. When designing components to fit the pipe ID, refer to pipe dimensions and tolerances in the applicable pipe manufacturing specification. Additional sizes and DR available. Contact Performance Pipe or visit www.performancepipe.com.

Design Pressures							
Operating Temperatures							
Application	Dimensional Ratio	73°F	100°F	120°F	140°F	160°F	180°F
Water, Brine Alcohols, Glycols, and Dry Natural Gas (non 49CFR192 applications)	DR 7	333 psig	280 psig	244 psig	210 psig	187 psig	167 psig
	DR 9	250 psig	210 psig	183 psig	158 psig	141 psig	125 psig
	DR 11	200 psig	168 psig	146 psig	126 psig	112 psig	100 psig
	DR 13.5	160 psig	134 psig	117 psig	101 psig	90 psig	80 psig
	DR 17	125 psig	105 psig	91 psig	79 psig	70 psig	63 psig
	DR 21	100 psig	84 psig	73 psig	63 psig	56 psig	50 psig
2% or Greater Concentrations of Liquid Hydrocarbons or Other Solvating/Permeating Chemicals	DR 7	167 psig	140 psig	122 psig	105 psig	94 psig	84 psig
	DR 9	125 psig	105 psig	92 psig	79 psig	71 psig	63 psig
	DR 11	100 psig	84 psig	73 psig	63 psig	56 psig	50 psig
	DR 13.5	80 psig	67 psig	59 psig	51 psig	45 psig	40 psig
	DR 17	63 psig	53 psig	46 psig	40 psig	35 psig	32 psig
	DR 21	50 psig	42 psig	37 psig	32 psig	28 psig	25 psig

The above pressures are the maximum long-term pressure ratings for the applications shown. Different chemical and environmental use considerations may require use of additional design factors or additional service life considerations.

Joining Method:

Straight lengths of pipe will be joined by butt-fusion fittings.

Fitting:

All fittings will conform to pipe type and will be insulated and jacketed with materials supplied by the system supplier as per manufacturers' standard procedures.

End Seals:

Each length of pre-insulated pipe will be fitted with a watertight mastic end seal at jacket and pipe surfaces. All field cuts will be sealed with a field applied end seal.

Insulation of Straight Joints:

After fusion and testing, all joints shall be insulated and sealed as per manufacturers' standard procedures.

Backfill: (if below ground)

Should be tamped compactly in place so as to assure a stable surface. No rock should be used in the first foot of backfill. 24 inches, top to pipe to grade, of compacted fill shall meet H-20 Highway Loading.

Manufacturer's Assistance:

Rovanco will provide a field service man on-site to properly train the installing personnel in all phases of installation, (if required).

Approved Vendors:

PE-RT x HDPE Piping Systems by Rovanco, Joliet, Illinois or approved equal. Any alternate supplier must be ISO 9001 Certified and submit their technical data to the engineer ten days prior to bid date to be approved in writing as an equal.

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