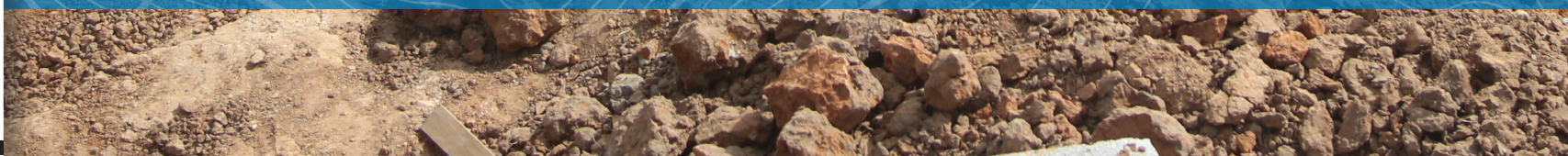




PLATINUMSTRIPE® PE-RT PIPE SYSTEMS FROM ISCO

High temperature, high performance.

It's time to rethink your hot-water transmission piping system.



The better solution.

Whether it's district heating, or industrial, or mining, or oil and gas, or hot-water service lines, or any number of other hot-water transmission applications, PlatinumStripe® 1800 Series PE-RT (polyethylene of raised temperature) pipe is clearly the better solution.



1

All the benefits of PE in high-temp applications.



4

Easier on the earth.



2

Tough pipes and joints for leak-free system performance.



5

Versatility and performance, technically speaking.



3

Ideal for a wide range of industries and applications.



6

Trust the leaders.



MATERIAL ADVANTAGES

**All the benefits of PE in
high-temp applications.**

1

All the benefits of PE in high-temp applications.

Polyethylene (PE) offers a clearly better-performing alternative to traditional materials such as carbon steel. PlatinumStripe® PE-RT brings those benefits to high-temperature applications.

Elevated temperature excellence

PlatinumStripe® 1800 PE-RT is made with specially engineered PE resin to perform at higher temperatures and broader ranges with a patented stabilizer system for high-temp oxidative environments. Available in a full range of pressure capabilities, molded and fabricated fittings, and pipe sizes, this specialized PE product enables continuous operation from -49°F (-45°C) to 180°F (82°C) while delivering all the benefits of general-use polyethylene.

50-year design life means lower cost of ownership

Like all PE piping, PlatinumStripe® 1800 PE-RT is highly resistant to corrosion, tuberculation and deposits. Our PE-RT product is virtually maintenance free over its 50-year design life, offering a low cost of ownership that steel and other materials cannot match.

Lighter weight means easier, lower-cost installation

PE's strength-to-weight ratio is another significant advantage over traditional piping. Its light weight makes it easier, faster and more economical to transport and install. PlatinumStripe® 1800 PE-RT products offer the same benefit, along with the ability to use native backfill from the trench for sandless installation in shallow, nontraffic applications.

Higher-flow characteristics mean reduced pipe diameter and pump requirements

PE-RT offers the same flow characteristics as PE, a significant advantage. PlatinumStripe® 1800 Series pipe delivers a 30% better flow rate than metal, reducing system pumping capacity needs and pipe diameter requirements for equivalent volume, saving energy and pipe costs.

Same installation equipment and techniques as HDPE mean easier adoption

If you're familiar with PE or HDPE, you're familiar with PE-RT. The equipment and fusions are the same. That makes it easy to adopt and realize the benefits. If you're not familiar with PE, ISCO is the industry leader in North America. We can provide full support, from design assistance to training, new and used fusion equipment sales, as well as rental.





LEAK FREE, WORRY FREE

**Tough pipes and joints
for leak-free system
performance.**

2



LEAK FREE, WORRY FREE

Tough pipes and joints for leak-free system performance.

2

PlatinumStripe® 1800 PE-RT offers excellent stress-crack resistance and no-leak fusion joints to dramatically reduce line leaks and water waste.

PlatinumStripe® PE-RT pipe from ISCO is engineered for extreme toughness to avoid damage in job-site installation and resist stress cracks throughout the long life of the pipe. All joints are heat fusible for leak-free performance.

Stress-crack resistance for long-term durability

You can install this pipe and forget it. PlatinumStripe® PE-RT performs at more than 20 times the PE 4710 standard for stress-crack resistance, giving you maximum assurance of line integrity over the long term.

Fusion joints to eliminate wasteful, costly leaks

Using the same equipment and techniques as HDPE, PE-RT pipe from ISCO offers a number of heat fusion options that create joints as strong as the pipe itself. This supports leak-free reliability that improves system productivity and sustainability.

CASE IN POINT

Texas A&M plugs its heating/cooling system leaks

Texas A&M was one of the first universities in the United States to replace ductile iron piping and joints with PlatinumStripe® PE-RT products in its main-campus heating/cooling system. The result: corrosion-free pipe and an immediate reduction in leak-related water loss.

“Between corrosion and joint leaks throughout the system, we were experiencing 40–50 gallons per minute per day in system water loss. With the new PE-RT system in place, we’re down to single digits — as low as three gallons per minute per day for chiller water and between three and six gallons per minute per day in heating water. Across a 60,000 student campus, that’s a big improvement.”

— Reuben, Texas A&M engineer



VERSATILITY IN ACTION

3 Ideal for a wide range of industries and applications.



Ideal for a wide range of industries and applications.

3

Whatever your industry application or project type, chances are we can provide a PlatinumStripe® 1800 PE-RT solution to meet the need.

Product versatility: an opportunity for dramatic improvement across industries

PE-RT pipe is not new. It's been proven through 35 years of testing and use in the highly regulated European environment. When PE-RT was first introduced in the U.S., it was widely used in oil, gas and industrial applications. More and more customers in other industries are discovering the cost and performance advantages of PlatinumStripe® PE-RT over traditional solutions:

- Oil and gas
- Plumbing
- Pulp and paper production
- District heating/cooling
- Hot and cold water plumbing distribution
- Hydronic heating and cooling
- Water service — safe drinking water
- Snow and ice melting
- Geothermal piping systems
- And more

From the simplest to the most-complex projects

Engineers are also discovering that PE-RT's many positives are not just for complex projects. PlatinumStripe® is a highly effective solution in smaller, simpler applications that can benefit from:

- Wide temperature range
- High-pressure performance
- Easy install/low maintenance
- Long product life/low cost of ownership

proven
through
35 years



THE SUSTAINABLE CHOICE

Easier on the earth.

4



Easier on the earth.

4

Long product life. High recyclability. Leakproof. Low carbon density. PE-RT pipe is the sustainable choice in multiple ways.

From manufacturers to municipalities and universities to utilities, sustainability has become an increasingly high priority. Solutions engineered with PlatinumStripe® 1800 PE-RT piping from ISCO can increase your hot-water transmission system's contribution to sustainable performance.

Highly recyclable without degradation of material performance

PE-RT is highly recyclable without degradation of the material's attributes and performance. Even with a long design life that far exceeds steel and other traditional piping, recyclability is a plus for PE-RT. Used PE-RT pipe and scrap can be sent to recyclers for mechanical processing or, increasingly, to refineries for chemical recycling, where it is re-cracked to create new, virgin material.

Leakproof for lower water use and waste

The leakproof performance of PE-RT's fusion joints and its ruggedized stress-crack resistance are environmental benefits too. Reduced water loss through spills and leaks means lower waste and lower consumption, saving both money and the environment.

Lower carbon footprint than concrete, metals

Between its significantly lighter weight, which requires less machinery to transport and install, and its higher flow ratings, which reduce pumping capacity needed and pipe diameter required for comparable fluid volume, PE and PE-RT offer a significant carbon impact advantage over traditional materials. PE's 50-year product design life also contributes.

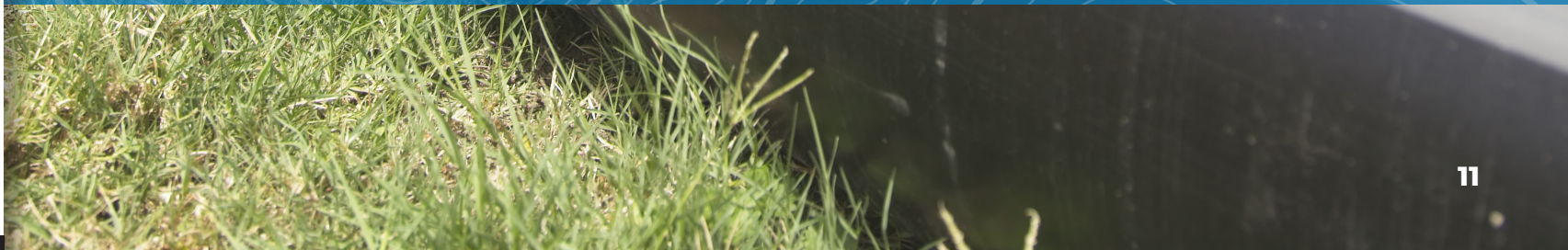
50-year
product
design life



5

BY THE NUMBERS

**Versatility and performance,
technically speaking.**



Versatility and performance, technically speaking.

5

For PlatinumStripe® 1800 PE-RT piping, the numbers tell the story of a versatile, compliant, high-performance alternative to traditional hot-water transport materials.



PlatinumStripe® 1800 PE-RT complies with:

- ASTM D3350 Cell Class PE445574C
- ASTM D2837 HDB = 800 psi at 180°F
- ASTM F2619 HDPE Line Pipe
- API 15 LE Polyethylene Line Pipe
- ASTM F714 Polyethylene Pipe
- ASTM D3261 and D2513 (Molded Fittings)
- ASTM F2206 (Fabricated Fittings)

PlatinumStripe® 1800 PE-RT compares with:

PlatinumStripe® 1800 vs. carbon steel

Steel corrodes, often causing leaks over time. PE and PE-RT are virtually corrosion free, with leakproof fusion joinery; their much lighter weight offers easier installation and environmental benefits over steel. 30% higher flow ratings reduce pumping and pipe diameter requirements.

PlatinumStripe® 1800 vs. fiberglass

Fiberglass often requires expensive coatings for longer design life and high-temperature applications. PE-RT offers a longer-life, simpler and less costly solution.

PlatinumStripe® 1800 vs. PEX

PEX is a cross-linked polyethylene that is not widely adopted; it often requires testing prior to a specific application, which increases complexity and cost. PEX is appropriate only for smaller-diameter applications.

PlatinumStripe® 1800 vs. PVC

PVC uses bell-and-spigot joints; PE-RT's fusion joining system is longer lasting and leakproof. PVC has been known to have parts availability issues.

PlatinumStripe® 1800 vs. concrete/clay

PE-RT is lighter weight and longer lasting, with significantly higher flow rates and leakproof joints, offering significant cost and environmental advantages over concrete or clay pipe solutions.

Technical data

PlatinumStripe® 1800 PE-RT Pipe Material Physical Properties		
Property	Standard	Typical Value+
Material Designation	ASTM F714, ASTM F2619	PE 4710
Cell Classification	ASTM D3350	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	>3,500 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	1,600 psi 800 psi
Color [C]	ASTM 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.

Design pressures

Operating Temperatures							
Application	Dimension Ratio	73 °F	100 °F	120 °F	140 °F	160 °F	180 °F
Water, Brine Alcohols, Glycols and Dry Natural Gas (non 49 CFR 192 applications)	DR7	333 psig	280 psig	244 psig	210 psig	187 psig	167 psig
	DR9	250 psig	210 psig	183 psig	158 psig	141 psig	125 psig
	DR11	200 psig	168 psig	146 psig	126 psig	112 psig	100 psig
	DR13.5	160 psig	134 psig	117 psig	101 psig	90 psig	80 psig
	DR17	125 psig	105 psig	91 psig	79 psig	70 psig	63 psig
	DR21	100 psig	84 psig	73 psig	63 psig	56 psig	50 psig
2% or Greater Concentrations of Liquid Hydrocarbons or Other Solvating/Permeating Chemicals	DR7	167 psig	140 psig	122 psig	105 psig	94 psig	84 psig
	DR9	125 psig	105 psig	92 psig	79 psig	71 psig	63 psig
	DR11	100 psig	84 psig	73 psig	63 psig	56 psig	50 psig
	DR13.5	80 psig	67 psig	59 psig	51 psig	45 psig	40 psig
	DR17	63 psig	53 psig	46 psig	40 psig	35 psig	32 psig
	DR21	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.

Common dimension ratios for PlatinumStripe® 1800 PE-RT

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	1.656	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	8.83	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	1.46	12.92	29.15	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.



PE/HDPE/PE-RT INDUSTRY LEADERSHIP

Trust the leaders.

6



Trust the leaders.

6

ISCO is the established leader in PE, HDPE and PE-RT pipes, products, services and solutions.

ISCO: the go-to resource for high-performance PE products in North America

We are the largest provider of HDPE and PE-RT products and solutions in the North American market. We bring a leader's expertise, decades of experience and a consultative approach to every project, offering insights and support to ensure smooth execution of the solution that best meets your needs.

A leading provider of fusion equipment sales, service and rentals

With ISCO's strong North American presence, machine inventory and expertise, we can get you the fusion equipment required, when and where you need it. We maintain the industry's largest and newest rental fleet, offering an attractive option to customers who want an alternative to purchasing new or used fusion equipment.

Training and service second to none

At ISCO, we work to deliver value beyond the products we sell. We provide on-site and custom fusion training, fabrication, solution consultation and project management services — all part of our comprehensive offering designed to support project and customer success.

We can help.

Your usual way, the way you're used to, may not be the best way to approach your project. Breakthrough results could be a conversation away.

Contact us today for a no-obligation discussion of your situation, needs and objectives and the potential for the PlatinumStripe® 1800 PE-RT suite of products to meet them.

ISCO Industries

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