

# AQUA PE-RT

Potable PE-RT for  
Domestic Plumbing

DOW™ 2399 PE-RT Resin

NSF

pw - U.P. Code



*Innovative  
Technologies*



## The Aqua PE-RT Difference

Oil Creek's Aqua PE-RT (Polyethylene of Raised Temperature) is extruded from patented technology of DOW™ 2399 PE-RT Resin. Aqua PE-RT offers exceptional benefits, as well as several distinct advantages over other commonly used hot and cold plumbing applications.

- Lifetime Limited Warranty
- Recyclable
- Resistant to corrosion and aggressive chemicals
- Ease of installation
- Durable and leak-free
- Virtually maintenance free
- Lightweight
- Level 5 chlorine rating
- Excellent hydrostatic strength
- Meets PEX tubing performance requirements

By achieving Level 5 status, Oil Creek Aqua PE-RT tubing extruded from DOW™ Hypertherm 2399 Resin offers contractors and homeowners the flexibility to install plumbing systems such as continuous circulation loops and on-demand recirculation, both designed to reduce water consumption and hot water energy use.

## Complete Performance Certifications

Oil Creek Plastics Aqua PE-RT tubing extruded with DOW™ Hypertherm 2399 PE-RT Resin is certified Level 5 chlorine resistant (ASTM F2769, F2023) for use in domestic hot and cold plumbing applications and is certified accordingly by NSF. Aqua PE-RT is also certified meeting NSF/ANSI Standard 14 requirements and complies with NSF/ANSI 61 health effects requirements when tested at temperatures up to and including Commercial Hot (180°F). This product is listed by NSF to conform to the latest edition of the Uniform Plumbing Code™.

## Joining

Aqua PE-RT tubing may be joined using insert fittings and clamps certified to ASTM F1807 & F2159. It may also be joined with SharkBite style fittings. Furthermore, the use of heat fusion technology may be utilized to offer even more installation flexibility.



**For plumbers/installers:** Pipe made with PE-RT resins can be joined with traditional mechanical fittings, but can also be heat fused, offering installation flexibility. In addition, PE-RT offers an excellent sustainability profile as well as taste and odor characteristics that installers can promote to their customers.

**For end users:** PE-RT pipe offers improved taste and odor properties for great tasting water and a leak-free, low maintenance system for peace of mind. PE-RT pipe also offers a long life expectancy and is recyclable, as described on the next page.

## The Sustainable Choice

PE-RT Resins from DOW, including DOW™ 2399 PE-RT Resin, offer attributes that contribute to a very favorable sustainability profile for hot and cold water plumbing pipe:

- PE-RT pipe uses less energy during production than other pipe manufacturing processes, as it requires no post curing and less overall handling of the product.
- Monolithic PE-RT pipe can be recycled. Regrind material can be placed back into the production stream, and finished pipe can be mechanically recycled or used as an alternative energy source.
- PE-RT pipe systems are leak-free and offer a long life expectancy.
- The Level 5 chlorine resistance rating for DOW™ 2399 PE-RT Resin allows system designs that reduce water consumption and hot water energy usage.

## Aqua PE-RT Specs

SIZE	O.D.	WALL	I.D.	LB/FT	WATER CONTENT IN GAL./FT
3/8"	.500	.070	.350	0.042	0.005
1/2"	.625	.070	.475	0.054	0.0092
5/8"	.750	.083	.574	0.076	0.0134
3/4"	.875	.097	.671	0.103	0.0184
1"	1.125	.125	.863	0.167	0.0304
1-1/4"	1.375	.153	1.054	0.25	0.0453
1-1/2"	1.625	.181	1.244	0.35	0.0631
2"	2.125	.236	1.629	0.597	0.1082

### Recycling

Unlike PEX and CPVC tubing, Oil Creek Aqua PE-RT tubing can be recycled making it earth-friendly. Whether it be a waste stream from production or odds and ends generated from installation, PE-RT is 100 percent recyclable.

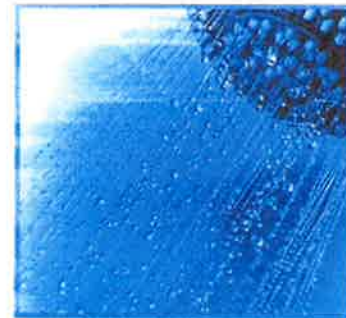
### Warranty

Lifetime Limited Warranty covering manufacturer related tubing defects. Pre-paid insurance policy covering repairs due to consequential damage, single occurrence, related to defects in materials or workmanship.

#### Aqua PE-RT SDR-9 Pressure Ratings for Water

200 PSI at 73°F

100 PSI at 180°F



# HYPERTHERM™ 2399 NT - High Density Polyethylene Resin



## Overview

HYPERTHERM™ 2399 NT BIMODAL POLYETHYLENE Resin is a polyethylene resin with raised temperature capability produced by The DOW Chemical Company using UNIPOL II process technology. This product is intended for use in piping systems where high temperatures and aggressive oxidation conditions exist. Suitable applications include hot and cold potable water.

## Industrial Standards Compliance:

ASTM D 3350: cell classification PE445574A

Plastics Pipe Institute (PPI): TR-4

- Natural Pipe - HYPERTHERM 2399 NT BIMODAL POLYETHYLENE Resin
  - ASTM PE4710 pipe grade - 1600psi HDB @ 23°C
  - ASTM PE4710 pipe grade - 800psi HDB @ 82.2°C

NSF International

- Natural Pipe - HYPERTHERM 2399 NT BIMODAL POLYETHYLENE Resin
  - Standard 14 and 61

Meets requirements of

- ASTM F2769, F2623, & F1281

**Additive:** • Antiblock: No • Slip: No • Processing Aid: No

PHYSICAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Density (Natural)	0.950 g/cm <sup>3</sup>	0.950 g/cm <sup>3</sup>	ASTM D1505
Base Density	0.950 g/cm <sup>3</sup>	0.950 g/cm <sup>3</sup>	DOW Method
Melt Mass-Flow Rate			ASTM D1238
190°C/2.16 kg	0.10 g/10 min	0.10 g/10 min	
190°C/21.6 kg	7.0 g/10 min	7.0 g/10 min	
MECHANICAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Tensile Strength (Yield)	> 3500 psi	> 24.1 MPa	ASTM D638 <sup>1</sup>
Tensile Elongation (Break)	> 500 %	> 500 %	ASTM D638 <sup>1</sup>
Flexural Modulus	152000 psi	1050 MPa	ASTM D790B <sup>2,3</sup>
Resistance to Rapid Crack Propagation, Pc - S4			ISO 13477 <sup>4</sup>
32°F (0°C)	> 174 psi	> 12.0 bar	
Resistance to Rapid Crack Propagation, Tc - S4 @ 145 psi (10 bar)	< 2 °F	< -17 °C	ISO 13477 <sup>4</sup>
Slow Crack Growth PENT - @ 2.4 MPa			ASTM F1473 <sup>5</sup>
176°F (80°C)	> 12000 hr	> 12000 hr	
194°F (90°C)	> 6000 hr	> 6000 hr	
IMPACT	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Notched Izod Impact (73°F [23°C])	9.1 ft.lb./in	490 J/m	ASTM D256A <sup>6</sup>
THERMAL	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Brittleness Temperature	< -103 °F	< -75.0 °C	ASTM D746A <sup>7</sup>
Melting Temperature (DSC)	269 °F	132 °C	DOW Method
Thermal Stability	> 428 °F	> 220 °C	ASTM D3350
ADDITIONAL INFORMATION	NOMINAL VALUE (ENGLISH)	NOMINAL VALUE (SI)	TEST METHOD
Chlorine Resistance Level	5.00	5.00	ASTM F2023/F2769



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## NSF Listing for DOWLEX 2344 PE-RT

**DOW CHEMICAL COMPANY (THE)**  
REGULATORY COMPLIANCE  
1803 BUILDING  
MIDLAND, MI 48674  
989-638-6231  
Visit this company's website

**Facility : SCHKOPAU, GERMANY**

### Chlorine Resistance - Materials

<b>Material Type</b>	<b>End Use</b>	<b>Trade Name</b>	<b>Product Standard</b>
PE 2708# +	T	Dowlex® 2344	NSF Protocol P171

# Use of this material in NSF Certified tubing requires NSF's prior authorization and transfer of the PPI hydrostatic design basis from the Plastics Pipe Institute (PPI).  
+ Material complies with NSF/ANSI Standard 61 health effects requirements.

NOTE: T = Traditional Domestic

### Potable Water - Materials

<b>Material Type</b>	<b>End Use</b>	<b>Trade Name</b>	<b>Product Standard</b>
PE 2708* +	1	Dowlex® 2344	223273A ASTM D3350

\* 180°F

+ Material complies with NSF/ANSI Standard 61 health effects requirements.

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**PE-RT ASTM F2623  
Approvals in Codes**

- **International Association of Plumbing and Mechanical Officials (IAPMO)**
  - **Uniform Mechanical Code (UMC) 2009 Edition**
    - Chapter 12 Hydronics
      - Section 1201.6.1, Materials and Construction
      - Sections 1201.6.1.1 to 1201.7, PE-RT Tubing ASTM F2623
    - Chapter 17
      - Standards Table 17-1, ASTM F2623 PE-RT listed
  
- **International Code Council (ICC)**
  - **International Mechanical Code (IMC) 2009 Edition**
    - Chapter 12 Hydronics
      - Table 1202.4 Hydronic Pipe ASTM F2623 PE-RT listed
  - **International Residential Code (IRC) 2009 Edition**
    - Chapter 21 Hydronic Piping
      - Table M1201.1 Hydronic Piping Materials ASTM F2623 PE-RT Listed
      - Sections M2104.3 to M2104.3.2
  
- **National Standard Plumbing Code (NSPC) 2009 Edition**
  - **Chapter 3 – Materials**
    - Table 3.1.3 Standards for Approved Plumbing Materials and Equipment
      - Table 3, Part 111 Non-Metallic Pipe and Fittings ASTM F2623 PE-RT listed
    - Table 3.4 Materials for Potable Water
      - ASTM F2623 PE-RT listed for water service only