

## SUBMITTAL SHEET

|                   |             |
|-------------------|-------------|
| JOB NAME          | ITEM TAG    |
| JOB LOCATION      | PART NUMBER |
| CONTRACTOR        | DATE        |
| ENGINEER APPROVAL | DATE        |

## HyperPure®

### Potable Water PE-RT Tubing

Manufactured using HyperTherm® 2399 NT Bimodal PE-RT (Polyethylene Raised Temperature), by The Dow Chemical Company.

100-year limited warranty.

Available in nominal tubing sizes: SDR-9 - CTS Pipe Sizes 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", and 2".

Minimum bend radius equal to 6x the tubing outside diameter.

Available in colors: Red, Blue, and White.

BPA Free.

Can be used in compressed air distribution systems, with a maximum of 25 mg/m3 of oil concentration.

#### Rated Pressure & Temperature

200 psi @ 73°F

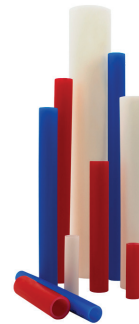
100 psi @ 180°F

#### Linear Expansion Rate

1.1" / 10°F / 100 ft.



100% recyclable



**Pictured:**  
HyperPure® Sticks



**Pictured:**  
HyperPure® Coils

#### MATERIAL SPECIFICATION

| PART         | MATERIAL              | SPECIFICATION |
|--------------|-----------------------|---------------|
| PE-RT Tubing | Dow HyperTherm 2399NT | ASTM F2769    |

#### DIMENSIONS

| Nominal Tubing Size | OD     | Average Wall Thickness | Available Coil Lengths    | 10' Stick | 20' Stick | Weight (lb) / 100' | Capacity (Gal) / 100' |
|---------------------|--------|------------------------|---------------------------|-----------|-----------|--------------------|-----------------------|
| 1/4"                | 0.375" | 0.064"                 | 100'                      | No        | No        | 2.5                | -                     |
| 3/8"                | 0.500" | 0.070"                 | 100', 500', & 1000'       | No        | No        | 4.2                | 0.50                  |
| 1/2"                | 0.625" | 0.070"                 | 100', 300', 500', & 1000' | Yes       | Yes       | 5.5                | 0.92                  |
| 3/4"                | 0.875" | 0.097"                 | 100', 300', 500', & 1000' | Yes       | Yes       | 10.5               | 1.82                  |
| 1"                  | 1.125" | 0.125"                 | 100', 300', & 500'        | Yes       | Yes       | 17.3               | 3.04                  |
| 1-1/4"              | 1.375" | 0.153"                 | 100' & 300'               | No        | Yes       | 25.6               | 4.52                  |
| 1-1/2"              | 1.625" | 0.181"                 | 100' & 300'               | No        | Yes       | 35.5               | 6.30                  |
| 2"                  | 2.125" | 0.236"                 | 100' & 300'               | No        | Yes       | 60.2               | 10.80                 |

#### Certifications/Listings:

HyperPure tubing is 3rd Party Certified (ICC-ES report PMG-1363) to the following standards and codes:

ANSI/NSF 14: Plastic piping system components and related materials.

ANSI/NSF 61: Drinking water system components health effects.

ASTM 2769: Standard specs for PE-RT in hot and cold water distribution systems (equivalent to ASTM F 876 & 877 for PEX.)

CL-5: 100% chlorine exposure at 140°F.

ASTM E84: Standard test method for surface burning characteristics of building materials (FS/SD – 25/50).

CAN/ULC S102.2: Standard method of test for surface burning characteristics of flooring, floor covering, and miscellaneous materials and assemblies (FS/SD – 25/50).

Uniform Plumbing Code (UPC) 2015, 2012, 2009.

International Plumbing Code (IPC) 2015, 2012, 2009.

International Residential code (IRC) 2015, 2012, 2009.

#### Standards:

CSA B137.18: Requirements for PE-RT made in SDR-9.

ASTM F1807, F2080, F2098, F2159, F1960, F3347, F3348, and ASSE 1061-Fitting Standards.

## TECHNICAL INFORMATION

### HYPERTHERM® 2399 NT

#### High Density Polyethylene Resin

HYPERTHERM®-2399 NT BIOMODAL POLYETHYLENE Resin is a Polyethylene resin with raised temperature capability produced 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 3550: cell classification PE445574A

Plastics Pipe Institute (PPI): TR-4

- Natural Pipe - HYPERTHERM 2399 NT BIMODAL POLYETHYLENE Resin

-ASTM PE4710 pipe grade - 1600 psi HDB @ 23° C

-ASTM PE4710 pipe grade - 800 psi 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

Additives

- Antiblock: No

- Slip: No

- Processing Aid: No

| Physical                                                                        | Nominal Value                 | Test Method      |
|---------------------------------------------------------------------------------|-------------------------------|------------------|
| Density (Natural)                                                               | 0.950 g/cm <sup>3</sup>       | ASTM D1505       |
| Base Density <sup>1</sup>                                                       | 0.950 g/cm <sup>3</sup>       | Dow Method       |
| Melt Mass-Flow Rate<br>190°C/2.16 kg<br>190°C/21.6 kg                           | 0.10 g/10 min<br>7.0 g/10 min | ASTM D1238       |
| Mechanical                                                                      | Nominal Value                 | Test Method      |
| Tensile Strength <sup>2</sup> (Yield)                                           | > 3500 psi                    | ASTM D638        |
| Tensile Elongation <sup>2</sup> (Break)                                         | > 500 %                       | ASTM D638        |
| Flexural Modulus <sup>3, 2</sup>                                                | 152000 psi                    | ASTM D790B       |
| Resistance to Rapid Crack Propagation,<br>Pc- S-4<br>32°F (0°C)                 | > 174 psi                     | ISO 13477        |
| Resistance to Rapid Crack Propagation,<br>Tc- S-4 @ 145 psi (10 bar)            | < 2°F                         | ISO 13477        |
| Slow Crack Growth PENT - @ 2.4 MPa <sup>2</sup><br>176°F (80°C)<br>194°F (90°C) | > 12000 hr<br>> 6000 hr       | ASTM F1473       |
| Impact                                                                          | Nominal Value                 | Test Method      |
| Notched Izod Impact <sup>2</sup> (73°F (23°C))                                  | 9.1 ft-lb/in                  | ASTM D256A       |
| Thermal                                                                         | Nominal Value                 | Test Method      |
| Brittleness Temperature <sup>2</sup>                                            | < -103°F                      | ASTM D746A       |
| Melting Temperature (DSC)                                                       | 269°F                         | Dow Method       |
| Thermal Stability                                                               | > 428°F                       | ASTM D3350       |
| Additional Information                                                          | Nominal Value                 | Test Method      |
| Chlorine Resistance Level                                                       | 5.00                          | ASTM F2023/F2769 |
| Extrusion                                                                       | Nominal Value                 |                  |
| Melt Temperature                                                                | 380 to 450°F                  |                  |

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**Note:** These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests. <sup>1</sup>Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock. <sup>2</sup>Compression molded parts prepared according to ASTM D 1928 Procedure C. Properties will vary with changes in molding conditions and aging time. <sup>3</sup>Method 1 (3 point load). Pipe diameter of 10 inch IPS (25.4 cm) and Diameter Ratio (SDR) 11.