

# SUBMITTAL SHEET



JOB NAME:	ITEM TAG:
JOB LOCATION:	PART NUMBER:
CONTRACTOR:	DATE:
ENGINEER APPROVAL:	DATE:

## VIPERT™ Potable Tubing

- Manufactured from Bimodal Polyethylene, also known as Polyethylene of Raised Temperature (PE-RT) with a Cell Classification of PE445574A.
  - 25 Year limited warranty.
  - Wrapped with UV-blocking clear plastic wrap to protect the tubing from UV-light oxidation\*
  - Colored Blue, Red or White for ease of identification of hot and cold potable waterlines and is available in nominal tubing sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2" SDR-9 - CTS.
  - Pressure Rated 200 psi (1.38 MPa) @ 73° F (23° C)
  - Pressure Rated 100 psi (0.69 MPa) @ 180° F (82° C)
  - Chlorine Classification Code CL5 (100% at 140° F)
  - Linear Expansion Rate: 1.1" / 10° F / 100 ft. (2.79 cm / 5.56° C / 30.48 m)
- \* VIPERT™ Potable tubing must be stored indoors not exposed to direct sunlight**
- MARKINGS, SPECIFICATONS & CERTIFICATION:**
- VIPERT™ Potable tubing is marked with the name CB Supplies as the manufacturer, nominal size, plastic tubing material designation code PE-RT PE 4710, cell classification PE445574A and Chlorine Resistance Classification Code CL 5, manufacturing date and production code and the listing marks as identified in the table below.

### Certification Marks

Listing Organization	Listing Standard	Mark
NSF International	CSA B137.18	CSA
NSF International	ASTM F2769 / F2623	cNSFus
NSF International	NSF/ANSI 61 (Potable Water)	NSF –pw
NSF International	NFS/ANSI 372 Drinking Water System Components-Lead Content	NSF® 372
International Code Council (ICC-ES PMG)	International Plumbing Code® (IPC)us	ICC-ES PMG
IAPMO	Uniform Plumbing Code® (UPC)	
ULC/UL (Underwriters Laboratory of Canada)	CAN/ULC-S101 Fire Endurance Tests of Building Construction and Materials	
ULC/UL (Underwriters Laboratory of Canada)	UL263 Standard For Fire Tests of Building Construction and Materials	
Warnock Hersey**	CAN/ULC-S102.2: Standard Method of Test for Surface Burning Characteristics of building Materials	
Warnock Hersey**	ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials	

- ASTM F1807 - Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing.
- ASTM F2159 - Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing.
- ASTM F2098 - Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing to Metal Insert and Plastic Insert Fittings.
- ASTM F2023 - Standard Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene (PEX) Pipe, Tubing and Systems to Hot Chlorinated Water.

\*\*Listing for sizes up to 1"

### SDR-9 VIPERT POTABLE TUBING

ASTM F2769/CTS-OD SDR-9

Stock Code	Tubing Size	O. D.	Wall Thickness	Nom. I. D.	Available Coil Lengths	20' Length	Weight Per Ft.	Volume (Gal/100 ft.)
PRT2	3/8"	0.500" ± .003"	0.070" + .010"	0.360	(Special Order)	(Special Order)	0.0413	0.53
PRT3	1/2"	0.625" ± .004"	0.070" + .010"	0.485	100', 200', 250', 300', 500', 1000' & 1200'	Yes	0.0535	0.97
PRT4	3/4"	0.875" ± .004"	0.097" + .010"	0.681	100', 200', 250', 300' & 500'	Yes	0.1023	1.90
PRT5	1"	1.125" ± .005"	0.125" + .013"	0.875	100', 200', 250', 300' & 500'	Yes	0.1689	3.13
PRT6	1 1/4"	1.375" ± .005"	0.153" + .015"	1.069	(Special Order)	(Special Order)	0.251	4.52
PRT7	1 1/2"	1.625" ± .006"	0.181" + .019"	1.263	(Special Order)	(Special Order)	0.352	6.30
PRT8	2"	2.125" ± .006"	0.236" + .024"	1.653	(Special Order)	(Special Order)	0.599	10.80

## TECHNICAL INFORMATION

### MATERIAL PROPERTIES:

Property	Test Method	English Units	SI Units
Density	ASTM D1505	–	0.950 g/cc
Melt Index (190°C/2.16 k g)	ASTM D1238	–	0.1 g/10 min
Flexural Modulus <sup>1</sup>	ASTM D790B	152,000 psi	1050 MPa
Tensile Strength (Yield)	ASTM D638	>3,500 psi	>24.1 MPa
Coefficient of Linear Thermal Expansion (20 - 70°C)	DIN 53752A	8x10 <sup>-4</sup> /°F	1.95 x10 <sup>-4</sup> /°K
Hydrostatic Design Basis @ 73°F (23°C)	ASTM D2769	1600 psi	11 MPa
Hydrostatic Design Basis @ 180°F (82°C)	ASTM D2769	800 psi	5.5 MPa
Thermal Conductivity	ISO 22007-2.2	3.15 Btu-in/(hr)(ft <sup>2</sup> )(°F)	0.46 Watts/(m <sup>2</sup> )(°C)

1. 73°F

## QUALITY ASSURANCE

When the product is marked with ASTM 2769 and CSA B137.18 designations, it affirms that the product was manufactured, inspected, sampled and tested in accordance with these specifications and it has been found to meet the specified requirements.

### MINIMUM BURST PRESSURE (PSI)

Per ASTM F2769/CTS-OD SDR-9

Nominal Size	73.4° (23°C)	180° (82.2°C)
3/8"	945	345
1/2"	730	270
3/4"	720	265
1"	720	265
1 1/4"	720	265
1 1/2"	720	265
2"	720	265

### Notes:

## PRESSURE DROP TABLE

Expressed as PSI/FT Pressure Drop (US Gallons / Minute and Nominal I. D. used for calculation)

GPM	Size						
	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
1	.061	.014					
1.5	.130	.030					
2.2	.264	.062					
2.5	.334*	.078					
3	.468	.110	.021				
3.5	.623	.146	.028				
4		.187*	.036				
5		.283	.054				
6		.396	.076	.022			
7		.528	.101	.030			
8			.130	.038			
9			.161*	.048			
10			.196	.058	.022		
11			.234	.069	.026		
12			.275	.081	.031		
13			.381	.094	.035		
14				.108*	.041		
16				.138	.052	.023	
18				.172	.065	.029	
20				.209	.079	.035	
22				.249	.094*	.042	
24					.110	.049	
26					.128	.057	
28					.147	.065	
30					.167	.074*	
32					.188	.084	.023
34						.094	.025
36						.104	.028
38						.115	.031
40						.126	.034
46						.164	.044
52							.055*
80							.123

EXAMPLE: To calculate the pressure drop of a 1/2" line, 40 ft. long, with a 3 gpm flow rate, calculate .110 psi x 40 ft. = 4.4 psi pressure drop. Most plumbing codes require 8 psi residual pressure at the fixture. Refer to your local code requirements.

\*Indicates 8 fps maximum velocity allowed by some plumbing codes.

NOTE: Maximum flow for each size based on 12 fps velocity. PSI x 2.307 = head loss.



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