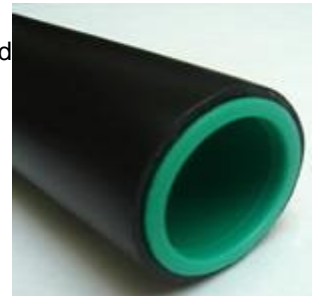


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cNSF - GEOTHERMAL PIPE
 GROUND SOURCE HEAT PUMP SYSTEMS

PRODUCT CODE	NOMINAL O.D.	NOMINAL I.D.	MINIMUM WALL	WEIGHT PER 100'	SDR	Coil Length
GT-16001	1.050	0.894	0.078	10.0	SDR 13.5	600
GT-16007	1.315	1.121	0.097	15.9	SDR 13.5	500
GT-16011	1.660	1.414	0.123	25.4	SDR 13.5	500
GT-16014	1.90	1.618	0.141	34.0	SDR 13.5	500
GT-16017	2.375	2.023	0.176	52.0	SDR 13.5	250 / 500
GT-16101	1.050	0.860	0.095	12.0	SDR 11	600
GT-16107	1.315	1.075	0.120	19.0	SDR 11	500
GT-16111	1.660	1.358	0.151	31.0	SDR 11	500
GT-16114	1.90	1.554	0.173	41.0	SDR 11	500
GT-16117	2.375	1.943	0.216	62.0	SDR 11	250 / 500

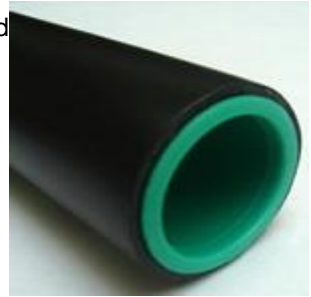
**TRIFUSE cNSF - GEOTHERMAL PIPE IS CERTIFIED TO CSA - C448 & CSA - B 137.1
 POLYETHYLENE (PE-3608) PIPE**



NSF-geothermal

ASK YOUR SALES REPRESENTATIVE ABOUT CUSTOM COIL / REEL LENGTHS

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cNSF - GEOTHERMAL PIPE
GROUND SOURCE HEAT PUMP SYSTEMS

Material and Technical Data Sheet

TriFuse cNSF - Geothermal Certified CSA-C448 & CSA-B137.1

Product Standards

All Trifuse Geothermal polyethylene pipe is manufactured with a high density virgin resin. Trifuse manufactures with a PE-3608 resin that meets the ASTM Standard Specifications as per D-3350 with a cell classifications of 345464C (345434 previous cell Classification) with an ultraviolet stabilizer code of A, D or E.

- The Plastic Pipe Institute standard grade listing as a PE-3608 material with a hydrostatic design basis of 1600 psi for water @ 23°C (73°F). The PPI Standard grade listing as a PE-3608 material with HDB of 800 psi for water @ 60°C (140°F).
- The Canadian Standards Association (CSA) B137.1 standard for potable water pipe as a PE-3608 (HDB 1600 psi) material.
- National Sanitation Foundation Standard 14 and standard 61 for potable water pipe and fittings.

Print Line : All Trifuse HDPE is printed with Yellow permanent print stating the following:



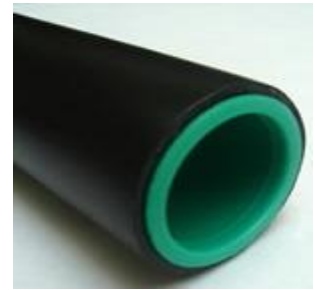
NSF-geothermal

Diameter	Gallons
3/4"	3.02
1"	4.73
1 1/4"	7.55
2"	15.36

Hydrostatic Design	
Temperature	Hydrostatic Design Basis
23°C (73°F)	1600 PSI
60°C (140°F)	800 PSI

TRIFUSE cNSF - GEOTHERMAL PIPE IS CERTIFIED TO CSA-C448 & B 137.1
POLYETHYLENE (PE-3408) PIPE
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cNSF - GEOTHERMAL PIPE
GROUND SOURCE HEAT PUMP SYSTEMS

PRODUCT DATA SHEET

Features

- Excellent ESCR
- Excellent toughness
- High strength
- Excellent processability
- Very high melt strength

Additive

- Antioxidants and processing stabilizers
- Melting Point stabilizers

Applications

- Pipes for pressure service from 1 inch (1 inch) to 1600 mm
- Municipal potable water pipe

Properties	ASTM(1)	Units	Typical Values(2)
Flow rate (3)	D 1238	g/10 min	8.5
Density (g/cc)	D 792	g/cm	0.945
Tensile Strength @ Yield (4)	D 638	Mpa (psi)	22.5 (3 250)
Ultimate Elongation (4)	D 638	%	850
Secant Flexural Modulus @ 2% Strain	e	MPa (psi)	850 (125 000)
Izod Impact Resistance @ 23°C / 73°F	D 256	J/cm (ft-lb/in)	3.7 (7)
Hardness, Shore D	D 2240	--	60
SCG Resistance, ESCR, Fo (5)	D 1693	hr	>5 000
SCG Resistance, PENT	F 1473	hr	> 100
Thermal Stability	D 3350	°C (°F)	260 (500)
Vicat Softening Point	D 1525	°C (°F)	124 (255)
Melting Point	D 3417	°C (°F)	128 (262)
Brittleness Temperature	D 746	°C (°F)	< -100 (< -150)
Coefficient of Linear Thermal Expansion	D 696	m/cm/°C (in/in/°F)	4x10 ⁻⁴ (0.8x10 ⁻⁴)
Pipe Properties (6)			
Long-Term Hydrostatic Strength, Nominal @ 23°C / 73°F	D 2837	Mpa (psi)	11 (1600)
Nominal @ 60°C / 140°F		Mpa (psi)	5.5 (800)

- Fuel gas pipe; re-lir (1) Properties designated have been determined in accordance with the current issues of the specified testing methods. Methods of the American Society for Testing and Materials (ASTM) are used wherever applicable.
- Storm and sanitary (2) Typical Values represent average laboratory values and are intended as guides only, not as specifications.

(3) Condition 190/21.6.

(4) Extension rate 2 inches/minute.

(5) Environmental stress crack resistance, Condition C, 100% Igepal.

(6) 1 in. nominal diameter laboratory pipe SDR13.5.



NSF-geothermal



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**TRIFUSE cNSF - GEOTHERMAL PIPE IS CERTIFIED TO CSA-C448 & B 137.1
 POLYETHYLENE (PE-3608) PIPE**

ASK YOUR SALES REPRESENTATIVE ABOUT CUSTOM COIL / REEL LENGTHS

PRESSURE LOSS CHART

Pressure Loss

Shown below are the pressure losses in PSI per 100 feet of pipe that can be expected from Trinus Polyethylene pipe depending on the flow and the diameter of pipe utilized.

PRESSURE LOSS - 100 FT

Flow Rate (Gal./Min.)	SDR-11 POLYETHYLENE PIPING				
	SDR-11 3/4" IPS - OD	SDR-11 1" IPS - OD	SDR-11 1 1/4" IPS - OD	SDR-11 1 1/2" IPS - OD	SDR-11 2" IPS - OD
1	0.23	0.07	0.02	0.01	0.00
2	0.83	0.27	0.09	0.04	0.01
3	1.76	0.57	0.18	0.09	0.03
4	2.99	0.96	0.31	0.16	0.05
5	4.52	1.46	0.47	0.24	0.08
6	6.34	2.04	0.65	0.34	0.11
7	8.44	2.72	0.87	0.46	0.15
8	10.80	3.48	1.11	0.58	0.19
9	13.44	4.33	1.38	0.73	0.24
10	16.33	5.27	1.68	0.88	0.29
12	22.89	7.38	2.36	1.24	0.41
14	30.45	9.82	3.14	1.65	0.55
16	39.00	12.57	4.02	2.11	0.70
18	---	15.64	5.00	2.62	0.87
20	---	19.01	6.08	3.19	1.06
22	---	22.68	7.25	3.80	1.26
24	---	26.64	8.52	4.47	1.48
26	---	30.90	9.88	5.18	1.72
28	---	---	11.33	5.94	1.97
30	---	---	12.88	6.75	2.24
34	---	---	16.23	8.52	2.82
38	---	---	19.95	10.46	3.47
42	---	---	24.01	12.60	4.17
46	---	---	---	14.91	4.94
50	---	---	---	17.40	5.76
54	---	---	---	20.06	6.65
58	---	---	---	22.90	7.59
62	---	---	---	---	8.58
66	---	---	---	---	9.64
70	---	---	---	---	10.75
78	---	---	---	---	13.13
86	---	---	---	---	15.73
94	---	---	---	---	18.55
102	---	---	---	---	21.58