



21670 Hamburg Avenue ◇ Lakeville, MN 55044

Tel: (952) 469-2198 ◇ Fax: (888)-270-9447

**PRODUCT TYPE –**

Geothermal pipe as manufactured by Polyethylene Technology, Inc. for geothermal heating & cooling and Potable water applications.

**Resin Compounds –**

Polyethylene materials used shall be of High Density Polyethylene (HDPE), meeting 1600 Design Stress @ 23°C or 1000 Design Stress @ 60°C applicable requirements for PE4710 pipe & tubing as defined by ASTM D3350, Cell Classification 445576C with a minimum 2% carbon black as an UV inhibitor.

**Geothermal pipe shall conform to the specifications as noted below -**

Pipe and Tubing shall be Permanently Indented every two-feet along the pipes barrel - identifying the pipe or tubing with Manufacturers name or Logo, Pressure rating, Nominal size, NSF-pw Logo, and QC control codes.

**PIPE -**

All SDR ratings of Polyethylene Technology Geothermal Pipe are manufactured from the materials stated herein - ASTM D 3035 & listed by the NSF International Standard 14, 61 & 358. SDR's 7, 9 & 11 conform to AWWA C901 for "Oxidative Resistance Classification" with a CC3 rating.

**ACCREDITATION -**

Polyethylene Technology, Inc. hereby certifies that all SDR categories of our Geothermal pipe meets and/or exceeds the standards stated within.

**WARRANTY -**

Geo Thermal pipe manufactured by Polyethylene Technology, Inc. is warranted for a period of 50 years, as specifically defined in our official limited warranty.

**FEATURES OF OUR GEOTHERMAL PIPE -**

- ***PERMANENTLY INDENTED PRINT WITH Sequential Footage Marking EVERY 2 FEET***
- **COLOR PRINT STATEMENT (White Only)**
- **COLOR CODED COIL LABELS**
- **BAR CODED LABELS**
- **COILS BUNDLED, STRETCH WRAPPED AND PALLETIZED**
- **PRESSURIZED COILS WITH HEAT SEALED, CRIMPED ENDS THROUGH 1-1/4" & 1-1/2" – 2" COILS & STRAIGHT LENGTHS HAVE PLUGGED ENDS**
- **U-BEND COILS ARE FACTORY PRESSURE TESTED UPON FUSE COMPLETION**



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**GEO THERMAL 125 PSI, PE4710 ASTM D-3035 SDR 17, NSF LISTED**

Size	O.D.	I.D.	Wall	WT/100'
3/4"	1.050"	.926"	.062"	8.2#
1"	1.315"	1.161"	.077"	12.8#
1-1/4"	1.660"	1.464"	.098"	20.6#
1-1/2"	1.900"	1.676"	.112"	26.9#
2"	2.375"	2.095"	.140"	42.1#

**GEO THERMAL 138 PSI, PE4710 ASTM D-3035, SDR 15.5, NSF LISTED**

Size	O.D.	I.D.	Wall	WT/100'
3/4"	N/A	N/A	N/A	N/A
1"	1.315"	1.145"	.085"	13.9#
1-1/4"	1.660"	1.446"	.107"	22.3#
1-1/2"	1.900"	1.654"	.123"	29.4#
2"	2.375"	2.069"	.153"	45.7#

**GEO THERMAL 160 PSI, PE4710 ASTM D-3035, SDR13.5, NSF LISTED**

Size	O.D.	I.D.	Wall	WT/100'
3/4"	1.050"	.894"	.078"	10.2#
1"	1.315"	1.121"	.097"	15.9#
1-1/4"	1.660"	1.414"	.123"	25.4#
1-1/2"	1.900"	1.618"	.141"	33.3#
2"	2.375"	2.023"	.176"	52.0#

**GEO THERMAL 200 PSI, PE4710 ASTM D-3035, SDR 11, NSF LISTED**

Size	O.D.	I.D.	Wall	WT/100'
3/4"	1.050"	.860"	.095"	12.2#
1"	1.315"	1.077"	.120"	19.1#
1-1/4"	1.660"	1.358"	.151"	30.6#
1-1/2"	1.900"	1.554"	.173"	40.2#
2"	2.375"	1.943"	.216"	62.7#

**GEO THERMAL 250 PSI, PE4710 ASTM D-3035, SDR 9, NSF LISTED**

Size	O.D.	I.D.	Wall	WT/100'
3/4"	1.050"	.818"	.117"	14.6#
1"	1.315"	1.023"	.146"	22.9#
1-1/4"	1.660"	1.292"	.184"	36.5#
1-1/2"	1.900"	1.478"	.211"	47.9#
2"	2.375"	1.847"	.264"	74.9#

**Geothermal** Specification for polyethylene plastic molding and extrusion material – PE 4710

**Typical Raw Material Properties**

	Values		ASTM Method
	English Units	SI Units	
<b>Density</b>			
Natural		0.949 g/cc	D 4883
Black		0.959 g/cc	
<b>Melt Index 190°C/ 5.0 kg</b>		.30 g/10min	D 1238
<b>Melt Index 190°C/ 21.6 kg</b>		8.5g/10 min	D 1238
<b>Tensile Strength (2 in/min)</b>			
@ Yield	3540 psi	24.4 MPa	D 638
@ Break	5100 psi	35.2 MPa	D 638
<b>Elongation (2 in/min)</b>			
@ Break	>600%	>600%	D 638
<b>2% Secant Modulus</b>	130,000 psi	900 MPa	D 790
<b>DSC Induction Temperature</b>	500° F	260° C	D3350
<b>Hardness (Shore D)</b>	64	64	D 2240
<b>Vicat Softening Point</b>	259° F	126° C	D 1525
<b>Brittleness Temperature</b>	<-180° F	<-118° C	D746
<b>Thermal Stability</b>	464° F	240° C	D3350
<b>Hydrostatic Design Basis</b>			
@23° C	1600 psi	11.0 MPa	D 2837
@60° C	1000 psi	6.9 MPa	D 2837
<b>Notch Tensile (PENT) (hrs.)</b>	>2000	>2000	F 1473
<b>Minimum Carbon Black Concentration</b>	2%	2%	D 1603
<b>Cell Classification</b>	445576C	445576C	D 3350
<b>Oxidative Resistance Classification</b>	CC3	CC3	D3350