



High Density Polyethylene Pipe for Geothermal Applications

Thermal-Line is used for general geothermal applications, such as the piping used when heating water circulated in underground geothermal circulation systems. Thermal-Line can also be used as the pipe of choice in installing these systems in residential housing and other developments. A blue strip is used to identify Thermal-Line and special type can be added in the print line. Upon request, A U-bend connection can be added during manufacturing, making it ready to connect to the coil system, once delivered to the project site. Thermal-Line is almost always shipped as coils.

Thermal-Line is part of United Poly Systems Earth-Line™ suite of products and is ideal for many renewable-related pipeline applications. United Poly Systems is committed to using sustainable material for a sustainable future.

- No corrosion when compared to copper pipe
- HDPE fusion joints are stronger than solder joints
- Lower cost Longer life span, 50 to 100 years
- Flexibility of HDPE pipe, compared to metal pipe, aids in installation
- More installation methods available for HDPE (open cut, directional drilling) compared to copper pipe

Product Information

Thermal-Line is manufactured to meet or exceed the below standards and specifications:

- Potable water – NSF
- AWWA C901 (¾ to 3 in.)
- AWWA C906 (4 in. and up)

Thermal-Line is manufactured in IPS (iron pipe size) and DIPS (ductile iron pipe size), 4 inches and up.

Material requirements for Thermal-Line meets or exceeds ASTM Standard D3350 requirements. Materials produced for water application must meet or exceed ASTM D3035.

Print line Information

Thermal-Line typically contains a blue stripe to identify water use.

The product may include “GEO” or other variant within the printline for identification.

PE4710 Typical Physical Properties

Property	Typical Value	Units	Test Method
Density with minimum 2% carbon black	0.960	g / cc	ASTM D 792 or 1 505
High Load Melt Index	8.5	g / 10 minutes	ASTM D 1238
Melt Index	0.08	g / 10 minutes	ASTM D 1238
Flexural Modulus	160,000	psi	ASTM D 790
Tensile Strength @ yield (2 in / min)	3600	psi	ASTM D 638
Tensile Elongation @ Break	740%		ASTM D 638
Thermal expansion	1.0 x 10 ⁻⁴	in / in / 0	ASTM D 696
HDB 73.4°F (23°C)	1600	psi	ASTM D 2837
HDB 140°F (60°C)	1000	psi	ASTM D 2837
PENT	> 500	hr	ASTM F1473
Brittleness Temperature	< -103°F (-75°C)	°F	ASTM D 746
Cell Classification	445574C (black only)		ASTM D 3350

These are nominal values and used as guidelines only.
This is not a product specification and does not indicate minimum or maximum operating values.