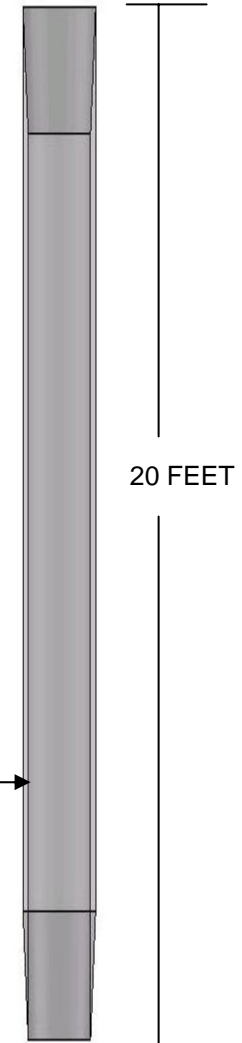


Thermacouple® Earth Energy System Outer Tube Specifications:



Dimensions and Ratings		
Outside Diameter	3.54	Inches
Inside Diameter	3.36	Inches
Section Length	20	Feet
Weight	0.9	Lb/ft
Fluid Capacity	.46	Gal/ft
Maximum Internal Pressure at 75 °F	400	Psig
Maximum External Pressure at 75 °F	38	Psig
Allowable Tensile Load at 75 °F	1830	Lbs
Allowable Compressive Load at 75 °F	5000	Lbs
Average Physical Properties at 75 °F		
Axial Tensile Stress – Ultimate	7500	Psi
Axial Compressive Stress – Ultimate	20,000	Psi
Hoop Tensile Stress, Ultimate, ASTM 1599	22,000	Psi
Flow Factor – SF / Hazen Williams Coefficient	150	
Surface Roughness	1.7×10^{-5}	Ft.
Manning's "n"	0.009	Inch
Pipe Stiffness	125	Psi



Outer Tube:

Inside Diameter = 3.36 inches

Outside Diameter = 3.54 inches

The Thermacouple® Outer Tube is manufactured by Kelix Heat Transfer System's partner Fiber Glass Systems, makers of time tested quality composite pipe for over 50 years.

