HakaGerodur

Technical data sheet

GEROtherm® ANERGIE

Connecting tubes for elevated temperatures

PE100-RT-RC

PN 16

horizontal connection of GEROtherm® geothermal probes

GEROtherm® ANERGIE connecting tube for elevated temperatures PN16

Material	Polyethylene PE100-RT-RC (RT=raised temperature; RC=resistance to crack)
Tube design	**Connecting tube SDR11/S5/PN16***1 with smooth ends, black with violet marking stripes from the material PE100-RT-RC in pipe diameters according to the price list.
Application	Horizontal connection of GEROtherm® Geothermal probes
Delivery form	▪ 5.0 or 10.0m tubes-rods ▪ Coils in lengths of 50 – 200 m according tot he price list
Regulations	SIA 384/6; DIN EN 12201-2; DIN EN ISO 22391; VDI 4640
marking	{GEROtherm} {ANERGIE} {Swiss made} {dn*2 x en*3} {PE100-RT-RC} {S5} {SDR11} {PN16} {DIN EN 12201} {Part No.} {Machine No.} {Date} {Production No.} {numbre of meters}
Physical properties	
Density PE100-RT-RC	0.95 – 0.97 g / cm^3
Pipe roughness	0.03 mm
Minimum bending radius at 0°C	50 x dn*2
Minimum bending radius at 10°C	35 x dn*2
Minimum bending radius at 20°C	20 x dn*2
Mechanical properties	
Tensile modulus of elasticity (23°C, v = 1 mm/min, secant)	1100 MPa
Yield stress (23°C, v = 50 mm/min)	>25 MPa
Tensile deformation (23°C, v = 50 mm/min)	<10 %
FNCT (4.0 MPa, 2% Arkopal N100, 80°C)	>/= 8760 h
Failure strain	>/= 600%
Mean thermal coefficient of linear thermal expansion	0.18 mm/m K
Hardness	
Shore hardness (Shore D (3 sec))	59
Thermal properties	
Maximum temperature (briefly)	+ 95°C *4
Minimum temperature	- 30°C
Thermal conductivity	~0.4 W/mK
Chemical properties	
The HakaGerodur GEROtherm® geothermal systems are resistant to the common heat transfer media. Refer to the Technical Manual for the suitable heat transfer media.	

*1 @ 20°C
*2 dn = outside pipe diameter
*3 en = pipe wall thickness
*4 The expected service life of the material depends on the operating temperature and time as well as the internal pressure. To calculate the load limits using the damage accumulation rule (Miner's rule) in accordance with SN EN ISO 13760 (for an object-specific definition, you must specify the annual frequency-temperature profile and the internal pressure.)