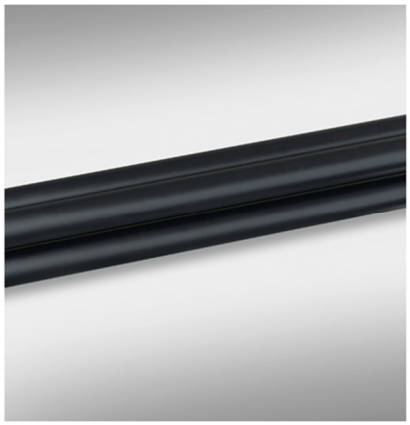
HakaGerodur



Technical data sheet

GEROtherm® VARIO-RT

The conical, pressureoptimized geothermal probe
for elevated temperatures and cracking resistance from the material PE100-RT-RC*
PN16 up to PN20 @20°C
dn 40 x 3.7 - 4.5

GEROtherm® VARIO-RT the conical pressureoptimized geothermal probe for elevated temperatures and cracking resistance from the material PE100-RT-RC* PN16 up to PN20 @20°C

Material	Polyethylene PE100-RT-RC* (RT=raised temperature; RC=resistance to crack)
Geothermal probe design	▪ **Two geothermal probe feet, PN25@20°C**, made of the material PE100-RT-RC*, U-shaped with dirt trap and a minimal pressure drop of <10 mbar at 1.0 m/s, a fixture for securing weights as an aid to installation, plus a reinforcement brace for the GEROtherm® PUSH-FIX impact-resistant sleeve ▪ **Four conical pipes for double-U probes from pipe series PN16 up to PN20 @ 20°C** made of the material PE100-RT-RC* in the pipe outside diameter 40 × 3.7 - 4.5 mm; with double metering and flow direction indication (forward/return flow) ▪ **Patent: EP 2 706 308 ; EP 2 395 301 ; CH 717 800 A2**
Installation and operation	The part of the geothermal system down in the soil must withstand the pressures and temperatures that occur. The applicable standards must be observed.
Delivery form	Rolls on a pallet covered with protective film: each individual probe foot packed in a protective pouch with a factory certificate and serial number in accordance with EN 10204 2.2.
Regulations	SIA 384/6; DIN EN 12201-2; DIN EN ISO 22391; VDI 4640; Patent no. EP 2 706 308 ; EP 2 395 301 ; CH 717 800 A2 and
Geothermal probe marking	{Direction of flow} {GEROtherm VARIO-RT} {Erdwärmesonde/Geothermal probe} {Swiss made} {EP 2 706 308; EP 2 395 301; CH 717 800 A2} {40 x 3.7-4.5} {PE100 RT-RC} {SDR11-9} {PN16-20} {DIN EN ISO 22391} {Part No.} {Machine No.} {Date} {Production No.} {Double metering}
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
Minimum bending radius at 10°C	35 x dn
Minimum bending radius at 20°C	20 x dn
Mechanical properties	
Tensile modulus of elasticity (23°C, v = 1 mm/min, secant)	900 MPa
Yield stress (23°C, v = 50 mm/min)	23 MPa
Tensile deformation (23°C, v = 50 mm/min)	9 %
FNCT (4.0 MPa, 2% Arkopal N100, 80°C)	>/= 8760 h
Failure strain	>/= 350%
Mean thermal coefficient of linear thermal expansion	0.18 mm/m K
Hardness	
Shore hardness (Shore D (3 sec))	63
Thermal properties	
Maximum temperature (briefly)	+95°C [1)]
Minimum temperature	- 20°C
Thermal conductivity	~0.4 W/mK
Specific thermal capacity	1.9 J/g K
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.	

* Geothermal probes made from PE100-RT-RC is a protected technology. Patent No. CH 717 800 A2

1) 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.)

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