HakaGerodur

Technical data sheet

GEROtherm® VARIO

The conical, pressureoptimized geothermal probe

PN16 up to PN20

dn 50 x 4.6 – 5.6

GEROtherm® VARIO the conical pressureoptimized geothermal probe PN16 up to PN20

Material	Polyethylene PE100-RC (RC=resistance to cracking)
Geothermal probe design	▪ **Two geothermal probe feet, PN25**, 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 PN 16 up to 20** made of the material PE100-RC in the pipe outside diameter 50 × 4.6 – 5.6 mm; with double metering and flow direction indication (forward/return flow) ▪ **Patent: EP 2 706 308**
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; SKZ HR3.26 A278; VDI 4640; KOMO®(K84660/02); DIN EN 12201-2
Geothermal probe marking	{Direction of flow} {GEROtherm VARIO} {Erdwärmesonde/Geothermal probe} {Swiss made} {EP 2 706 308} {50 x 4.6-5.6} {PE100 RC} {SDR11-9} {PN16-20} {Tmax 40°C} {DIN EN 12201-2} {SKZ A278}/{KOMO K84660} {Part No.} {Machine No.} {Date} {Production No.} {Double metering}
External monitoring	SKZ (Süddeutsches Kunststoffzentrum, Würzburg/Germany) KOMO®(Kiwa Nederland B.V)
Physical properties	
Density	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	+ 40°C
Minimum temperature	- 20°C
Thermal conductivity	~0.4 W/mK
Specific thermal capacity	1.9J/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.	

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