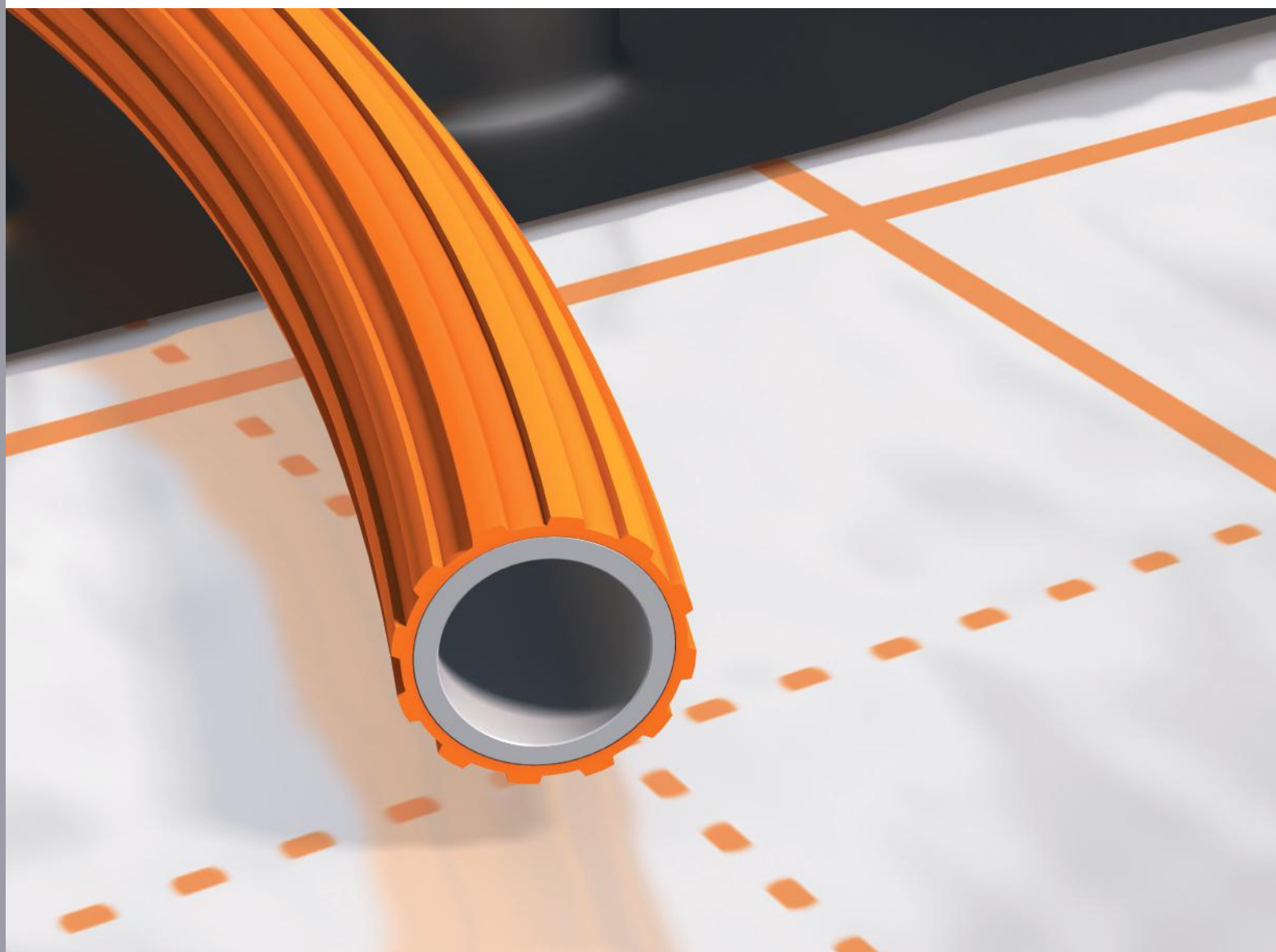




# ProFile

ALUMINIUM. MULTI-LAYER. COMPOSITE PIPE.  
The VarioProFile pipe. 16x2 Laser.



VIDEO

[www.variotherm.com](http://www.variotherm.com)  
**VARIOTHERM**



# 1 PIPE. MANY. APPLICATIONS.

## DEVELOPED BY VARIO THERM

The **VarioProFile pipe** uses the advantages of both aluminium and plastic. It combines five interconnected layers. That guarantees a slightly flexible yet dimensionally stable pipe.

The innermost layer is made of polyethylene and extremely temperature resistant. The inner surface is smooth as glass, making it impossible for deposits to form. The water flows through the pipe without resistance and with minimal pressure losses.

The profiled surface structure increases the outermost layer of the pipe by up to 15%. The larger surface means optimised heat transfer compared with other pipes with the same diameter.

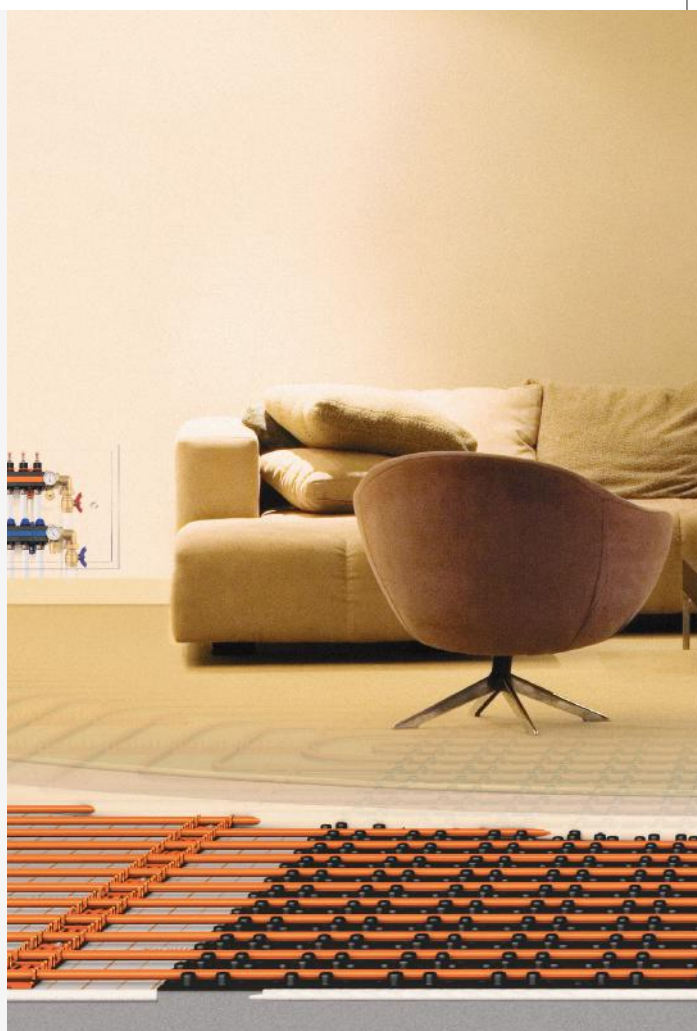
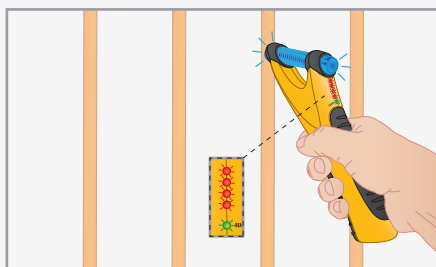
## AIRTIGHT AND IN SHAPE

100% oxygen diffusion-tight thanks to the laser-welded aluminium pipe: The metal prevents oxygen penetration. That virtually rules out potential silting.

The aluminium layer guarantees elongation up to nine times lower than PEX pipes. That means the VarioProFile pipe is ideal for surface heating and cooling systems.

## RELIABLE LOCATION

The Variotherm pipe locator makes it easy to find the aluminium multi-layer composite pipes at any time after installation.

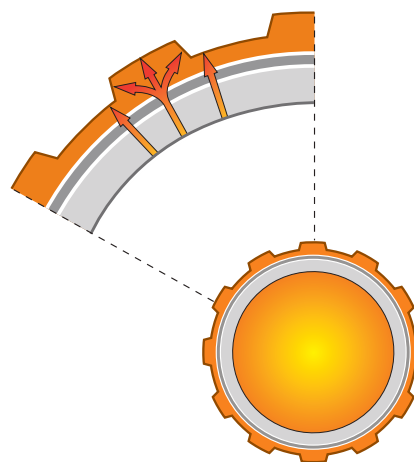


floor heating system

# FLEXIBLE. APPLICATIONS.

The VarioProFile pipe is as flexible as the Variotherm world of products itself and is used in the following systems:

- Floor heating for screed floors
- Plastered system wall heating/cooling



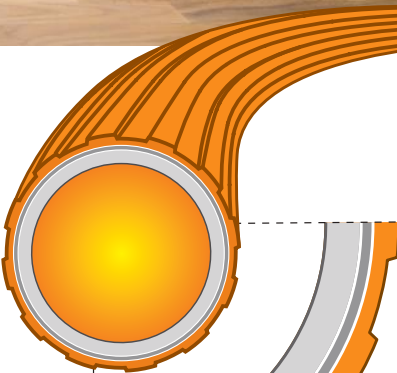
VarioProFile pipe  
16x2 Laser



system wall heating/cooling

VARIOPROFILE-PIPE 16x2 LASER  
5-layer composite pipe

- 1 Raised temperature resistance polyethylene PE-RT
- 2 Adhesive layer
- 3 Homogeneous laser-welded solid aluminium pipe
- 4 Adhesive layer
- 5 Raised-temperature-resistance PE-RT with profiled surface structure for optimised heat transfer.



CHANGE IN LENGTH

Change in length of various pipe materials  
for a length of 10 m and a change in temperature  $\Delta t$  of 25 °C (e.g. from 20 °C to 45 °C)

| Pipe material |                  | Change in length |
|---------------|------------------|------------------|
| Plastics      | PEX (VPE)        | 50,00 mm         |
|               | PP               | 42,50 mm         |
|               | PB               | 32,50 mm         |
|               | PVC              | 20,00 mm         |
|               | VarioProFil pipe | 5,75 mm          |
| Metals        | Cu               | 4,20 mm          |
|               | Stainless steel  | 3,50 mm          |
|               | Steel            | 2,88 mm          |

The high expansion coefficient of homogeneous plastic pipes causes very high expansion forces in the component.

The Variotherm pipe Laser is ideal for use as a surface heating and cooling pipe due to the very low changes in length and thermal expansion force.

VIDEO  
floor heating system



VIDEO  
system wall heating/cooling

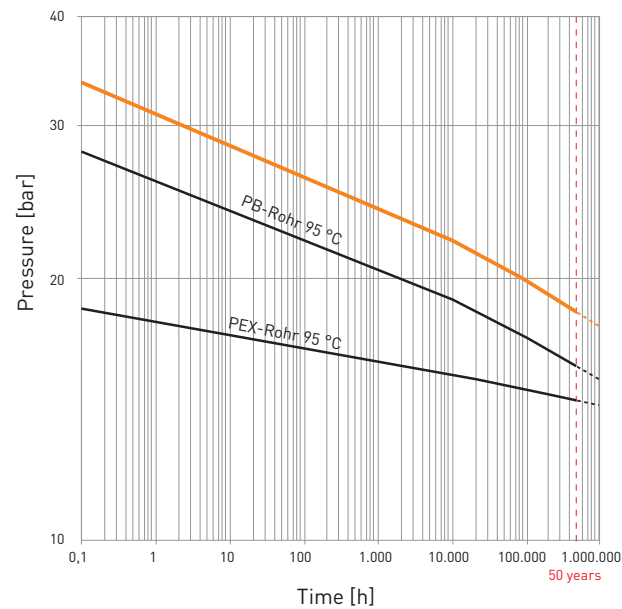


# TECHNICAL PROPERTIES. FACTS. ADVANTAGES.

## ADVANTAGES

- Profiled surface structure for optimised heat transfer
- First-class plaster adhesion for wall heating systems
- Fully corrosion-free
- Optimum creep behaviour
- High thermal conductivity
- High pressure and temperature resistance (10 bar, +95°C)
- Flexible, easy to bend, extremely good hydrostatic stability
- 100 % oxygen diffusion-tight
- Resistant to hot water additives
- Mirror-smooth inner surface – less pressure loss – no encrustation
- Lower linear coefficient of expansion, lower heat expansion forces
- 10-year guarantee with certificate
- Tested as per EN 21003 (IMA Dresden), SKZ A 397

## CREEP BEHAVIOUR



## TECHNICAL DATA

|                                                                       | VarioProFile pipe 16x2 Laser            |
|-----------------------------------------------------------------------|-----------------------------------------|
| Pipe diameter                                                         | 16,0 mm                                 |
| Pipe wall thickness                                                   | 2,0 mm                                  |
| Aluminium thickness                                                   | 0,18 mm                                 |
| Roll length                                                           | 100/300/500 m                           |
| Water content                                                         | 0,113 l/m                               |
| Especially narrow bending radius<br>(with suitable bending equipment) | 40 mm                                   |
| Mean heat conduction coefficient $\lambda$                            | 0,45 W/mK                               |
| Thermal resistance $R_{\lambda}$                                      | 0,0045 m <sup>2</sup> K/W               |
| Max. operating temperature $t_{max}$                                  | 95 °C                                   |
| Can be exposed for short periods to $t_{mal}$                         | 110 °C                                  |
| Max. operating pressure $p_{max}$                                     | 10 bar                                  |
| Linear expansion coefficient                                          | 2,3x10 <sup>-5</sup> [K <sup>-1</sup> ] |

## VARIOTHERM HEIZSYSTEME GMBH

GÜNSELSDORFER STRASSE 3a  
2544 LEOBERSDORF  
AUSTRIA

T: +43 2256 648 70 0  
F: +43 2256 648 70 9

office@variotherm.com

www.variotherm.com



IMA quality mark for Variotherm pipes Laser

