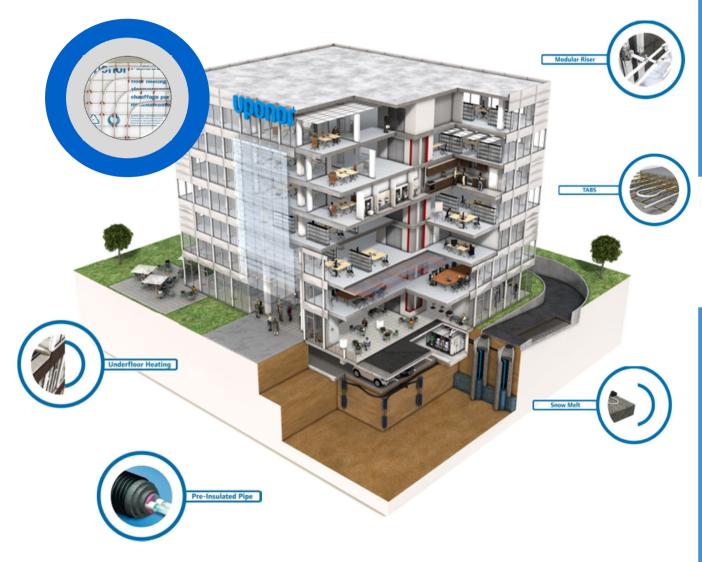


#### **Uponor Classic System**



Uponor simply more



Uponor simply more

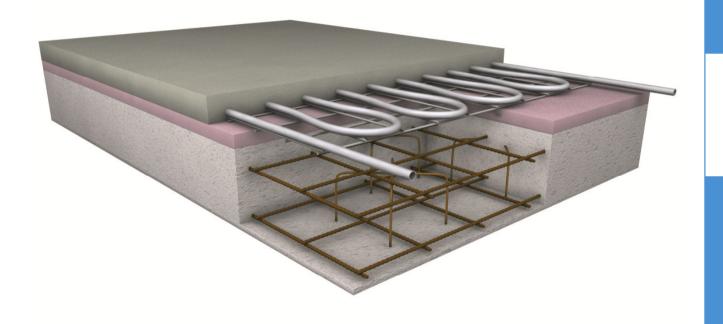
Advanced underfloor Heating & Cooling solutions – creating comfort in your home.

## **Uponor Classic System**



Uponor simply more

## **Uponor Classic System**



Uponor simply more



#### **Uponor Classic System is ideal for:**











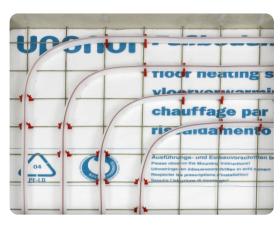


- House construction in general
- Office and administrative buildings
- Prisons and reformatories
- Research facilities,
   laboratories, food-industry
   plants
- Bars and restaurants
- Shopping malls, market halls and exhibition centers
- Indoor and outdoor swimming pools
- Open areas and green spaces
- Garages, pavements, driveways

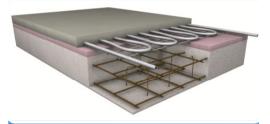


#### **Your Benefits at a Glance:**

- Excellent behaviour
- Hygienic in operations
- Easy to install 2-man installation
- Space saving
- Environmentally friendly
- Cost efficient
- Maintenance free
- Free configuration of loops
- Pipe fixation with cable ties, later correction possible





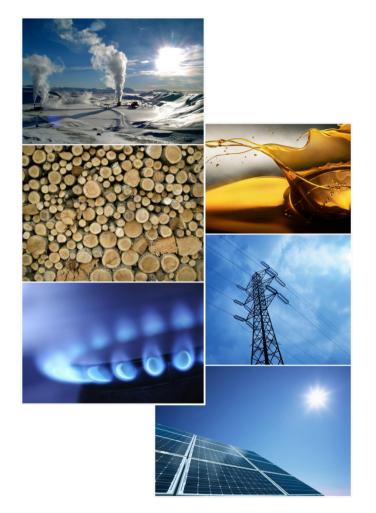


#### **Clean and Healthy Environment**

- The Uponor underfloor heating system allows natural air movement. Thus dust and other pollen are not spread so quickly through the home, making the house a heathier and cleaner place to live in.
- There are no radiator to gather dirt or cause injury, from scalding for example.
- Because the floor surface is warm, cleaning and drying is made quick and easy, quick-drying floors being particular benefit in bathroom and hallways.



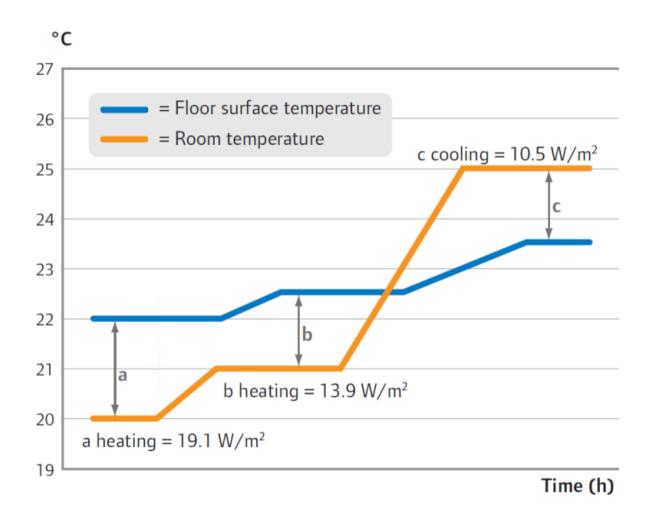
#### **Adaptable Easy to Install**



- The Uponor underfloor
  heating system is
  adaptable to a variety of
  energy sources:
  geothermal, wood, gas,
  oil, electricity or solar
  power.
- It adapts to practically all kinds of flooring and can also be combined with other types of heating systems should the nedd arise.
- It is also easy to install.

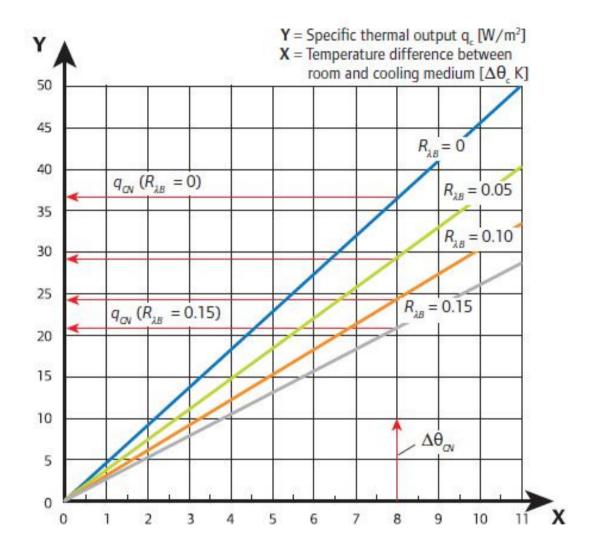


## **Self-regulating Effect**

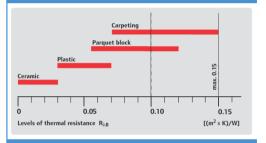


Self-regulating effect
 when the energy
 exchange between
 the surfaces and the
 room is either positive
 or negative.

#### **Floor Surface Resistance**

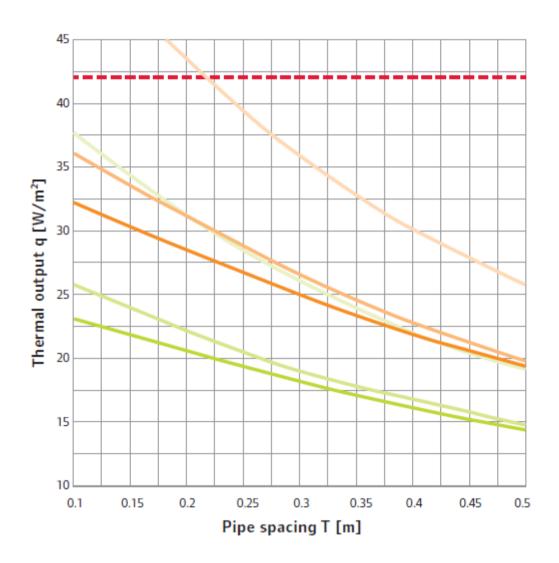


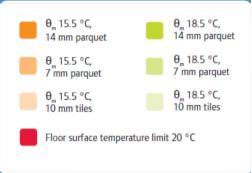
The thermal resistance in the surface construction has a big influence on the performance of the emitter.



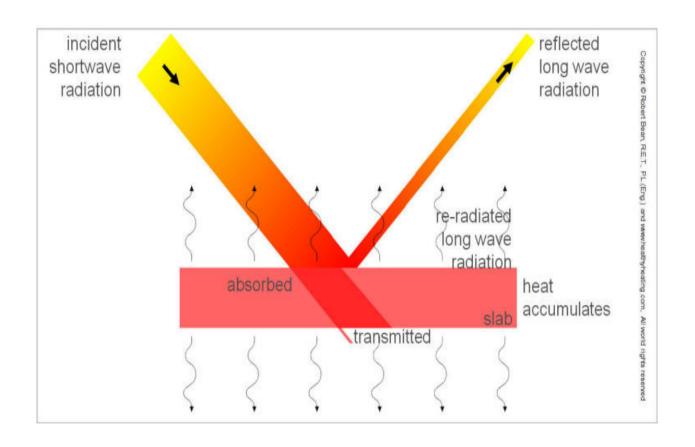
In order to get the highest efficiency, the resistance value has to be as low as possible.

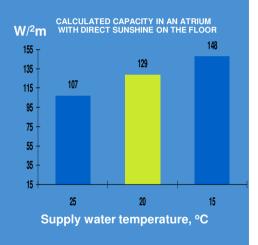
#### **Uponor Classic System Capacity**





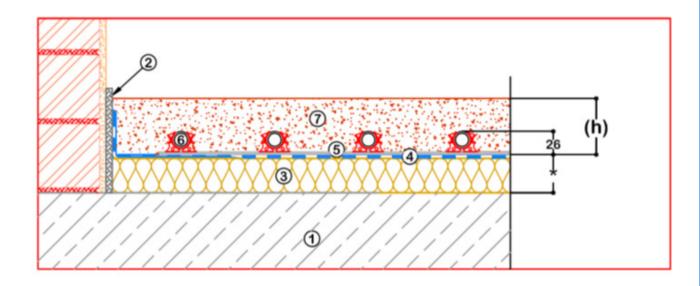
#### **Short Wave Absorption**





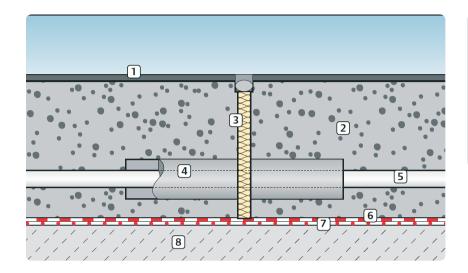


#### **Installation**



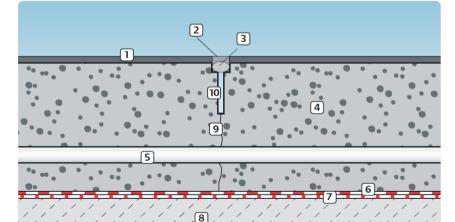
- 1. Sub base
- Edge insulation material profile with sealing skirt
- 3. Slab insulation
  (usually 20-100mm)
  not included in Uponor
  quotation
- 4. PE- Foil
- Steel mesh with fixing grid/cable tie
- 6. Uponor PE-Xa pipe
- 7. Screed

#### **Installation**



#### Legend

- 1 Floor covering
- 2 Screed
- 3 Gap
- 4 Pipe conduit
- 5 Uponor pipe
- 6 Splitting layer
- 7 Building damp
- 8 Penetration layer



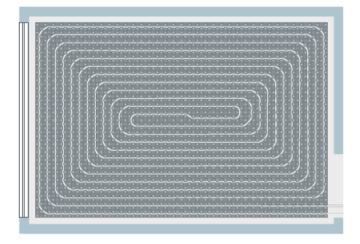
#### Legend

- 1 Floor covering
- 2 Filling
- 3 Moos-gum
- 4 Screed
- 5 Uponor pipe
- Splitting layer
- 7 Building damp
- 8 Penetration layer
- 9 Fine crack
- 10 Shrinking crack

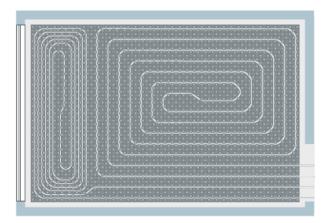
Figure 3.20 Shrinking joint

- Expansion / Movement Joints
- The Uponor system does not influence expansion joint planning. Heating pipes that cross expansion joints should be protected using 1 m protective pipe sheathing due to the anticipated mechanical loading in the area of the joint. Pipe design should be undertaken such that no movement joints are crossed.
- Induced / Sawn Joint
- A protective pipe sheath is not required for induced or sawn joints. The joints can be sealed by making a subsequent cut of approx. 25 mm depth and using a suitable special sealing compound with partial filling using cellular rubber. Other standard joint profile techniques can also be used too.

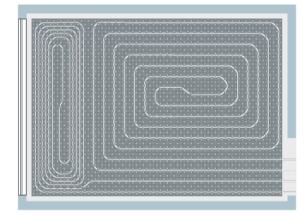
#### **Loop Configuration**



Entire room is connected as a loop



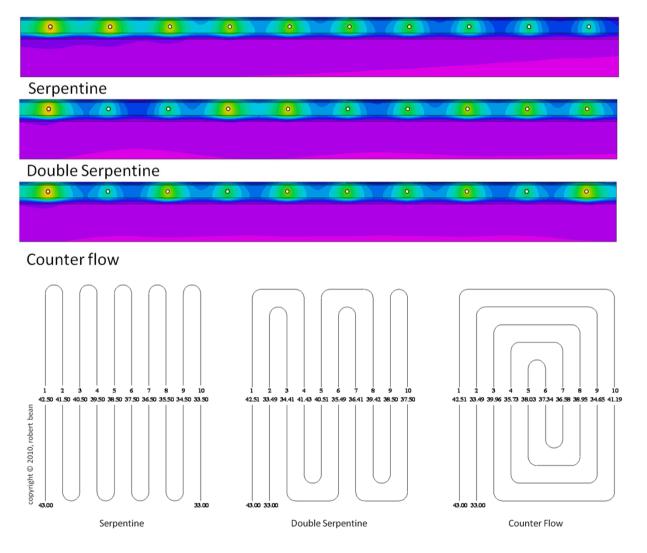
Separate loops in peripheral and occupied zone



A loop with combined zone layout

Uponor pipes can be laid out in any standard way. There are three main types of loop configuration for underfloor heating and cooling. The choice of configuration depends on the construction techniques, room shape and practices in different countries. In general when pipe layout plans are being formulated, attention should be paid first routing the supply flow to the external walls or other potential cold/warm areas.

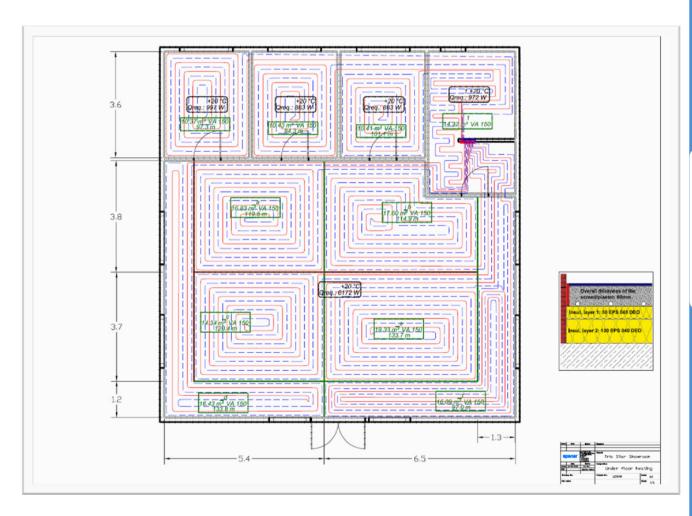
## **Pipe Laying & Temperature**







# **Uponor Classic System Drawing Sample**





#### **Control Stations**



Our wide range of control stations are used to control water temperature for the underfloor heating system when connected to radiator heating.

- Compact design
- Perfectly matching
   Uponor manifold
- Available for room sizes
   from 15 to 300 sqm
- Simple constant or advanced electronically weather compensated water temperature control

#### **Uponor Control**



- Safe transmission frequency, 868
   MHz, KNX standard
- · Modern design

- Operation with standard batteries
- Wireless: no planning expenses for electrical wiring and conduits

- Flexible positioning of the room thermostat as required
- Control according to the temperature felt – feels nearly like a human being
- Adjustment of room temperature modes in 5 time zones
- Vacation mode
- Room thermostat with temperature indication
- Central operating module indicates sensor settings
- Retrofitting available
- Also available for radiant cooling
- Perfectly matching components

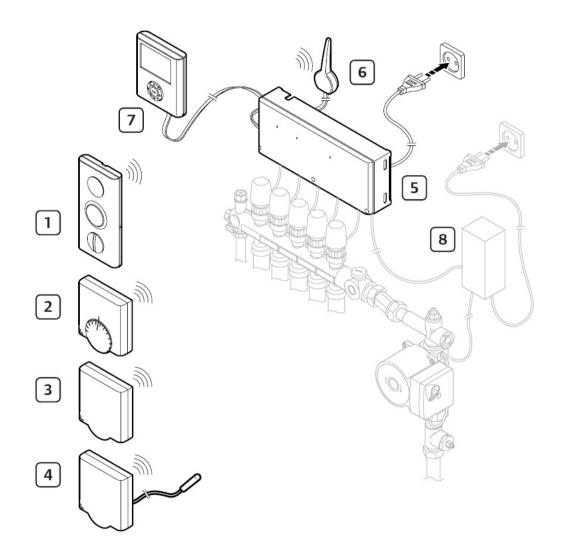
#### **Components**

- Uponor Controller C-56
- Uponor interface I-76
- Uponor Thermostat with display
   T-75, Thermostat T-55, and
   Thermostat T 54 Public
- Uponor Radio 24V Remote
   Access Module R-56, need to be
   connected with T-54
- Uponor manifold and 24V
   Actuator





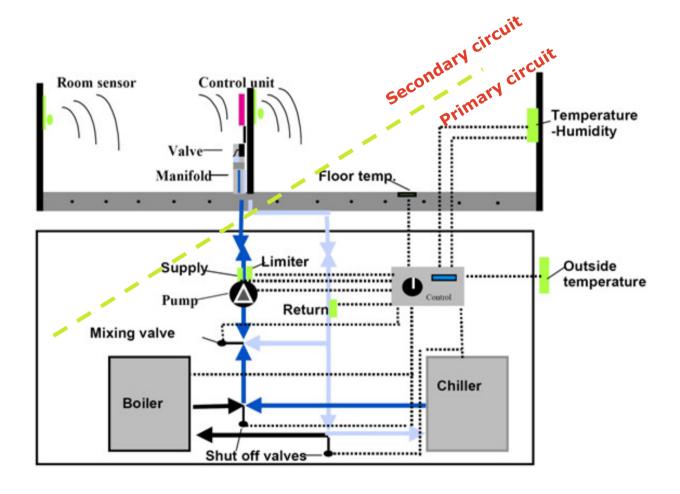
#### **Connection**



- 1. Uponor Thermostat with display T-75
- 2. Uponor Thermostat T-55
- 3. Uponor Thermostat T-54
  Public
- 4. Uponor Thermostat T-54
  Public with sensor
- 5. Uponor Controller C-55/56
- 6. Uponor Antenna for controller C-55/56
- 7. Uponor Interface I-75/76
- 8. External connection box for pumps (third-party product, just schematic example in illustration)

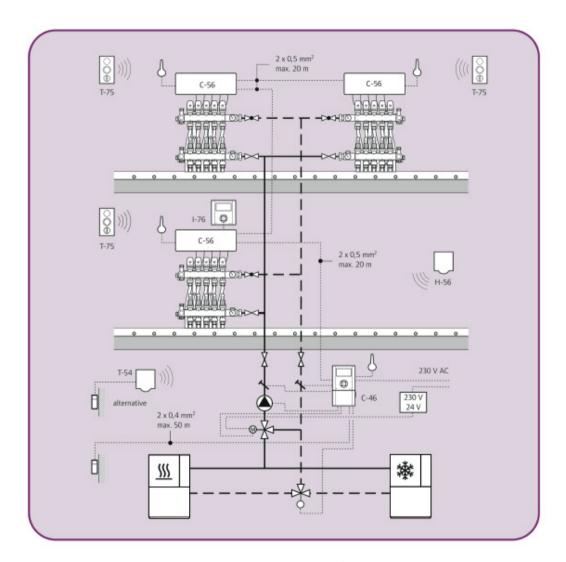
26

#### **Control functions**



- Primary circuit (central control) - mixing of supply water temperature
- Secondary circuit
   (Individual ON/OFF) –
   actuators for room
   control
- Heating / cooling
   switch over function
- **Dew point warning** system (shut off function)
- Humidity control (advanced)
- with air conditioning (air dehumidification)
- Emergency shut off

#### **Control Schemetric**





#### **Modular Installation**



We offer you a kind of basic construction kit of comprehensive pipe systems, fittings, manifolds, controls, etc. This basic construction kit can be perfectly completed according to your wishes and requirements.

- The right kind of installation for any demand and condition
- For new houses or renovation
- Easy and quick installation
- Comprehensive solution –
   all out of one hand



#### **Uponor Pro 1" Manifold**



- The Uponor PRO 1" Manifold is
- supplied in pairs consisting of supply and return flows, and with 1,3, 4 or 6 connections for underfloor heating loops. Each loop can be shut off separately.
- Material: Fibre-reinfoced polyamide
- Max. Operation temperature:60°C
- Max. Operation pressure: 6bar
- Max. total flow per manifold: 1I/s
- KVS: 1.1

Building a sustainable future together...

3/4" Eurocone to connect loop pipes or 20mm QE connection

#### **Uponor Pro 1" Manifold**

- Easy and quick to assemble.
- Ideal for cooling.

3/4" Eurocone to connect loop pipes or 20mm QE connection



The basic kit contains the components common to most of the manifold combinations, i.e. brackets, end caps, 2 thermometers and connection pipes with metal swivel nuts for connection of shut-off valves.

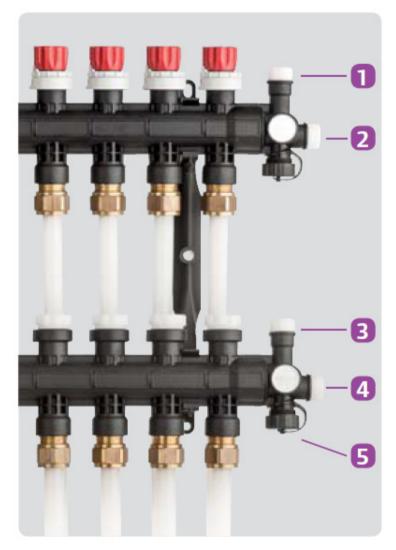








#### **Uponor Pro 1" Manifold**



- 1 venting valve
- shut-off for by-pass (outlet when filling)
- aeration connection for by-pass (remove the aeration valve when connecting by-pass)
- 4 shut-off for outlet
- for a drain with cover (connection for filling pipe)

#### • End caps

 The end caps have valve and hose connector for filling and a venting valve. When the wheel on the end cap is fully screwed in, the hose connector is closed.

#### **Uponor Pro 1" Manifold Accessories**

Uponor AUTOMATIC AIR VENT 3/8" FOR PRO1

Uponor PRO 1" Flow Meter



Uponor PRO 1" Actuator



The wheels on the return manifold are then replaced by actuators. Once the wheel has been removed, the actuator can be fitted by hand (without tools).

The actuator has an indicator window on the front, which shows whether the underfloor heating loop in question is open or closed.







#### **Comfort pipe Plus**



- 1. PE-Xa basic pipe (cross-linked)
- 2. Bonding agent, modified PE
- 3. EVOH oxygen diffusion barrier
- 4. Bonding agent, modified PE
- 5. Outer protective layer, PE



- · Outstanding PE-Xa material
- No incrustation
- Oxygen diffusion tight
- · Corrosion and abrasion resistance
- Low weight

- · Bending flexibility
- Excellent long-run behavior
- · High chemical resistance
- · Easy, fast and safe installation

#### **Service, Support and Success**

# Advantages for installers and specifies:

- One product specification for one system
- Fast installation, lower labor costs and earlier completion of the building
- Your ideas can be released with the wide range of items
- Tried and tested systems help to reliably realize your ideas
- Cheap systems often lead to leakages. Thus high costs for renovation and consequential damages arise for tiles, marble and bathroom accessories

# Advantages for contractors and construction companies:

- Once installed, tight and safe with a service life of at least 50 years
- Reduction of total project costs through reduced maintenance costs
- No renovation costs because of corroded and/or blocked pipes
- Long term reliability increases the resale value
- 10 years warranty stands for high product quality



