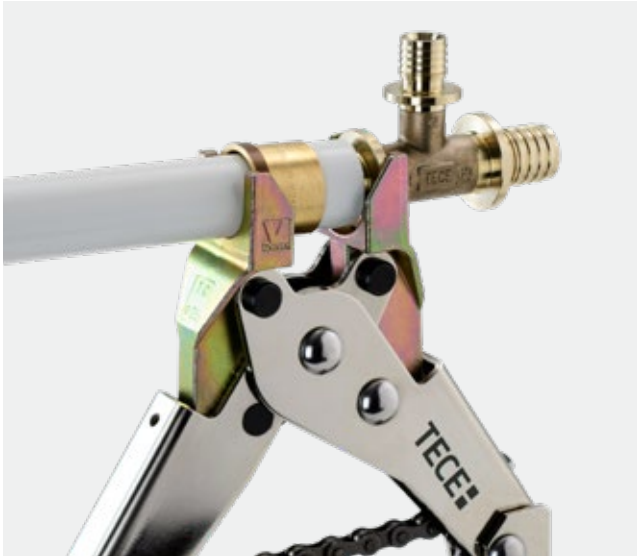
TECE

SAFE. SIMPLE. UNIVERSAL.

TECEflex – The reliable sliding sleeve system

Piping systems close to you


TECE


Makita

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» Any piping system I install should last at least 50 years. After all, most of it disappears into the structural shell. For me, quality and maximum reliability come first. «

PIPING SYSTEMS COME AND GO. TECEflex HAS BEEN HERE SINCE 1992.

How can you tell a real classic? Years later, it is just as contemporary as it was on the first day. It never fails to impress new customers.
And its features remain relevant without exception. All these things are true of TECEflex. Because TECEflex continues to meet customer requirements for fault-tolerant workmanship and maximum reliability. Without a doubt, TECEflex is "The classic".

TECEflex SLIDING SLEEVE TECHNOLOGY

Over three decades of reliability in the system

Safety means efficiency

Our customers choose TECEflex for its exceptional fault tolerance. It's not about small leakages, which fortunately show up in the pressure test in many systems, but about major leaks and pipe breaks which occur every year hundreds of times after weeks, months or years after the building has been handed over.

Fortunately, it's not a daily issue - but when damage does occur, it always means very high costs, major delays and significant reputational harm.
In the end, choosing efficiency is a decision for safety.

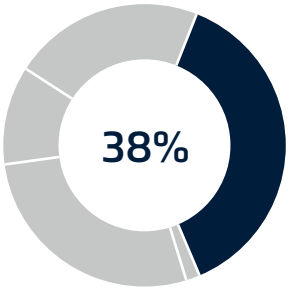
A FALSE ECONOMY?

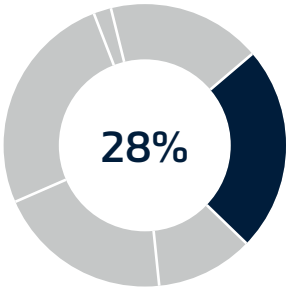
We have the solution that pays off in the long run.

€ 5,320,000,000

That's the sum German insurers paid out in 2024 for tap water damage. And the trend is on the rise. This doesn't even include damage that installation companies fix at their own expense.

Source: Association of the German Insurance Industry





Causes of tap water damage

38% of all damage is due to installation and assembly errors. Faulty press connections are a major cause of damage.

System parts affected

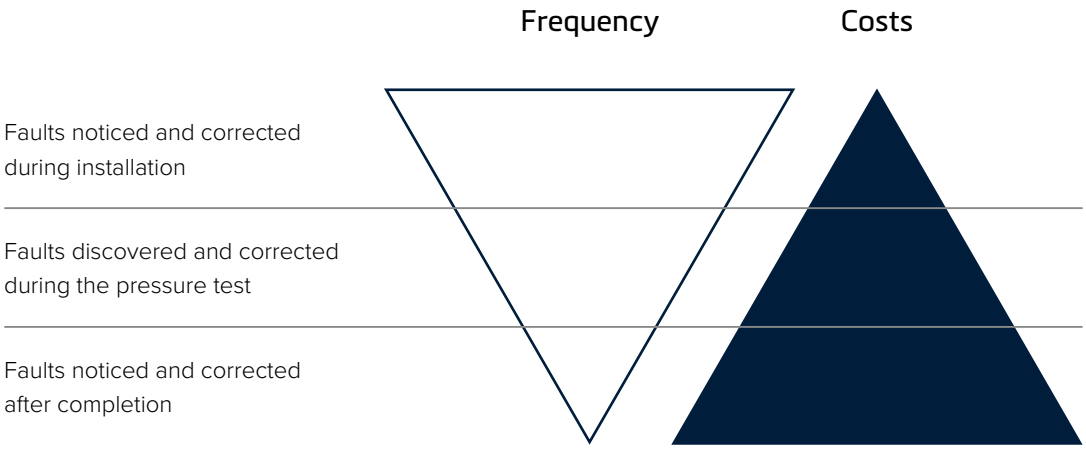
Although we often think of pipe bursts being the cause of water damage, statistics show that leaky connections are actually frequently the cause, accounting for 28% of all damage.

Source: German Institute for Loss Prevention and Loss Research of Public Insurers, Loss Database 2024

» When it comes to pipe installation, I want absolute security in terms of workmanship and quality, because if there is any damage, my only option is to pry open the floor or the wall. I prefer quality from the start, without any troubles afterwards. «

Where SHOULDN'T you save?

You won't save much by skimping on pipe and fitting materials. That's because their share of the overall installation (ceramics, boiler, attachment, bathroom furniture, etc.) is very small. The risk of making a mistake with high incidental damages however is significant.



Where can you save?

In the long term, you will save costs and peace of mind if you opt for a fault-tolerant, high-quality piping system from the start. This reduces the risk of workmanship and damage.

SIMPLY DESIGNED, SYSTEMATICALLY SUPERIOR

The classic in detail

State-of-the-art for 25 years

Modern classics are able to transfer the experience and advantages of the past into the present, learn from them and adapt to changing conditions. This is exactly what we have done with TECEflex: We have not changed our reliable workmanship and fault tolerance for over 25 years. But we have always adapted quickly to changing conditions. For example, to new potable water regulations requirements.

These aspects have permanently been incorporated into the system immediately.

So you can always be sure: With TECEflex you are always compliant with standards and legislation – as well as the requirements of construction site practice. Let the extraordinary features inspire you.

EXPAND, PRESS, TIGHT. REALLY TIGHT.

Sliding sleeve technology

TECEflex installers can be assured: not a single leaking connection for decades, no debates about zeta values and no risk of mistaking O-rings.
This is what makes sliding sleeve systems the safest and most respected type of connection for plastic pipes, even in the 21st century.

Sliding sleeve technology also means that it is impossible to forget a work step. Because without expanding you can't get the pipe pushed onto the connector. And without pressing, you will find out at the latest during the pressure test that you have rework to do.

Simply tight, without an O-ring

The pipe is first expanded and then reshaped by pressing the sliding sleeve onto it. This creates a non-positive and form-fitting sealing surface over the entire pressing area.

“With TECEflex, the tool has almost no impact on the quality of the pressed connection. It’s a completely different story with conventional radial press systems: With so many pressing machines, press jaws, piping systems and fitting generations, pairing tools to fittings hastily or incorrectly can have serious consequences. On top of that, the thin, deeply-seated O-rings require perfectly clean, wear-free tools to ensure the connection is tight. Worn or inaccurately fitted press jaws pose an enormous risk of damage here. And if regular maintenance can’t be proven, costs can soar. With TECEflex, I know I’m on the safe side: sleeve on, sealed!”

Security of workmanship at a glance

With the sliding sleeve technology, at a glance you can see that you have made the connection correctly: sleeve on = sealed!

SIMPLE INSTALLATION, MAXIMUM SAFETY

Creating a TECEflex connection

Expanding, axial pressing and connection quality should all be possible regardless of the condition of the tool. With TECEflex you get a system with which you deliver quality step by step.

Step 1: Expand just once

Let's face it, compared to radial pressing, expansion is an additional step in the process. However, long-standing TECEflex customers know that this is the basis for the outstanding reliability and fault tolerance of this system! Years of working without a single leak are the impressive proof of this. It also creates connections with large inner diameters and excellent flow properties. In short: Expanding is 100% worth the effort!

Step 2: Axial pressing

Here, the expanded pipe end is forcefully reshaped by the sleeve and pressed to the special TECEflex fitting contour. The connection is then water and gas tight and therefore ideally suited for potable water, heating, compressed air and gas.
And the great thing about it: everything happens with the same metal fitting!

Removing a TECEflex connection

Sometimes it’s easy for the wrong fitting to get pressed onto the pipe at construction sites. This is not an issue with TECEflex metal fittings, because the connection can be loosened again by using hot air. Naturally, the fitting can then be reused.

YOUR TECEflex TOOL – IN USE EVERY DAY

Hand tools

Always ready to be used

With the hand tools from the TECEflex range, you can easily create sliding sleeve connections up to 32 mm. All you need is an expanding and pressing tool. What you don't need are electricity, batteries or expensive maintenance costs for the tools.

RAZ-V pipe expansion tool

Pipe ends can be expanded quickly and easily with this manual tool. There is no need to mark the insertion depth.

Press everything from 16 - 32 mm with a single tool

It's simple: with the HPW-L manual pressure sleeve pressing tool. Just replace the fork heads and the tool is ready to use in any position thanks to flexible chain hoists and an articulated arm.

Everything together

Both tools are housed in the sturdy tool case, which means you can start working on the construction site straight away.

Electrical tools

Small and handy from 16 to 32 mm

With the battery-operated TECEflex Raz-Faz tools for expanding and pressing, you can form sleeve connections even in tight installation areas or very close to walls. The pressing tool has a double pressing fork which means you can work with two dimensions without changing.

It can also be larger

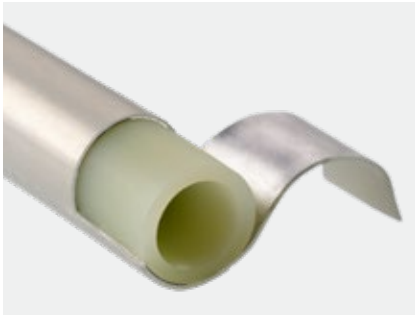
The TECEflex range offers you the PMA tool set for dimensions from 40 to 63 mm. This is compatible with standard pressing machines with a compression force of 32 kN. This retains the full functionality of the pressing machine. And naturally the same applies to this tool: sleeve on = sealed!

EXTRA THICK FOR EXTRA SAFETY

The composite pipe – a sensation in its day

The forerunner of TECEflex was already on the market in the mid 80s: as an aluminium-coated, oxygen-tight underfloor heating pipe. Back then, however, you could only obtain certification for all-plastic pipes. A plastic pipe was therefore developed as an internal pipe that already met all pressure and temperature requirements — then and now. For dimension 16 this would be for example a 16 x 2.1 mm internal pipe. Not even today's standard aluminium composite pipes are this thick! Further layers of aluminium and polyethylene were then added on top of this inner pipe, which was already completely pressure-resistant.

Even if on the construction site the outer skin were to wear through the aluminium, or scratches were to go through the aluminium: There is still the pressure-resistant internal pipe, which already meets all requirements for composite pipes.



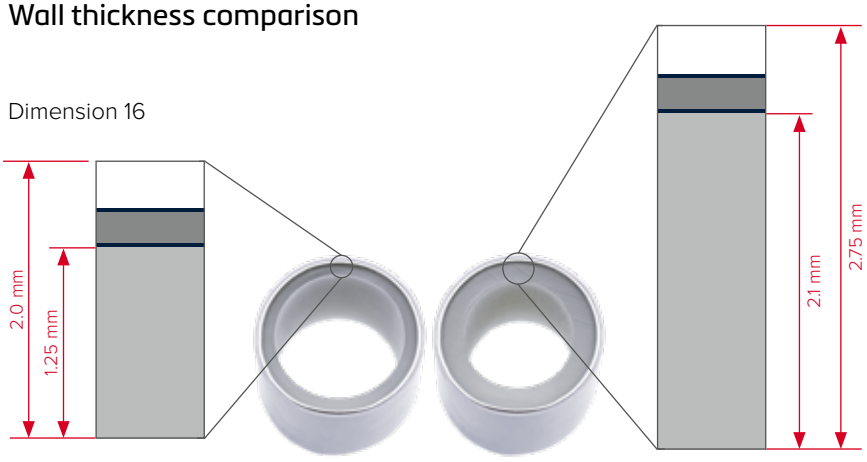
The first composite pipe from the 80s.

TECEflex multi-layer composite pipe PE-Xc/Al/PE-RT: the best of two worlds

The TECEflex multi-layer composite pipe is the ideal combination of plastic and metal. Even the electron beam cross-linked inliner is extremely pressure and temperature resistant. The aluminium casing also ensures 100% oxygen tightness and excellent dimensional stability. And with the white outer sheath, it is also perfectly equipped for use in visible areas.

Wall thickness comparison

Dimension 16

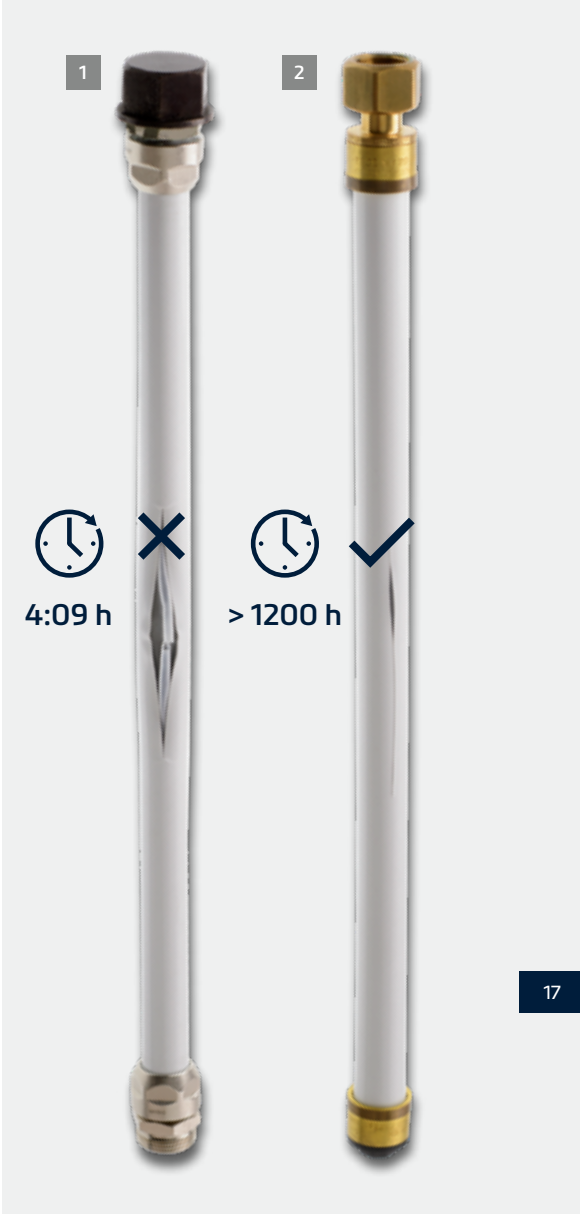


Standard composite pipe

TECEflex composite pipe

A minor scratch makes all the difference

In order to simulate a construction site scratch, a commercially available aluminium composite pipe 16 x 2.0 mm and a TECEflex pipe DIM 16 (17 x 2.75) were grooved 0.5 mm deep in the longitudinal direction in a laboratory test. The requirements of ISO 10508 (application class 2: hot water supply 70°C) were then used as the basis for a creep test. This requires an accident resistance of 95°C for 100 hours at 10 bar (potable water).
The result: the commercial aluminium composite pipe burst after just 4:09 hours, while the TECEflex pipe easily withstood. After more than 1,200 hours, the test was terminated without any breakage, as based on the standard curves, breakage would not have been expected for well over a hundred years.

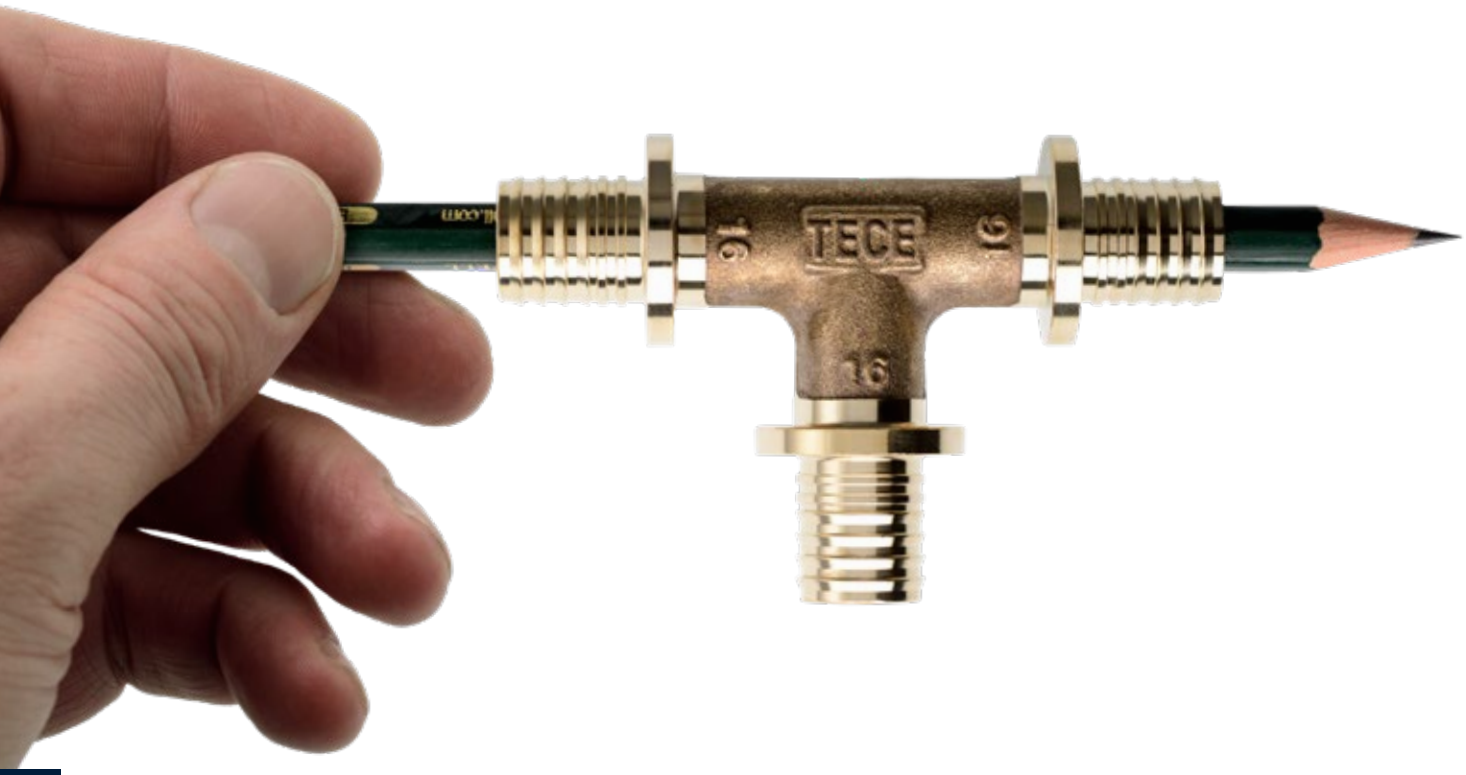


1 Standard composite pipe
2 TECEflex composite pipe

Minimum bending radius – maximum stability

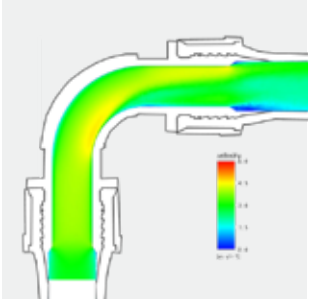
In order to fully utilise the minimum bending radius, a bending tool is also required for a TECEflex pipe. However, it is usually bent by hand. For everyday work, your thumb is perfectly adequate as a tool, as the TECEflex composite pipe is significantly less prone to buckling. Try it out yourself!

A CLASSIC FROM A SINGLE CAST, FOR MAXIMUM FLOW



Take the pencil test!

The TECEflex expansion technology ensures that the pipe and fitting have almost the same internal diameter. Right from launch, our fitting has brought together all the benefits for outstanding pipe network hydraulics. This is more relevant than ever, especially in times of discussions about Zeta value, pressure loss optimisation, and minimising water flow in pipes. And with the simple pencil test you can make this visible even with a 16 mm fitting.



The fittings

In developing the TECEflex fittings, we placed great emphasis on optimal Zeta values and a very slim design. The result: a streamlined fitting that, in conjunction with sliding sleeve technology, sets standards in resistance values.

The TECEflex materials

The TECEflex metal fitting forms the basis for an optimal potable water, heating, gas or compressed air installation. O-ring-free and with an optimised cross-section, it makes your installation a success simply and safely. “One fitting for all” also means less inventory. The cost-effective alternative is the TECEflex fitting made from the high-performance polymer PPSU. This fitting has been part of the TECEflex range for potable water, heating and compressed air since 1999.

The updated European Drinking Water Directive (EU Directive 2020/2184) imposes stricter limits on lead in potable water. The current lead limit of 10 µg/l (micrograms per litre), being already quite strict, is being halved. According to the European directive, the new lead limit in potable water will then only be 5 µg/l. In Germany, this new limit will apply at the tap from 12 January 2028.

Recommendation: the use of lead-free materials.

Since water may already contain traces of lead due to natural processes, it is advisable to consistently use lead-free materials for new installations or renovations — especially for fixtures, fittings, and pipes. This minimises the risk of exceeding future limits and ensures sustained compliance with potable water quality. All components of the TECEflex system that come into contact with potable water are made from lead-free materials and will continue to meet the requirements of the European Drinking Water Directive for materials in the future.

Tip:

TECEflex fittings are pressure-loss optimised. This means that in some cases you can plan with a smaller pipe dimension. A smaller pipe dimension has less water content. This significantly reduces the discharge times for hot water installations, for example.

ALL IN ONE

The TECEflex metal fitting is a real all-rounder. The metal alloy not only allows the fitting to be used in potable water and heating installations. TECEflex fittings can also be used for gas and compressed air installations.

The TECEflex composite pipe combines all the advantages of metal and plastic pipes. It boasts high impact strength and reliably prevents crack propagation. Thanks to the oxygen barrier layer made of butt welded aluminium, the TECEflex composite pipe is fully diffusion-tight – a key advantage when it comes to heating connections.

Aluminium composite pipe in dimensions 14 to 63 mm

For potable water, heating and compressed air.

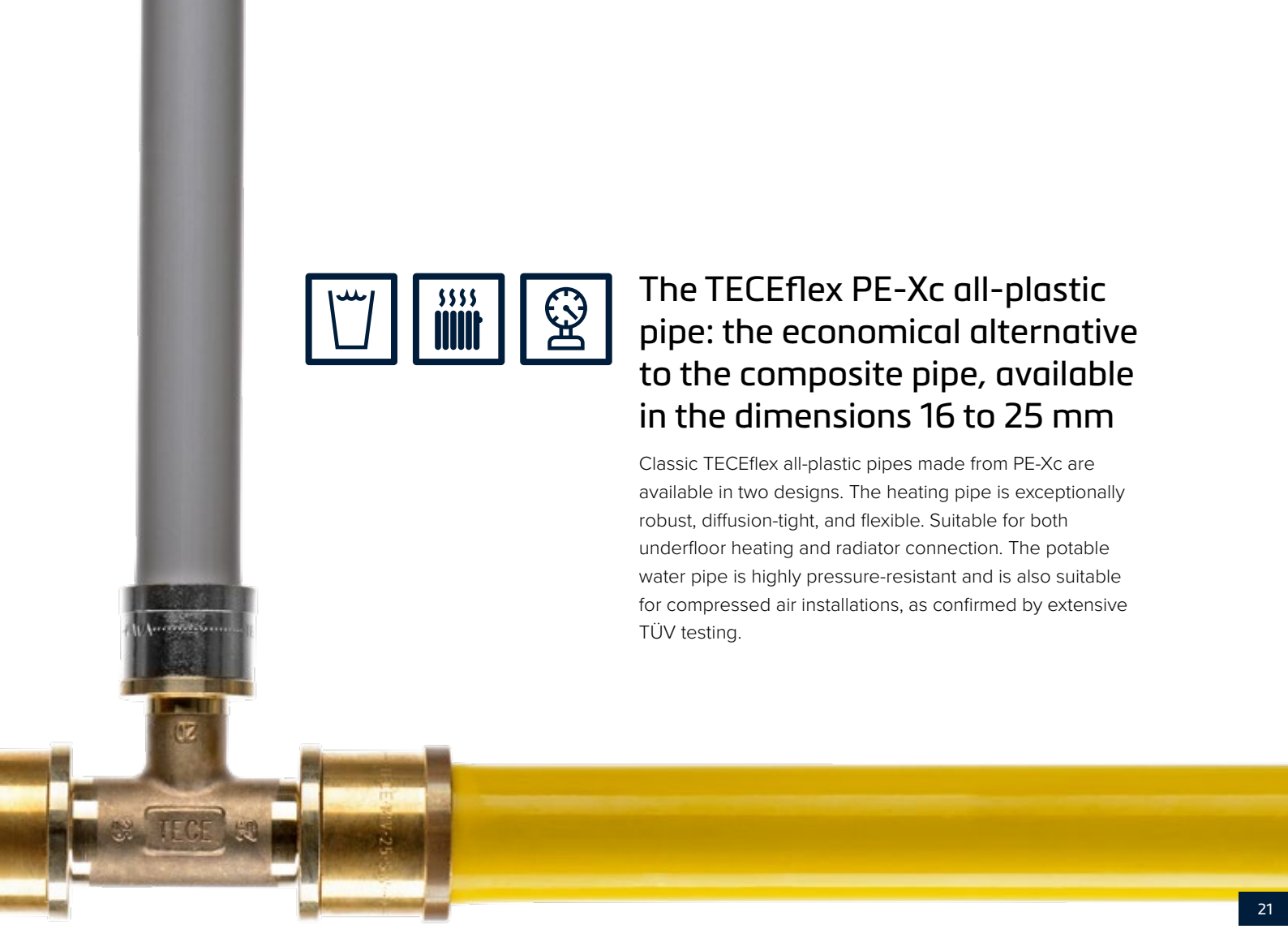
- As rolls or in rod form
- With and without corrugated sheath pipe
- Internal pipe consists of PE-Xc base pipe
- High pressure, temperature and corrosion resistance
- Approved for potable water, heating, compressed air

Potable water

The fittings are suitable for every potable water quality according to DIN 50930. Since the TECEflex connection is free of dead space and no water stagnates in front of seals, recontamination by bacteria surviving in stagnant water after disinfection is prevented.

Heating

TECEflex is designed for class 5 high-temperature heating installations according to DIN EN ISO 21003. The fittings are resistant to inhibitors or glycol-based antifreeze agents. Please refer to our current technical information.



The TECEflex PE-Xc all-plastic pipe: the economical alternative to the composite pipe, available in the dimensions 16 to 25 mm

Classic TECEflex all-plastic pipes made from PE-Xc are available in two designs. The heating pipe is exceptionally robust, diffusion-tight, and flexible. Suitable for both underfloor heating and radiator connection. The potable water pipe is highly pressure-resistant and is also suitable for compressed air installations, as confirmed by extensive TÜV testing.

Aluminium composite pipe in dimensions 16 to 63 mm

- Application area for internal gas installations according to TRGI 2018 and TRF 2012
- With DVGW approval up to 100 mbar for gases of the 2nd and 3rd gas family (natural and liquid gas)
- Dimensions 16–63 mm
- As rolls or in rod form
- With and without corrugated sheath pipe

Gas

With the yellow aluminium composite pipes, you can use the metal fittings to create liquid and natural gas installations inside buildings. As well as the flexible installation option, a major advantage of yellow plastic pipes is that they do not corrode. As a result, they can be laid as a gas line in unventilated or filled rooms or shafts.

Compressed air

The materials of the TECEflex system are non-sensitive to grease and oil in a compressed air installation. There are no O-rings that can swell in TECEflex connections. TECEflex can therefore be used to create compressed air installations regardless of the oil content.

TECEflex DEMONSTRATES SAFETY IN THE SYSTEM

In line with standards and regulations

Proven quality from the TECE laboratory

Even a true classic has to keep proving that it still fulfils current construction site requirements and complies with standards and regulations. Our fittings and pipes are therefore continuously monitored internally and externally.

The entire system is repeatedly and thoroughly tested. All of this gives us the security of offering you the highest proven quality. Yesterday, today and in the future. Just as you would expect from a true classic.

Continuous checking of dimensional accuracy is just one component in the TECEflex control matrix

CONVINCING PERFORMANCE

For decades, TECEflex has repeatedly adapted to changing conditions and passed all requirements convincingly: This is what sets this universal classic apart.

Tested and certified

In order to authorise a piping system for potable water, heating or even gas, the different requirements of the regulatory body must be met (in Germany, among others, DVGW German Association of the Gas and Water Industry). These tests are carried out both internally in the TECE laboratory and externally in various renowned institutes.
Our goal is a consistently high product and connection quality.

System for performing tensile tests on installation pipes

Extreme tests guarantee maximum safety

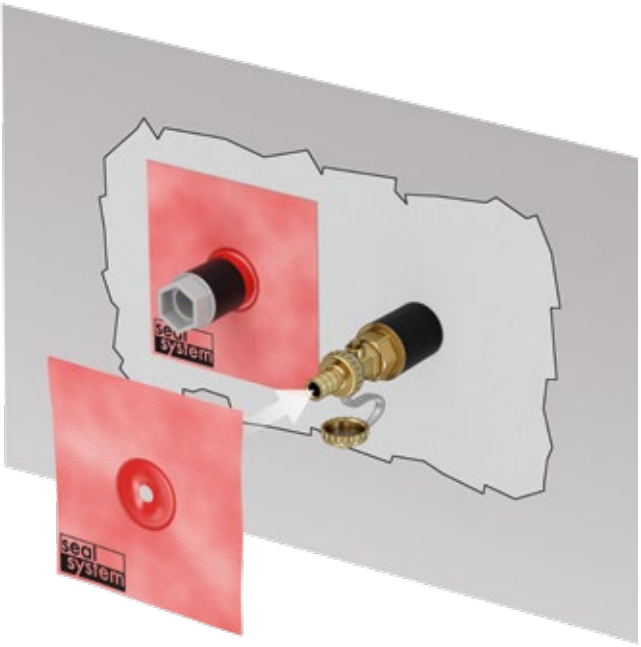
In addition to the individual tests for connectors and pipes, the connection also undergoes an endurance test at TECE's in-house temperature change test system: here the piping systems must withstand at least 5,000 temperature change cycles of 15 minutes each between 20°C and 95°C. This normative requirement ensures that the systems optimally match the conditions in the building installation and guarantee the highest level of safety.

The Seal System sealing set

The sealing set for wall bushings: the professional solution for standard-compliant installations.

A modern classic also has to be able to implement changed normative requirements into practical solutions. DIN 18534, which was issued in the summer of 2017 for sealing indoor spaces, also precisely defines the requirements for wall bushings above the bathtub and in the shower.

The Seal System sealing set offers additional safety: reliably sealed after the work has been handed over.

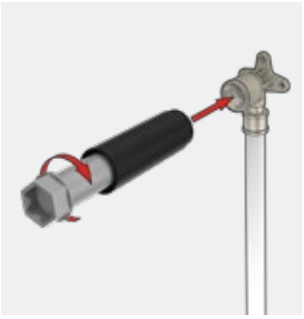


TESTED seal system COMPOSITE SEALING

DIN 18534

How it works:

1



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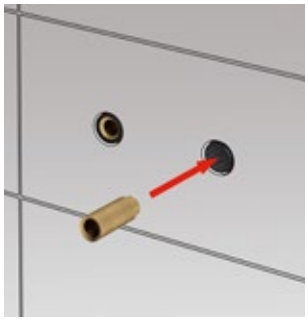

1 The sealing sleeve is pushed over the wall disc when the assembly plug is screwed in and seals outwards.
2 The sealing collar is pushed over the plug and sits directly on the sealing sleeve.
3 Prior to assembling the fitting, the sealing sleeve is shortened to be flush to the wall and the reusable assembly plug is unscrewed and removed.
4 The valve extensions are then screwed in.

Take a look:
How the TECE Seal System sealing set for wall bushings works
https://qr.tece.de/bgV3Zo

For more information visit
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