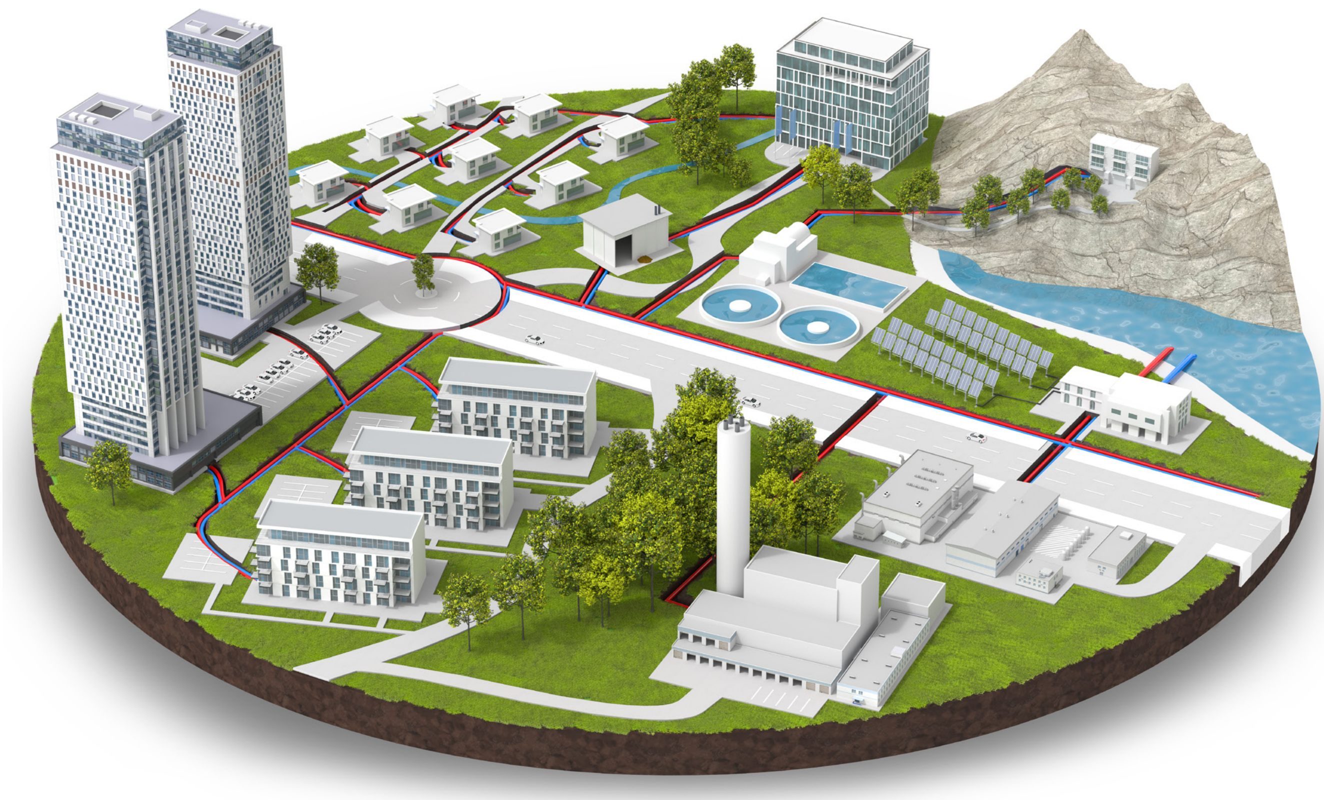
BRUGG PIPES, THE SPECIALIST FOR FLEXIBLE PRE INSULATED PIPE SYSTEMS

BRUGG Pipes specializes in insulated pipe systems designed for the safe and efficient transport of water, focused on district heating and cooling systems.

In 2025, we will open the first manufacturing facility for flexible pre-insulated PEX pipe systems in the USA. This will enable us to supply you with high-quality flexible piping in the shortest possible time.

Patented CALPEX PUR-KING with a PEXa carrier pipe is a flexible, continuous and self-compensating low-temperature pipe system with the world's best lambda value of 0.0199 W/m*K.

BRUGG
Pipes
Pioneers in Infrastructure



CALPEX PUR-KING Guide Spec.

CALPEX PUR KING Flexible PEX Pipe for Hot Fluids up to 230ºF*.
COOLFLEX HDPE Pipe for Cold Fluids to 140ºF.

The pre-insulated pipe system must be designed to be flexible and all components of the carrier pipe, insulation and jacket must be able to expand and contract as a unit without overstressing or adversely affecting any of the materials.
The pipe, insulation and jacket shall be made of materials that will not corrode.
The insulation shall completely fill the annular space between the service pipe and the casing and be fully bonded to both. The insulation shall be polyurethane.
Systems using open cell insulation, polyethylene insulation, PEX insulation or any non-bonded system or partially bonded system design are not permitted.
The system is designed to be installed in such a way that no expansion loops or compensators of any kind are required.
The system shall be installed with as few underground joints as possible.
The piping system supplier will be responsible for the overall design of the expansion and contraction compensators.
The system is supplied complete with coupling fittings, insulation kits and termination fittings, all supplied by the piping system supplier.
All products must be manufactured to ISO 9002 standards.

Field Test

All carrier pipe systems should be hydrostatically tested at 1-1/2 times the operating pressure prior to burial or 100 psi.

Backfill

A minimum of 4" of sand needs to surround CALPEX piping on all sides in the trench.
CALPEX is suitable for H20 loading from 24" under road bed.

Supplier Assistance

At customer's request, system supplier will provide a qualified field service technician on-site to properly train the installing personnel in all phases of installation.

PEX Carrier Pipe
Cross-linked PEX-A pipe with EVOH (oxygen barrier Engel Method). NSF 61 certified. ASTM F876 and F877 for all pipes 3/4" - 2". 204˚F maximum, 230˚F intermittent. Pex-B and Pex-C products not allowed.

HDPE Carrier Pipe
SDR11 High Density Polyethylene pipe suitable for temperatures up to 140°F at 80 psi.

Insulation
All insulation materials will be supplied by the system manufacturer and will be polyurethane closed cell insulation with a K-Factor of .149. The insulation will be furnished in the thicknesses as shown in Charts 1, 2 & 3 for the respective carrier pipe sizes.

Jacket Material
The outer protective jacket shall be corrugated seamless polyethylene completely encompassing and protecting the insulation from moisture and damage, designed for H-20 loading at a burial depth of 2 foot minimum. The jacket will be provided in diameter and thickness as shown in Charts 1, 2 & 3.

End Seals
All direct buried ends of insulated pipe with exposed insulation will be sealed with watertight polyethylene end seals.

Your advantages

- Reliable connection technology
- Ingenious post-insulation technique
- Short delivery times

- Thermal conductivity **0.0199 W/m*K**
- Closed-cell structure 99%
- Long-lasting stability

- Small bending radii
- Bypass obstacles with ease
- No expansion elements

- Tool free
- Tightness tested up to 0.3 bar
- Entry angle of up to 20°

First-class accessories
All fittings and connections will be either brass, copper, steel or electro-fusion fittings. They will be installed in accordance with the detailed installation instructions.
All buried fittings and couplings will be insulated and sealed per the system supplier's instruction.
All fittings for potable to be ASTM Approved.

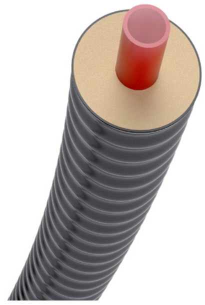
CALPEX clip shells provide perfect protection for junctions and connections underground.

The permanent press fittings for reliable connections

OUR RANGE OF PRODUCTS

CALPEX PUR-KING Heating, Single

Nominal Carrier Pipe Size Inches	mm	Carrier Pipe Type	Carrier I.D.	Nominal Insulation Thickness	PE Jacket O.D.	Jacket Thickness	Bending Radius	Wt lb/ft
0.75″	ASTM	PEX	0.677″	1.00″	3.07	0.08	2′5″	0.08
1.00″	ASTM	PEX	0.875″	0.91″	3.07	0.08	2′5″	0.08
1.25″	ASTM	PEX	1.07″	0.80″	3.07	0.08	2′5″	0.88
1.50″	ASTM	PEX	1.263″	1.00″	3.66	0.09	3′0″	1.26
2.00″	ASTM	PEX	1.653″	1.13″	4.45	0.09	3′0″	1.45
2/2.5″	63	PEX	2.035″	1.28″	5.03	0.10	3′3″	1.75
2.50″	75	PEX	2.431″	1.34″	5.63	0.12	3′5″	2.28
3.00″	90	PEX	2.915″	1.44″	6.42	0.13	4′0″	3.06
4.00″	110	PEX	3.563″	1.05″	6.42	0.13	4′0″	3.82
5.00″	125	PEX	4.047″	1.05″	7.20	0.13	4′5″	4.85
5.50″	140	PEX	4.51″	1.22″	8.00	0.13	4′9″	5.85

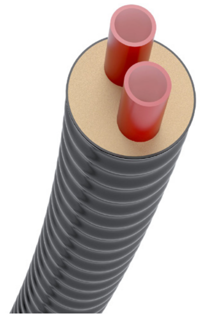


Areas of application
District heating/cooling and service water networks, ground source heat exchange systems and snow melt

Operating parameters
230˚F is intermittent, continuous operating temperature is 204˚F maximum

CALPEX PUR-KING Heating, Dual

Nominal Carrier Pipe Size Inches	mm	Carrier Pipe Type	Carrier I.D.	Nominal Insulation Thickness	PE Jacket O.D.	Jacket Thickness	Bending Radius	Wt lb/ft
1.00″	ASTM	PEX	0.875″	1.70″	4.45	0.09	3′3″	1.50
1.25″	ASTM	PEX	1.07″	1.20″	4.45	0.10	3′3″	1.70
1.50″	ASTM	PEX	1.263″	1.25″	6.42	0.13	4′0″	2.60
2.00″	ASTM	PEX	1.653″	1.50″	7.20	0.13	4′5″	3.40
2.50″	63	PEX	2.035″	1.50″	7.20	0.13	4′5″	3.80



Areas of application
District cooling and waste water pipes

Operating parameters
-4˚F to 104 °F

COOLFLEX, Single

Nominal Carrier Pipe Size Inches	mm	Carrier Pipe Type	Carrier I.D.	Nominal Insulation Thickness	PE Jacket O.D.	Jacket Thickness	Bending Radius	Wt lb/ft
1.50″	50	PE	1.61″	1.25″	4.45	0.09	3′0″	1.45
2.00″	63	PE	2.035″	1.28″	5.03	0.10	3′3″	1.75
2.50″	75	PE	2.431″	1.34″	5.63	0.12	3′5″	2.28
3.00″	90	PE	2.915″	1.44″	6.42	0.13	4′0″	3.06
4.00″	110	PE	3.563″	1.05″	6.42	0.13	4′0″	3.82

Inch size pex pipes (3/4″ - 2″) meet or exceed the requirements of ASTM F876, F877, CSA B 137.5, PPI TR-3 and NSF 61. The size listed in the description is the nominal diameter according to ASTM F876. Inch size pipes are copper tube size, SDR 9. Metric pipes (50 mm - 140 mm) PEX and HDPE meet the requirements of DIN 16892 and 16893. The size listed in the description is the nominal diameter in millimeters according to DIN 16893. Metric pipes are SDR 11. All pipes will fit-up to all other types of ASTM and metric sized flexible pre-insulated piping systems.

For more specific data regarding other pipe sizes, insulation thicknesses, pressure drop, heat loss, systems design, heat tracing or pricing, please contact our representative.a

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