

# CALPEX<sup>®</sup> low temperature system

Arguments that will convince our customers



© vis/bheearth.nasa.gov



1996: CALPEX® UNO and DUO, sanitary, with heating strip

Top of Europe, Jungfrauoch, Switzerland – where drinking water and untreated water are supplied at an altitude of 3454 metres

The integrated heating strip prevents the supply pipes from freezing up

# Sustainable

Sustainability is the best reason for an investment.



CALPEX® is a high-quality pipe system for reliable local and district heating supply, and also for transporting fluids. More than 12,000 kilometres of CALPEX® are already in use throughout the world. CALPEX® sets an outstanding example of sustainability thanks to its high energy efficiency, flexibility and long component lifetimes.

CALPEX® was developed by BRUGG Pipesystems and has been available on the market since 1995. BRUGG Pipesystems offers one of the most extensive product ranges on the world market, with 40 flexible and rigid pipe systems as well as over 20,000 articles in the fluid supply sector. All CALPEX® pipes are compatible with all systems from BRUGG Pipesystems.

Read the small print. It will help you to save money.



© digitalglobe.com

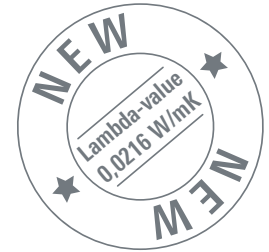
2009: CALPEX® UNO

Dublin Airport, Dublin, Ireland – heat supply for Terminal 2 of Dublin Airport

A lambda value of 0.0216 W/mK means maximum energy savings

# Energy-efficient

Reduce energy losses and cut costs over the long term.



Extremely low heat loss is a key feature of CALPEX® district heating pipes: A lambda value of 0.0216 W/mK was certified by IMA Materialforschung und Anwendungstechnik GmbH, the Dresden-based specialist in materials research and application technology. This value means low energy consumption and consistently low heating costs.

Thanks to our technology, the product's excellent thermal insulation also ensures long-term reliability: a high-grade, high-pressure foaming process produces fine pores and closed cells which - together with a special foil between the outer casing and the insulating foam - guarantees excellent energy retention. The constant long-term behaviour of CALPEX® pipes has been independently attested by a certificate from the Danish Technological Institute (DTI).

Making every effort to stop energy wastage.



© Google Earth / Kirchlinteln

2010: CALPEX® UNO and DUO

Composite heating system, Kirchlinteln, Germany: 2300 m of district heating pipe for a composite biogas heating system with heating power of 500 kW

Fast and reliable - long delivery lengths mean fewer joints in the ground

# Fast

Speeding up building and installation work will save time and money.



CALPEX® reduces installation outlay, and delivery periods are impressively short. We are close to our customers, our range is extensive and even customer-specific solutions can be produced very quickly.

Our advanced assembly technology also reduces the outlay on installation: there is no need to assemble large numbers of short pipe sections, because we can supply over-length pipes as required. This reduces the number of joints, so the underground construction work is made much easier. Even more installation time is saved thanks to accessories such as our patented CALPEX® clip shell for simple, reliable pipe system joints without tools.

Our patented solution makes the job easy.



© vishalresearch.in, india.gov

1999: CALPEX® UNO

Ca'Pesaro, Venice, Italy – heat is supplied to the interior of the museum

Top quality and maximum lifetimes ensure reliable heat in winter

# Reliable

Quality products with long lifetimes ensure reliability.



Many years of experience have made BRUGG Pipesystems a byword for reliable and constant quality that meets the very highest standards. We comply with all the relevant standards, and we carry out regular in-house quality checks on all our products and processes.

The corrugated outer casing of CALPEX® is patented. This allows flexible construction and assembly, as well as ensuring maximum strength for the material composite which, in turn, guarantees maximum longitudinal watertightness. The CALPEX® standard range includes accessories such as various supplementary insulation systems and an assortment of fittings (e.g. screwed connectors, compression joints and welded fittings) for reliable pipe system jointing.

Losses and damage teach us to be wise. But it's even wiser to choose good products.



2009: CALPEX® UNO

Youth hostel, sailing ship of Chapman, Stockholm, Sweden: heat is supplied to the ship from the central heating unit (on Skeppsholmen island)  
A professional product solution - a flexible heat supply connection between the sailing ship and the pier

# Professional

Innovative strength and expert advice make all the difference.



For more than forty years, BRUGG Pipesystems has been developing, producing and installing reliable energy-efficient solutions for local and district heating networks, and for fluid transport systems of all sorts. Innovative solutions developed by BRUGG are fast and easy to implement, so they cut costs.

Our development teams are already focusing on your future requirements. At BRUGG Pipesystems, you can depend on individual advice that is tailored to your requirements. We offer our technical expertise to support you throughout all phases of your construction project – a solution-oriented approach with sustainability always in mind.

You should always do a little more than you think you have to.

# Your partner for pipe systems

We are the right people to contact when you need efficient solutions to transport fluids of all kinds.

## Brugg Rohrsystem AG

Industriestrasse 39

CH-5314 Kleindöttingen

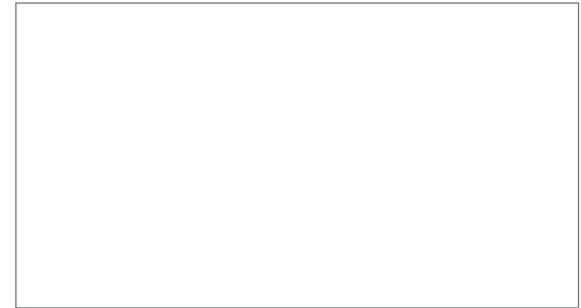
phone +41 (0)56 268 78 78

fax +41 (0)56 268 78 79

[pipesystems@brugg.com](mailto:pipesystems@brugg.com)

[www.pipesystems.com](http://www.pipesystems.com)

A company of the BRUGG Group



# A range of products

whatever the application

## CALPEX®-UNO Heating

| Type<br>mm | Diameter nominal |        | Bending<br>radius m | Weight<br>kg/m | *L max.<br>m |
|------------|------------------|--------|---------------------|----------------|--------------|
|            | DN               | Inches |                     |                |              |
| 25/ 76     | 20               | ¾"     | 0.7                 | 0.90           | 780          |
| 32/ 76     | 25               | 1"     | 0.7                 | 1.00           | 780          |
| 40/ 91     | 32               | 1 ¼"   | 0.8                 | 1.39           | 570          |
| 50/111     | 40               | 1 ½"   | 0.9                 | 1.97           | 401          |
| 63/126     | 50               | 2"     | 1.0                 | 2.60           | 291          |
| 75/142     | 65               | 2 ½"   | 1.1                 | 3.39           | 224          |
| 90/162     | 80               | 3"     | 1.2                 | 4.56           | 149          |
| 110/162    | 100              | 4"     | 1.2                 | 5.10           | 149          |
| 110/182    | 100              | 4"     | 1.4                 | 5.68           | 86           |
| 125/182    | 125              | 5"     | 1.4                 | 6.37           | 86           |
| 160/250    | 150              | 6"     | –                   | 11.31          | 12 (bars)    |

\* Longer lengths can be delivered on drums

## CALPEX®-UNO Sanitary

| Type<br>mm | Diameter nominal |        | Bending<br>radius m | Weight<br>kg/m | *L max.<br>m |
|------------|------------------|--------|---------------------|----------------|--------------|
|            | DN               | Inches |                     |                |              |
| 22/ 76     | 16               | ⅝"     | 0.7                 | 0.96           | 780          |
| 28/ 76     | 20               | ¾"     | 0.7                 | 1.06           | 780          |
| 32/ 76     | 25               | 1"     | 0.7                 | 1.12           | 780          |
| 40/ 91     | 32               | 1 ¼"   | 0.8                 | 1.56           | 570          |
| 50/111     | 40               | 1 ½"   | 0.9                 | 2.25           | 401          |
| 63/126     | 50               | 2"     | 1.0                 | 3.06           | 291          |

### Operating parameters

Max operating temperature:

95°C

Max. operating pressure:

Heating 6 bar

Sanitary 10 bar

### Applications

Local heating networks, drinking water, waste water and refrigeration lines, industrial and swimming pool technology.

CALPEX®-UNO



CALPEX®-DUO



CALPEX®-QUADRIGA



**CALPEX®-DUO Heating**

| Type        | Diameter nominal |          | Bending  | Weight | *L max. |
|-------------|------------------|----------|----------|--------|---------|
| mm          | DN               | Inches   | radius m | kg/m   | m       |
| 25 + 25/ 91 | 20 + 20          | 2 x ¾"   | 0.8      | 1.34   | 570     |
| 32 + 32/111 | 25 + 25          | 2 x 1"   | 0.9      | 1.87   | 401     |
| 40 + 40/126 | 32 + 32          | 2 x 1 ¼" | 1.0      | 2.48   | 291     |
| 50 + 50/162 | 40 + 40          | 2 x 1 ½" | 1.2      | 3.96   | 149     |
| 63 + 63/182 | 50 + 50          | 2 x 2"   | 1.4      | 5.28   | 86      |

**CALPEX®-DUO Sanitary**

| Type        | Diameter nominal |           | Bending  | Weight | *L max. |
|-------------|------------------|-----------|----------|--------|---------|
| mm          | DN               | Inches    | radius m | kg/m   | m       |
| 28 + 22/ 91 | 20 + 16          | ¾" + ⅝"   | 0.8      | 1.47   | 570     |
| 32 + 22/111 | 25 + 16          | 1" + ⅝"   | 0.9      | 1.95   | 401     |
| 40 + 28/126 | 32 + 20          | 1 ¼" + ¾" | 1.0      | 2.60   | 291     |
| 50 + 32/126 | 40 + 25          | 1 ½" + 1" | 1.0      | 2.96   | 291     |

**CALPEX®-QUADRIGA Heating and Sanitary**

| Type                  | Diameter nominal  |                         | Bending  | Weight | *L max. |
|-----------------------|-------------------|-------------------------|----------|--------|---------|
| mm                    | DN                | Inches                  | radius m | kg/m   | m       |
| 25 + 25 + 28 + 22/142 | 20 + 20 + 20 + 16 | ¾" + ¾" + ¾" + ⅝"       | 1.1      | 3.25   | 180     |
| 32 + 32 + 28 + 22/142 | 25 + 25 + 20 + 16 | 1" + 1" + ¾" + ⅝"       | 1.1      | 3.39   | 180     |
| 32 + 32 + 32 + 22/142 | 25 + 25 + 25 + 16 | 1" + 1" + 1" + ⅝"       | 1.1      | 3.41   | 180     |
| 40 + 40 + 40 + 28/162 | 32 + 32 + 32 + 20 | 1 ¼" + 1 ¼" + 1 ¼" + ¾" | 1.2      | 4.15   | 105     |