Heat Network Solutions

REHAU. Your district heating partner.
www.rehau.uk/districtheating

Expect more from REHAU.
What is district heating?

Future-proof technology

Heat is transported via an underground pre-insulated pipe network from one large centralised boiler.

- Heating and hot water supplied to each building
- Individual building temperature control
- Any heat source can be connected
- Heat source can be changed making it a future-proof technology

Benefits

- Carbon reductions
- Environmentally friendly
- Cost savings
Possible heat sources

Gas
Air source heat pumps
Ground source heat pumps
Water source heat pumps
Biomass
Anaerobic digestion
Energy from waste
Waste heat
Design support

What we offer our customers

REHAU’s key designers are trained CIBSE Heat Network consultants and can assist with the following using bespoke design software.

**Pipe sizing**
Effective use of pipe sizes can help reduce both capital costs and heat losses

**Optimisation of flow/return temperatures**
Achieving lower flow/return temperatures improves heat network efficiency

**Diversity**
Applying a more realistic diversity can reduce plant sizes and pipe sizes

**Pipe routing**
Having a more optimised route will reduce material and installation costs

**BIM modelling**
BIM level 2 models are available for our district heating products

**Heat loss calculations**
Heat loss calculations are essential to compare different pipes and network layouts
Service you can rely on

UK based team

Largest UK stock of district heating pipes
- Full cutting service
- 25-160mm in both RAUVITHERM and RAUTHERMEX

Proud to support UK production
- Only UK manufacturer of PE-Xa district heating pipes
- Estimated 29% CO₂ reduction
- Production started in 2012

UK sales & technical support
- 3 regional sales offices across UK/ROI with specialist district heating sales team
- On-site support available
- CIBSE-approved CPD presentations on heat networks

Estimated 29% CO₂ reduction
Benefits of REHAU PE-Xa

Versus traditional district heating pipe materials

Installation benefits of REHAU PE-Xa

- Optimised trenches due to PE-Xa flexibility
- Self-compensating in the ground, no need for expansion joints
- Coils up to 570m long
- Retrospective connections are possible
- Savings up to 30% on installation versus steel pipes
REHAU stands for quality. As a pipe manufacturer, the quality of materials and workmanship directly impacts the performance and lifespan.

**PE-Xa quality**

**Tried and tested**

REHAU stands for quality. As a pipe manufacturer, the quality of materials and workmanship directly impacts the performance and lifespan.

**Tested**

PE-Xa quality tests for over 38 years in the laboratory

**Longevity**

At 70°C and 8.5 bar, our PE-Xa district heating pipes will last over 50 years (DIN 16893)

**Research & development**

Our R&D department created a special PE-Xa recipe for our district heating pipes to offer improved thermal performance

**Certification**

REHAU certified according to ISO 9001
Complete pipe system
High performance pipes, shrouds and fittings

RAUHERMEX
The solution for medium - large heat networks
- Bonded PU foam with a best in class lambda value of 0.0199 W/m²K
- Largest flexible coiled pipe on the market (140mm)
- Largest DUO pipe on the market (75 DUO)
- RAUHERMEX Plus available with thicker insulation
- 10 bar option available
- No expansion/contraction, so no requirements for expansion provisions

RAUVITHERM
Flexible solution for small - medium heat networks
- Low weight and high flexibility
- Non-bonded PEX foam
- Only UK manufactured PE-Xa district heating pipe
- Coils up to 330m
- WRAS approval for potable water applications
- Now available up to 160mm
- Outer layer of foam is bonded to the outer jacket
RAUTHERMEX clip shrouds
- New 2nd generation with improved sealing rings
- Up to 20° bending of pipe
- No hot works
- Externally tested to 0.3 bar watertightness to EN 489
- Uses high performance PU foam insulation

RAUVITHERM heat shrink shrouds
- Heat shrink solution
- Can be used with either RAUVITHERM or RAUTHERMEX, or to combine both pipes
- Externally tested to 0.5 bar watertightness to EN 489
- Uses high performance PU foam insulation

REHAU EVERLOC™ compression sleeve technology
- No hot works
- 850 million joints installed worldwide
- Up to 50% faster connections
- Full range of tees and terminations
- Minimal bore reduction
PP-R Pipe
Large diameter pipes for heat networks

To meet growing demands for larger heat networks, REHAU now offer pre-insulated PP-R pipes to allow a fully polymer heat network. These can transport over 16MW of heat at 80/50°C.

**6 reasons to use PP-R pipe**
- No expansion bends – this saves both installation and material costs
- Up to 37% lighter than steel and easier to handle
- Up to 19% lower pressure losses than steel
- Excellent corrosion resistance so no leak detection required
- Can be combined easily with REHAU’s PE-Xa for fully polymer heat network
- Over 50 year lifespan at 70°C and 9.5 bar

<table>
<thead>
<tr>
<th>PP-R pipe SDR 11</th>
<th>Nominal diameter</th>
<th>Outer casing pipe diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>External diameter</td>
<td>Dimension</td>
<td>External diameter</td>
</tr>
<tr>
<td>160 mm</td>
<td>DN 125</td>
<td>250 mm</td>
</tr>
<tr>
<td>200 mm</td>
<td>DN 150</td>
<td>315 mm</td>
</tr>
<tr>
<td>250 mm</td>
<td>DN 200</td>
<td>400 mm</td>
</tr>
<tr>
<td>315 mm</td>
<td>DN 250</td>
<td>450 mm</td>
</tr>
</tbody>
</table>

Larger sizes available on request
Unique to REHAU, the REHAU Nexus allows you to add retrospective connections to existing heat networks. REHAU NEXUS has been externally certified to TÜV SÜD for its performance.

Benefits
- Up to 50% cost savings
- Up to 80% faster to install than conventional methods
- Maximum reliability to 110°C due to silicone safety seal
# Case Studies

Installations from across the UK

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Description</th>
<th>Product</th>
<th>Heat Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Portmeiron Village, North Wales</strong></td>
<td>Cottages, hotel &amp; other public buildings</td>
<td>3km of RAUTHERMEX</td>
<td>1MW Biomass boiler</td>
</tr>
<tr>
<td><strong>Piperdam Luxury Resort, near Dundee</strong></td>
<td>Holiday resort (70 lodges)</td>
<td>RAUTHERMEX pre-insulated pipe, RAUVITHERM pre-insulated pipe, Underfloor Heating</td>
<td>200kw - 1MW biomass boilers</td>
</tr>
<tr>
<td><strong>Eleanor Street, Sheffield</strong></td>
<td>Social housing (170 homes)</td>
<td>2km of RAUVITHERM</td>
<td>1.9MW Gas boiler</td>
</tr>
<tr>
<td>Case Studies</td>
<td>Type</td>
<td>Product</td>
<td>Heat Source</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Soho Farmhouse, The Cotswolds</td>
<td>Private estate &amp; holiday cottages</td>
<td>7km of RAUTHERMEX</td>
<td>1MW Biomass boiler &amp; 3MW fossil fuel back up</td>
</tr>
<tr>
<td>Riverside Installation, Glasgow</td>
<td>Social housing (+300 homes)</td>
<td>RAUTHERMEX pre-insulated pipe</td>
<td>Air-source heat pump</td>
</tr>
<tr>
<td>The Regional Performance Centre (RPC), Dundee</td>
<td>Dundee City Council</td>
<td>RAUTHERMEX</td>
<td>Ground-source heat pump &amp; CHP</td>
</tr>
</tbody>
</table>
RAUTITAN MLCP plumbing system

Ideal for communal heating systems

Features

- 10 bar WRAS-approved heating and plumbing system
- RAUTITAN Flex (PE-Xa) and Stabil (aluminium multilayer)
- REHAU EVERLOC™ compression sleeve fitting has been installed over 850 million times
- Independent certification of a 'cavity-free' joint
- Over 50 year lifespan
- Proven alternative to copper