PRESS RELEASE

British Plastics Federation
PIPES GROUP

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HOW PLASTIC PIPES ARE HELPING ADVANCE HEAT NETWORK GROWTH

Understanding of the benefits of heat networks is increasing across the UK, and many projects are now using this expanding technology to cut heating costs and reduce carbon footprints.

A centralised system can provide heating and hot water to multiple buildings, with the original heat generated from a range of sources – biomass, cogeneration plants, geothermal energy, industrial waste heat, and even solar thermal systems. The result is greater energy efficiency, lower operating costs, reduced emissions, and a system that is flexible and scalable.

Among the options for distribution pipework are mixed-material systems, for example steel combined with PE-Xa, and full polymer networks such as PP-R and PE-Xa. Full polymer district heating networks offer several practical advantages: high corrosion resistance, low thermal conductivity, and reduced need for ancillary systems like leak detection and expansion bends. Polymer networks are available in large diameters (up to 450mm, DN400) and require far fewer joints and no on-site welding.

PE-Xa pipes with non-bonded insulation are especially flexible, making them well suited to domestic installations. They can use permanent compression sleeve joints, avoid expansion bends and allow more direct routing around obstacles and across pipe crossings. Although non-bonded insulation has lower insulation performance than bonded PU, it still eliminates the need for leak detection

systems. Polymer jointing methods – compression sleeves, electrofusion or butt welding – give designers and installers a range of reliable options.

Installation speed and reduced disruption are further benefits. Live tapping into PE-Xa pipe networks can be up to 80 per cent faster than alternative methods, cutting installation time and cost. Polymer pipes also produce lower freight emissions. For example, a 1500m run of DN25 PE-Xa can save up to 67 per cent in transport emissions compared with steel. *

Designed for longevity, PE-Xa lifespans commonly exceed 100 years, with rated flow temperatures up to 80°C at 10 bar, and 16 bar for cold water.

When polymer distribution is compared with low carbon heat sources and efficient emitters, the system advantages compound: end-to-end low thermal conductivity, quiet operation, efficient heat transfer, corrosion resistance and long service life.

The BPF Pipes Group has updated its guidance on polymer pipe use in heat networks and Issue 3 covers design codes, distribution pipework and standards, plus planning, transport, installation, commissioning and operation. The guidance promotes best practice and right-first-time installation for durable networks and can be found at https://www.bpfpipesgroup.com/technical-information/technical-guidance/