



21 February 2024

PROTECTING DRINKING WATER QUALITY IN BROWNFIELD SITES

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As part of its long-term plan for housing, the Government is consulting on proposals to strengthen planning policy for brownfield developments. When developing brownfield sites, care needs to be taken to protect water supplies from contamination.

Polyethylene pipes with an aluminium barrier are routinely used in brownfield applications where potable water needs protecting from possible contaminants in the ground. They are especially useful in larger developments as their longer lengths minimise the number of joints needed, saving installation time and the risk of contamination. The BPF Pipes Group has published guidance on laying the appropriate types of pipes and fittings in such ground and emphasises the importance of specifying and installing such products correctly.

BS 8588: 2017 is the industry standard for polyethylene piping systems with an aluminium layer. It confirms through testing, that a pipe and fitting in combination successfully act as a barrier to organic contaminants, ensuring that concentrations remain below a threshold to protect drinking water quality. Fittings for connection of PE barrier pipes shall comply with WIS 4-32-11: 2018 up to 63mm diameter or BS 8561: 2021 for large sizes.

Both pipe and fitting need to be mechanically sound and together be capable of delivering a leak-tight system over the product lifetime.

So, to fully comply with BS 8588, manufacturers need to declare the combinations of pipes, fittings and fusion joints which have been proven to meet this standard.

Purchasing from a member of the BPF Pipes Group will ensure that confidence in the whole system can be assured as they offer complete pipe and fitting solutions which are tested and awarded a BSI Kitemark. In addition, the products offered by members comply with Water Regulations, the purpose of which is to ensure that public health is protected by preventing any contamination of public water supplies. For more information, see [Plastic Piping Systems and Water Fittings Regulations / Byelaws \(bfpipesgroup.com\)](https://www.bfppipesgroup.com)

The true benefit of installing these barrier systems is peace of mind for water suppliers and their consumers when it comes to the quality of water at the tap. Integrity of the barrier to contamination is assessed through the test for resistance to permeation which is designed to demonstrate that components in a system can together adequately resist the ingress of hydrocarbon contaminants.

The BPF Pipes Group recommends using fittings which have been fully assessed and certified by a third party, such as the BSI Kitemark, to WIS 4-32-11 or BS 8561. Where certification is not available, specifiers are advised to check that all tests included in the specification have been completed. It also strongly encourages those specifying these types of pipes and fittings to check that permeation testing under BS 8588 has been carried out to the actual pipe and fitting combination being offered, and to check that mechanical performance has been fully assessed to WIS 4-32-11 or BS 8561 using the fittings and barrier pipe for which they are being offered.

The BPF Pipes Group strives to promote best practice in the construction and use of all types of plastic pipes and fittings and its website contains many free-to-access technical guides and practical guidance.