

Technical Guidance

Plastic plumbing - insulation

Question

Do plastic pipes supplying hot and cold water and central heating require thermal insulation?

Considerations

- Plastic pipes have a lower thermal diffusivity than copper pipes and therefore lose heat more slowly.
- Approved Document L1 (England & Wales), Technical Handbook - Domestic section 6 (Scotland) and Building Regulations Part F (Northern Ireland) require insulation of certain pipes to reduce unwanted heat loss.
- Plastic pipes have increased resistance to damage from freezing compared with copper pipes. However, freezing of water within the pipes may have a detrimental effect on the performance of the plumbing system.
- NHBC Standards Appendix 8.1–A states the minimum insulation thickness to delay freezing inside domestic premises for cold water systems.
- The Water Supply Regulations (England & Wales), The Water Byelaws 2000 (Scotland) and Water Supply Byelaws (Northern Ireland) require insulation of pipework against freezing.

Answer

Plastic pipes supplying hot and cold water or central heating should be insulated against unwanted heat loss and/or freezing. Plastic pipes should be insulated to the same standard as required for copper pipes in the same location.