

Protective Equipotential Bonding (PEB) of Gas Installation pipework

(November 2024) (Second issue – supersedes June 2020)

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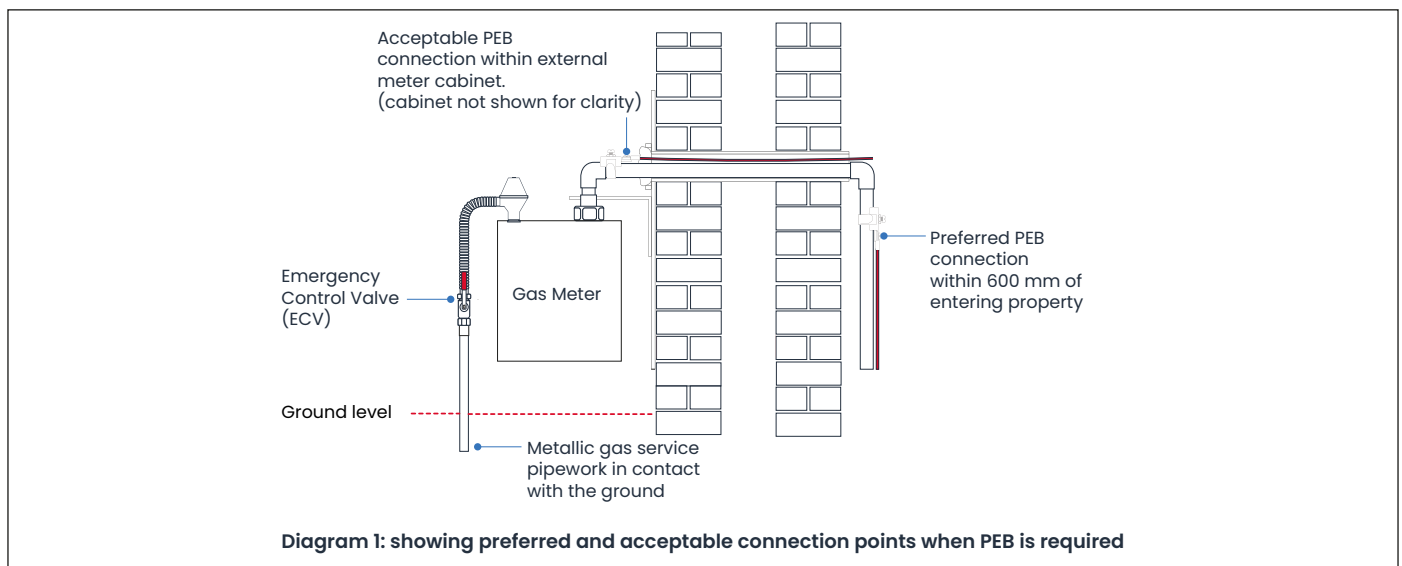
Question

When is it necessary to provide protective equipotential bonding (PEB) on gas installation pipework at or close to the gas meter?

Considerations

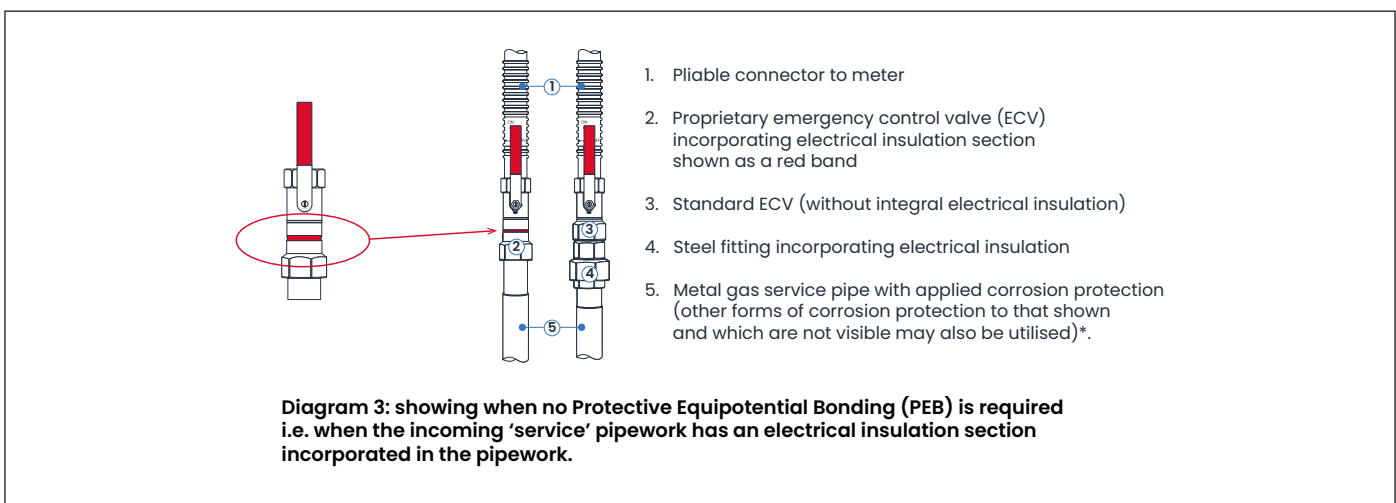
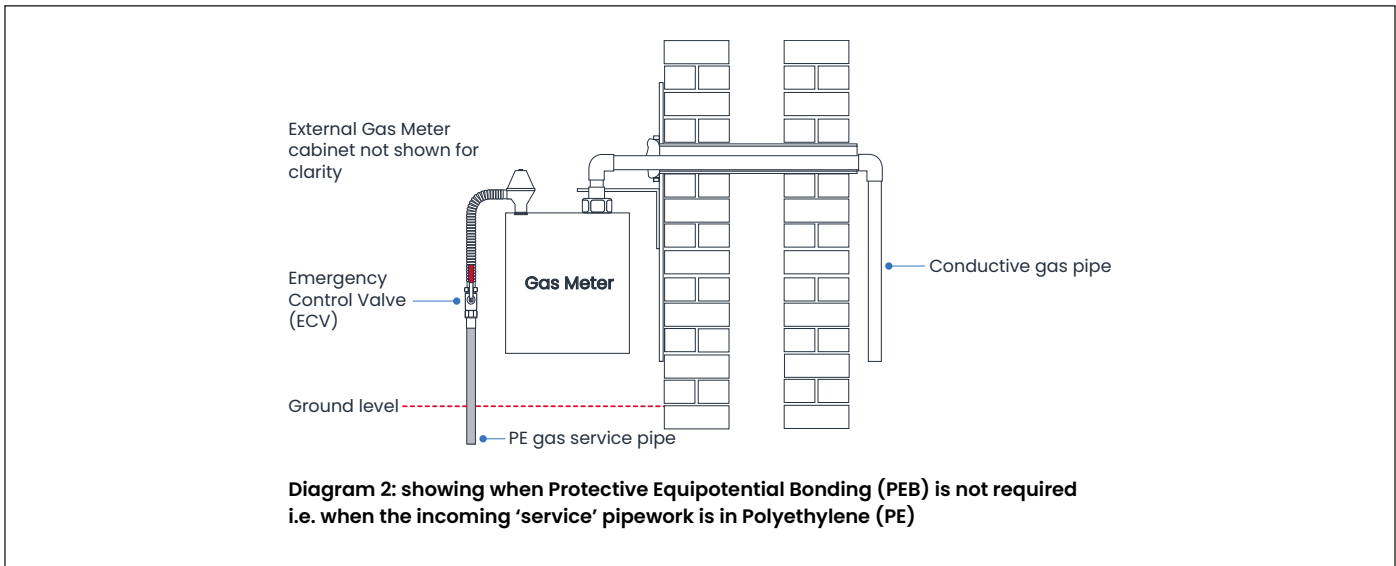
- When the gas ‘service’ pipework up to the meter is considered an extraneous-conductive-part it is a requirement to provide protective equipotential bonding (PEB) to any continuous conductive ‘installation’ pipework i.e. the pipework downstream of the meter, back to the main earth terminal (MET) in the dwelling. Bonding is used to reduce the risk of electric shocks to anyone who may touch two separate metal parts when there is a fault somewhere in the supply of the electrical installation.
- BS 7671:2018 ‘Requirements for Electrical Installations. IET Wiring Regulations’ clause 544.1.2 refers to the metal ‘installation’ pipework supplied by a metal ‘service’ pipe as an ‘extraneous-conductive-part’ and where practicable requires the PEB to be connected to the installation pipework within 600mm of the meter outlet union or at the point of entry to the building if the meter is external. The connection should be made before any branch in the pipework.
- Modern gas ‘service’ pipework is often in Polyethylene (PE) which isolates the meter and ‘installation’ pipework from the ground removing the requirement to provide a PEB connection. BS 7671:2018 refers to this under clause 411.3.1.2 by stating, ‘metallic pipes entering the building having an insulating section at their point of entry need not be connected to the PEB’.

Answer



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* Note: The applied corrosion protection outer sleeve on a metal service pipe should not be considered as a means of providing the electrical insulation.

Where there is any doubt on whether PEB is, or is not, needed a continuity measurement should be made of the resistance between the conductive part (gas pipework) and the incoming earthing conductor in the dwelling. The resultant figure will indicate whether PEB is required.



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