PROTECTIVE EQUIPOTENTIAL BONDING OF GAS INSTALLATION PIPEWORK IN DOMESTIC PREMISES

This Pocket Guide provides guidance on the acceptable location for the connection of a protective equipotential bonding (PEB) conductor to gas pipework installed in domestic premises. The information presented, aligns with that of Gas Safe Register's TB 102 'Location of protective equipotential bonding on gas installation pipework in domestic premises'.

Gas engineers are required to notify the 'responsible person' for the gas installation, where bonding is necessary but none appears evident, of the need for PEB; notification is typically in the form of a letter or card, an example of which is shown in *BS 6891*, Figure 9. **Regulation 18(2)** of the Gas Safety (Installation and Use) Regulations 1998 (GS(I&U)R) requires:

"Any person who connects any installation pipework to a primary meter shall, in any case where equipotential bonding may be necessary, inform the responsible person that such bonding should be carried out by a competent person."

The standard for gas installation pipework up to 35 mm (R1 1/4) – *BS 6891: 2015* – provides additional detail in support of the GS(I&U)R:

***BS 6891*, Clause 8.4.3.1**

"A gas installation within a property with an electrical supply shall have a main protective bonding conductor connecting the pipework to the electrical installation's main earth terminal, as specified in BS 7671."

***BS 7671*, Regulation 544.1.2**

"The main protective bonding connection to any extraneous-conductive-part such as gas, water or other metallic pipework or service shall be made as near as practicable to the point of entry of that part into the premises. Where there is a meter, isolation point or union, the connection shall be made to the consumer's hard metal pipework and before any branch pipework. Where practicable the connection shall be made within 600 mm of the meter outlet union or at the point of entry to the building if the meter is external."

Given the above, PEB should be connected to metallic pipework as follows:

Internal gas meter (for example, under the stairs)

- preferably within 600 mm of the outlet union of the meter; and
- before any branch (tee) in the pipework.

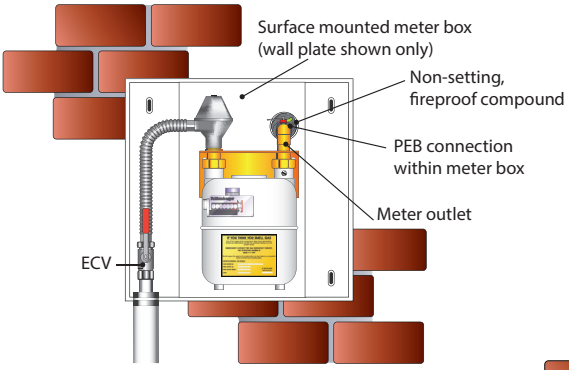
External gas meter (within a meter box or enclosure)

- preferably within 600 mm of the pipework entering the property, **or**
- within the meter box/enclosure, provided that the box/enclosure's integrity and that of any sleeve (i.e. its ability to prohibit the passage of gas either into the property or the wall cavity) is maintained; **and**
- before any branch in the pipework.

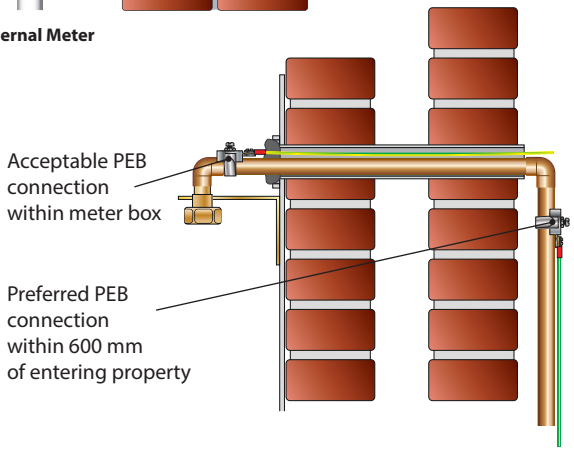
Sleeves

Low-pressure gas meter installations **ONLY** (≤ 75 mbar) can utilise a rear exit sleeve for routing the gas pipework into the property (surface mounted and semi-concealed meter box - see illustrations below) and this route can also facilitate the passage of the PEB conductor. The sleeve needs to be sealed within the box (one end only) with non-setting fire resisting compound, ensuring the annulus around the pipe and the PEB is completely sealed.

Note that installation pipework and therefore, PEB from medium-pressure fed meter installations (> 75 mbar ≤ 2 bar) is prohibited from entering a property via a rear exit meter box sleeve. In this scenario, the installation pipework shall exit the box externally before entering the property via a sleeve (not shown).



External Meter



BS 6891: 2015 Specification for the installation and maintenance of low pressure gas installation pipework of up to 35 mm (R1 1/4) on premises.
BS 7671: 2018 Requirements for electrical installations. IET Wiring Regulations Eighteenth Edition.