Technical Bulletin

Issue No. 16

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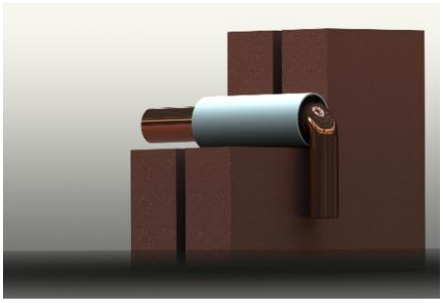
GAS PIPEWORK SLEEVING



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INTRODUCTION

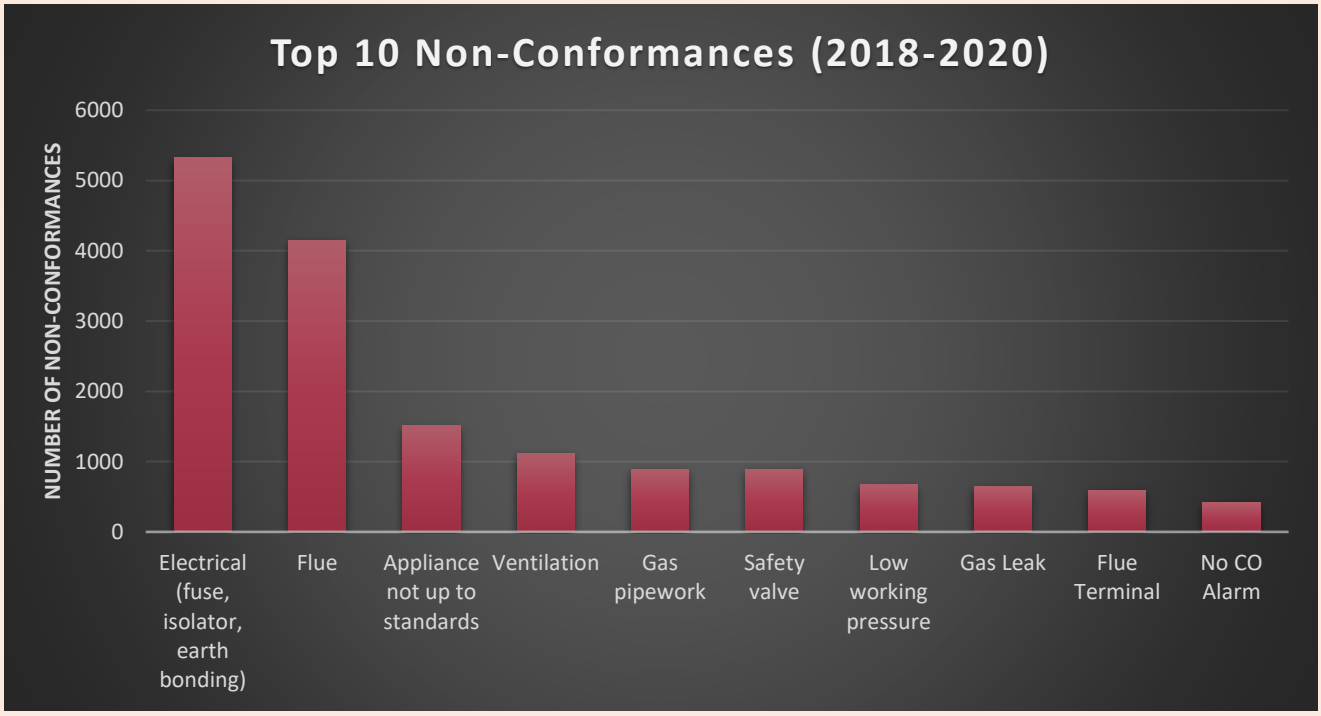
Our shared values and objectives are to ensure that gas safety is at the centre of all our day-to-day activities and that we strive to provide safe, sustainable, and efficient services to our customers at all times.

We wish to acknowledge that the RGII Inspection Scheme in 2020 confirmed a high level of compliance amongst Registered Gas Installers with respect to works carried out in accordance with the Irish Standard - IS 813 2017 and to overall gas safety.

Whilst the high level of compliance is to be welcomed, our Inspectorate have identified some specific areas that we intend to bring focus to throughout 2021. This in turn will enable us to achieve a more consistent approach and improved standards across the sector on these gas safety matters.

It is therefore important that we share and use the intelligence gathered from our Inspection Programme and indeed the valuable information from Notification of Hazards issued by RGI's to help us all to deliver a continuous improvement culture across our industry.

Below is a chart showing the Top 10 non-conformances found by RGIs and RGII inspectors during the period between 2018 and 2020.



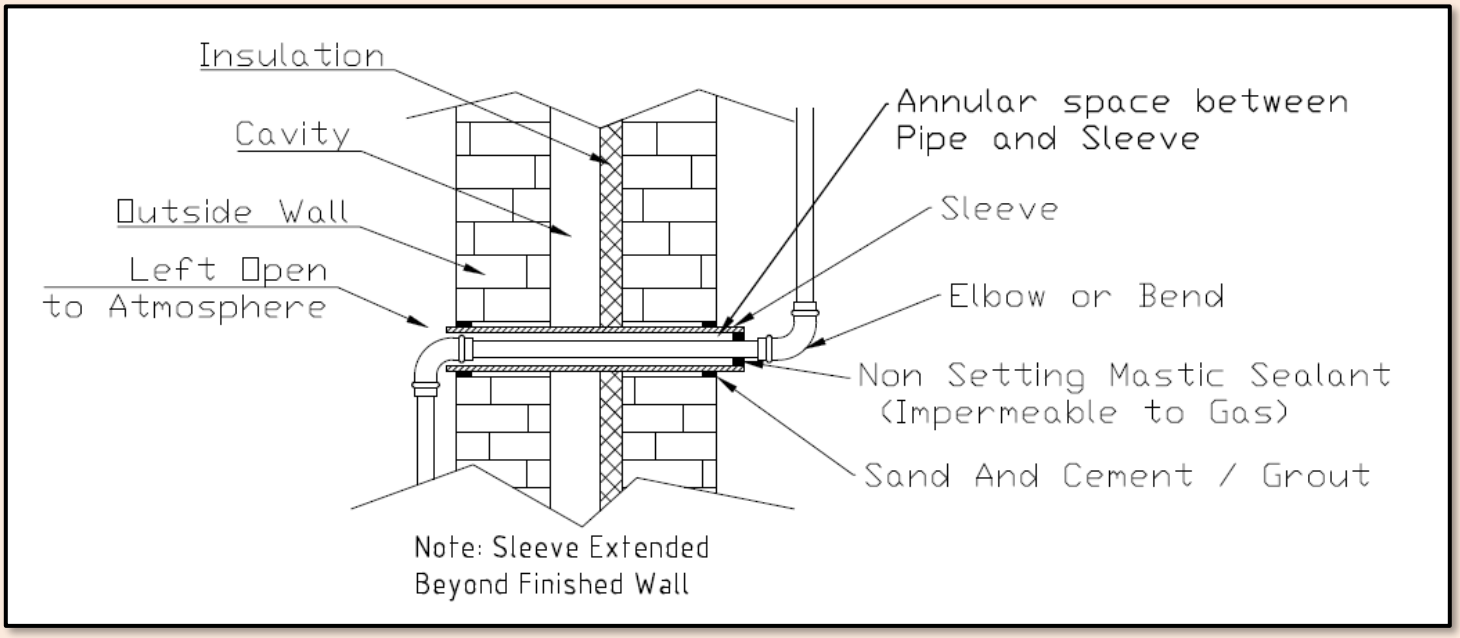
PURPOSE

The purpose of Technical Bulletin No. 16 is to raise awareness and highlight the importance of '**Pipe Sleeving'** and to provide clear guidance to RGI's on the steps to be taken and the materials to be used to ensure compliance with Section 4.5.7.5. and Annex G of IS813; which refers to Pipework passing through walls, floors or ceilings.

This Technical Bulletin will primarily focus on sleeving of gas pipework to a premise/building through a **'load bearing wall'** from outside.

In situations where gas pipework enters the premise/building from outside through a **load bearing wall** the Pipe Sleeve has two main purposes:

1. The sleeve shall ensure that in the event of a gas leak from this section of pipework that gas cannot escape or travel into the cavity of the wall and will vent safely to outside.
2. The sleeve itself shall provide separation between the gas pipework and the load bearing walloffering protection to the gas pipework from possible movement and stresses.



STORIES FROM THE JOB

In this example, the factory coating on the copper was used as a sleeve and this is not deemed to be a suitable sleeve. The wall was also not finished correctly.

On this particular installation, whilst there is adequately sized sleeving present, the space between the sleeve and the wall was not cemented and sealed. The copper pipe was also left exposed which makes it susceptible to mechanical damage.

PREPARING AND FITTING A PIPE SLEEVE THROUGH A LOAD BEARING WALL

The Pipe Sleeve shall be of a suitable material which is impermeable to gas and constructed from either non-metallic material or alternatively a suitable metallic material protected against corrosion.

The sleeve should be of adequate diameter to provide sufficient annular space between the pipe and the sleeve which will serve as protection to gas pipework from stresses due to movement.
(Refer to **Table 1** for Sleeve Sizing).

The sleeve shall be continuous through the wall and extend beyond the inner and outer leaf of the wall
The sleeve **shall be visible** when final wall rendering has been carried out.

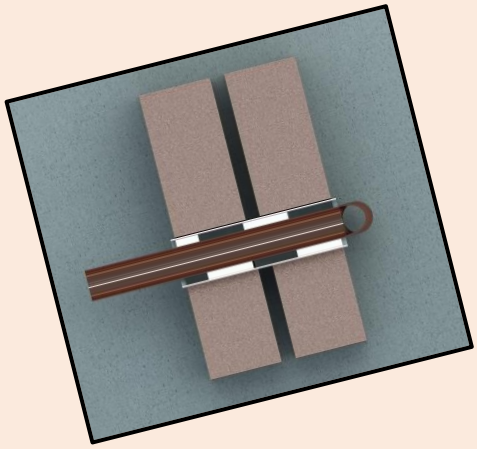
The space between the **sleeve** and the **building** shall be sealed with a suitable sealant both inside and outside (e.g. sand/cement or fire rated sealant).

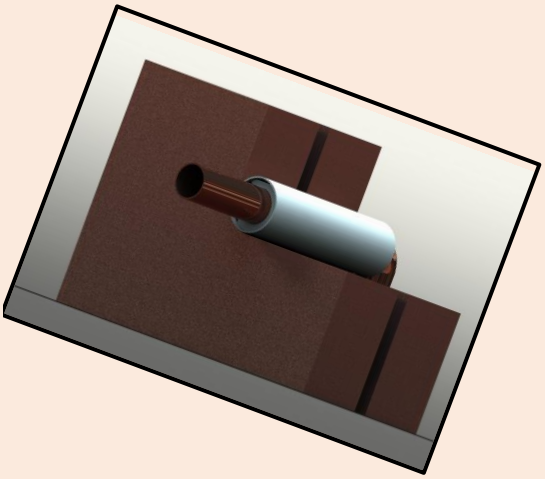
***Tip**: Glass Reinforced Pipe (GRP) is strongly recommended by RGII for use as a pipe sleeve.*

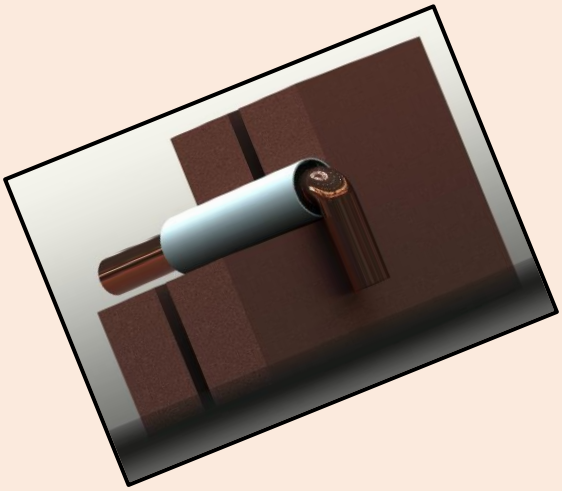
GRP is made of two or more different materials, which when combined provide superior strength and other characteristics such as:

- ✓ *Constructed from a strong durable material which has a load bearing element.*
- ✓ *Impermeable to gas.*
- ✓ *Fire and UV protection.*
- ✓ *Corrosion resistant.*

Additional benefits of GRP are that it is very easy to use, can be obtained in most local suppliers and is available in 30mm, 38mm and 44mm internal diameters which are ideal for the majority of domestic gas installations.







INSTALLING PIPEWORK INTO A SLEEVE

When inserting the pipe into the sleeve always ensure that the pipe is located centrally within the sleeve.
The annular space between the pipe and the sleeve shall be sealed on the **inside** of the building using a sealant or mastic which remains flexible when set and is impermeable to gas.
The annular space between the pipe and the **outside** of the wall must be left open.
This will ensure that in the event of a gas escape inside the sleeve, the gas will vent safely to the outside of the building.

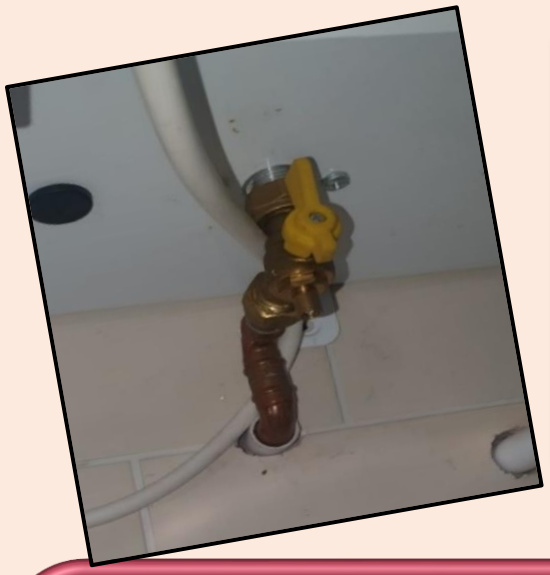
For annular space between the pipe and the sleeve – refer to Table 1.

Pipe Size	Type of Pipe	Sleeve Size (Internal Diameter)
15mm	Copper	25mm (minimum)
15mm	Steel	32mm (minimum)
22mm	Copper	
20mm	Steel	
28mm	Copper	40mm (minimum)
25mm	Steel	

Table 1: Sleeve Sizes

Note 1. If using solder copper/capillary fittings, it is acceptable that part of a 90^{o} elbow can be inside the sleeve.
Note 2. Soldering of capillary bends should be carried out before the pipe is placed into the sleeve whenever possible.
Note 3. Compression or mechanical fittings **shall not** be installed within the sleeve.

Stories from the Job



This is a common scenario where a gas supply from underneath the boiler runs through a tiled wall. The 15mm copper pipe is going through a 22mm sleeve which is too small in diameter. According to table 1, 15mm copper requires a 25mm sleeve at the minimum.
The space between the sleeve and the wall has also not been cemented/sealed, and the annular space between the gas supply pipe and the sleeve has not been sealed with a sealant which is impermeable to gas.

In this example, the sleeving around the copper through the wall had not been carried out to standard, and in particular where it did not extend beyond the finished wall.
Due to the fact that the sleeving did not extend beyond the finished wall, the sand and cement mix was coming into direct contact with the copper pipe, which can create the possibility for corrosion to occur.
Note: Some Cement mixtures contain components which can lead to corrosion of metals such as copper.

This example ticks all the boxes for gas pipework sleeving through a load bearing wall.
The sleeving is used is GRP pipe, it extends beyond the finished wall and has an adequate diameter to provide the sufficient annular space between the pipe and the sleeve. The space between the sleeve and the wall is cemented and sealed correctly.