

Technical Bulletin

Issue No. 17

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CONDENSATE REQUIREMENTS



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INTRODUCTION

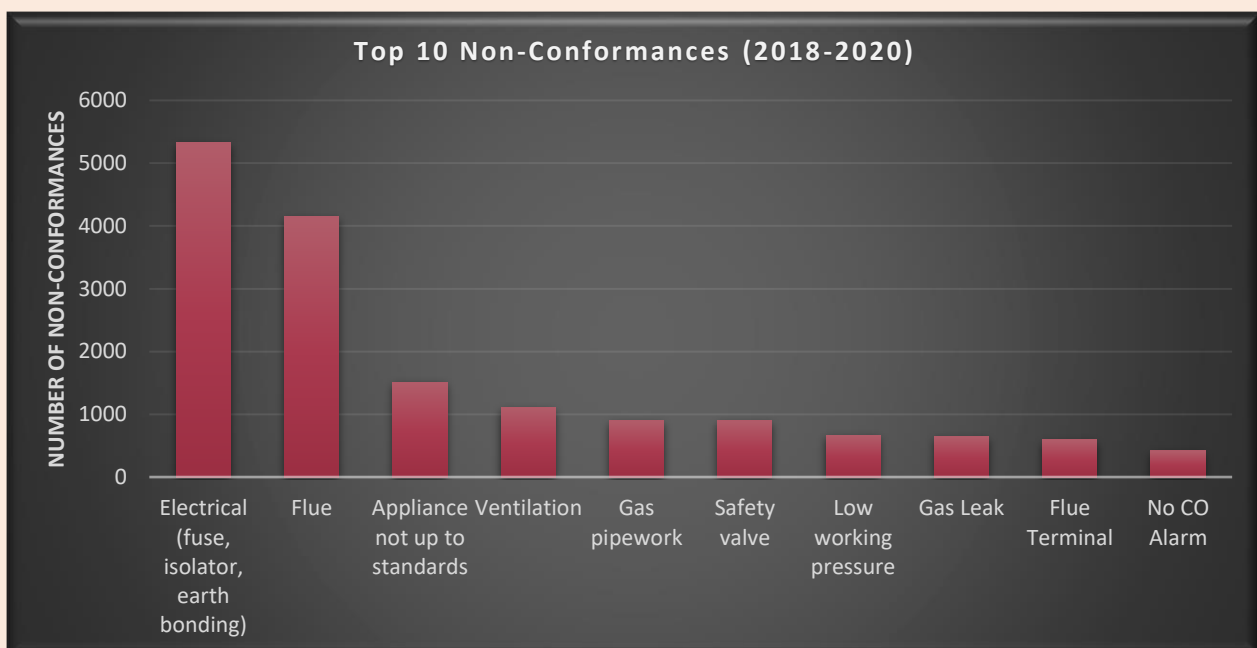
Our shared values and objectives are to ensure that gas safety is at the centre of all our day-to-day activities and that we strive to provide safe, sustainable, and efficient services to our customers at all times.

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 both RGIs and RGII Inspectors in the period between 2018 and 2020.





PURPOSE

The purpose of **Technical Bulletin No. 17** is to provide guidance to RGIs and to highlight the importance of correct condensate piping and adhering with the boiler manufacturer's instructions.

The Condense System is an important component of high efficiency boilers. Its primary purpose is the safe discharge of the acidic condense liquid into the wastewater drainage system.

Manufacturers have raised concerns regarding condensate pipe installation issues which have led to disputes around warranty.

This document will provide guidance to RGI's on the steps to be taken and the materials to be used to ensure compliance with Manufacturer Specifications, I.S. 813 and Local Authority Regulations.



STORIES FROM THE JOB



An RGI when carrying out an Annual Service found that the Condense Pipe from the High Efficiency Boiler was terminating directly onto the roof of a porch.

Two years previously the original installer had replaced a Standard Efficiency boiler which would not have had a condense pipe system.

Rectification of this matter entailed moving the boiler to the back of this house with access to the wastewater drainage system.

DESIGNING AND INSTALLING THE CONDENSATE SYSTEM

When installing a condensate pipework system, it is important to ensure that it is fitted and installed in accordance with Manufacturer's Instructions and in compliance with Local Authority regulations.

- ✓ Where possible condense should be piped directly from the boiler and discharged into the **internal** wastewater drainage system of the household.
- ✓ Where this is not practical, discharge can be piped into either:
 - the external household drains or
 - a purpose designed soakaway.
- ✓ The condensate pipe material used should be either **ABS** or **PVC**. No metallic pipework or fittings should be used.
- ✓ It is strongly recommended that all external condensate discharge pipe as well as the section through the wall is of a 32mm diameter to prevent freezing, damage to the boiler and nuisance call backs in adverse weather conditions.
- ✓ The condensate pipe should have a fall of at least 2.5° or 50mm per metre away from the boiler where possible.
- ✓ The number of 90-degree bends should be kept to a minimum, and long external runs should be avoided.
- ✓ The condensate pipe should never terminate onto:
 - a. Open ground such as driveways, flowerbeds, or grass verges.
 - b. Rooftops or metal gutters/downpipes.
 - c. Open sources including sinks, baths, showers, toilets, or bidets.
- ✓ When gravity discharge to a termination point is not possible, a condense pump should be used.

Note: The Condensate is part of the Boiler Flue system, and it is important to ensure that the horizontal Flue has a minimum of 1° to a maximum of 3° rise from the boiler to the outside to ensure that the condense fluid is allowed to drain back to the appliance condense drain system in accordance with the manufacturer's specifications.

Stories from the Job



An RGI identified this problem whilst carrying out a Service Repair job.

The internal condense pipe had a steep incline rather than a minimum 2.5 degree fall and contained unnecessary 90-degree bends.

Another concern was that the external condense pipe was terminating onto a pathway creating a serious hazard.

Rectification of this problem involved the refitting of the complete condense pipe system. The pipe size was increased to 30mm through the wall to outside and piped into an external household drain.

This particular issue was identified by both the RGI and his Inspector during the course of an Annual Inspection.

As the section of condense through the wall is 22mm with a 90-degree bend, the condense was susceptible to freezing when temperatures dropped below freezing despite the installer increasing the pipe size externally.

The RGI proceeded to rectify the issue by replacing the 22mm section with 32mm pipe. This was an unforeseen additional cost for the customer.



This was a particularly poor condense pipe installation. The original Installer had failed to pipe the condense discharge directly into the wastewater drain, creating a slip hazard and causing staining damage to the paving stones. The RGI carrying out the service work carried out the necessary remedial works.



Here is an example of where an RGI had taken the necessary steps to increase the size of the condense pipework to 32mm. However, he utilised three 90° bends externally where one 90° bend with an offset or a 45° bend would have sufficed on the downpipe section would have sufficed.



Retrofit installation where the boiler was relocated into the attic. The RGI piped the condense into the vertical soil pipe using an approved soil stack pipe branch. The condense pipe was increased in size and branched into the soil pipe at a high point to eliminate the possibility of freezing.

For this arrangement, the HE Boiler was located in a converted garage a distance away from the nearest external drainage system. The RGI took the necessary measures to ensure that the condense pipe size was increased from 22mm to 32mm, there was sufficient fall on the horizontal pipe runs, the pipework was adequately bracketed, and it was correctly terminated into the wastewater drainage system.