



HSE
Health and Safety
Executive

Gas boilers - flues in voids

(Update to HSE safety alert issued 2nd October 2008)

Health and Safety Executive - Safety Notice

Department Name:	Operational Strategy Division - Services Transportation and Safety Unit (Utilities Section)
Bulletin No:	OPSTD 10-2010
Issue Date:	2 December 2010
Target Audience:	Homeowners & tenants of properties with a gas boiler, Landlords (private and social), Managing Agents, Gas industry (Gas Safe registered businesses/engineers; gas appliance manufacturers; gas emergency service providers), Construction (home builders), Services, Local Authorities (Housing).
Key Issues:	Changes to industry guidance relating to existing gas central heating systems where the flue system is concealed within a void and cannot be visually inspected (i.e. to make sure it is safe) will require provision of inspection hatches before 31st December 2012.

Introduction:

This Safety Notice provides updated information to that in the safety alert that was issued by the Health and Safety Executive (HSE) on 2nd October 2008 following a death earlier that year.

The purpose of the original Alert was to raise awareness of the potential dangers from certain types of flues connected to gas-fired central heating installations in some properties (particularly, but not exclusively, a large number of flats and apartments completed since about 2000) that may not have been installed properly, or may have fallen into disrepair.

Where boilers are located away from external walls, flues are more likely to run through ceiling (or wall) voids. In such cases when the gas appliance is serviced or maintained it can be difficult, or impossible, to determine whether the flue has been installed correctly or whether it is still in good condition.

Where a flue fault exists in combination with a boiler which is not operating correctly, dangerous levels of carbon monoxide (CO) could be released into the living accommodation. CO is a colourless, odourless, tasteless, poisonous gas produced by incomplete burning of carbon-based fuels. It stops the blood from bringing oxygen to cells, tissues, and organs and can kill quickly, without warning.

The 2008 Alert referred to the relevant gas industry technical guidance which gas engineers were expected to follow. A revised version of this guidance has now been published by Gas Safe Register. This changes the approach that Gas Safe registered engineers will take when they encounter relevant installations.

The purpose of this Safety Notice is to make homeowners, landlords and tenants aware of these changes as action might be required. It is not, however, the only means of communication. An industry working group (including representatives of the gas industry, home builders, home warranty providers and boiler manufacturers, assisted by HSE) will ensure that information is readily available to all those who may be affected.

Background:



Photograph 1: Typical flue within a ceiling void

The introduction of fan-flued gas appliances in the mid 1990s allowed gas central heating boilers to be installed away from external walls. This meant that builders could design new-build and refurbishment properties with boilers being installed on internal walls to make better use of the available space. The flues to these boilers were, in some cases, routed through voids in the ceiling space (and through stud walls) between properties above.

This practice became progressively more popular from 2000 onwards and the vast majority of affected systems are thought to be located in new build flats and apartments completed since 2000. It is however possible that other types of home may have similar central heating systems installed.

Gas engineers are legally required to check the flue after carrying out any work on the boiler. This will include a visual inspection. Similarly, when an engineer installs a boiler they need to ensure that it can be used without constituting a danger to anyone; this would include checking whether the flue is safe. The original installer and every subsequent servicing or maintenance engineer need to be able to check that:

- the flue is continuous throughout its length;
- all joints are correctly assembled and are appropriately sealed; and
- the flue is adequately supported throughout its length.



Photograph 2: An inspection hatch in a ceiling

Unless the gas engineer can make these checks they cannot ensure that the flue from the boiler is safe in order to comply with their legal duties. This necessitates the provision of appropriate inspection hatches in the ceiling (and, where relevant, stud wall).

The original industry technical guidance (aimed at registered gas engineers) advised that where the flue to the boiler was concealed within a void and could **not** be visually inspected it should be assessed as "not to current standards" (NCS) in accordance with the Gas Industry Unsafe Situations Procedure (GIUSP - see **Reference** section for explanation). This was dependent on there being no other risks being present which may have made the boiler unsafe.

Revised guidance takes effect on 1st January 2011. This is the result of the industry working group who undertook a review of the original guidance and concluded that the potential risk from such systems, should it not be possible to inspect the flue, requires an alternative approach to ensure that the necessary remedial action is taken.

Action required:

The revised technical guidance requires inspection hatches to be fitted in properties where the flue is concealed within voids and cannot be inspected. The homeowner (or landlord etc.) has until **31st December 2012** to arrange for inspection hatches to be installed. Any gas engineer working on affected systems after **1st January 2013** will advise the homeowner that the system is "at risk" (AR) in accordance with the GIUSP and, with the owner's permission will turn off the gas supply to the boiler so it cannot be used.

In the interim period, where no inspection hatches are fitted, the registered gas engineers will carry out a simple risk assessment which should ensure that the risk from exposure to CO is managed in the short-term. This risk assessment includes:

- looking for signs of leakage along the flue route; **and**
- carrying out a flue combustion analysis check (and obtaining a satisfactory result); **and**
- checking for the presence of suitable audible carbon monoxide (CO) alarms (**and installing such alarms where they are not already fitted**).

As long as this boiler passes the series of safety checks and the risk assessment does not identify any concerns about its safety, it can be left on. Suitable inspection hatches will however need to be fitted to the ceiling (or wall, as appropriate) by end 31st December 2012. Wherever possible it is recommended that inspection hatches are fitted before this date.

Once inspection hatches have been fitted, the gas engineer will be able to make sure that the flue is safe and was installed in line with the relevant standards and manufacturers instructions.

A simple explanation of the issue, the risks and how the matter can be resolved, as well as a number of frequently asked questions, have been developed for householders. The industry working group are looking at how best to target individual households that are most likely to be affected. In the meantime, further information is available on the Gas Safe Register website.

If you are unsure whether a property has concealed gas flues and think you might be at risk:

- If you have your gas appliances checked annually by a Gas Safe registered engineer he/she will be able to advise whether this Notice applies to your property.

- If you do NOT have your boiler regularly serviced arrange for a Gas Safe registered engineer to visit to check the appliances and flues. Show them this Notice.

If a property has concealed flues in voids and no inspection hatches:

- If the property is less than 2 years old contact the original builder for assistance with the retrofitting of inspection hatches and repair of any flue defects.
- If the property is between 2 and 10 years old contact the home warranty provider as you may be covered by them if there are defects in the flue. The main warranty providers (NHBC, Premier Guarantee and Zurich Building Guarantee) have however advised that cover is not provided for installing inspection hatches in homes over two years old.
- If the property is 10 years or older you should contact a Gas Safe registered engineer. You or your landlord will have to meet the cost of the inspection hatches and any defects to the boiler or its flue. It may still be worth contacting the home builder who may be able to assist in some way, or be able to recommend reputable building services companies to carry out the work.

Having taken advice as above, arrange for a competent builder or building services company to fit inspection hatches as soon as you can and, in any case, by 31st December 2012. (If you don't, from 1st January 2013 a Gas Safe registered engineer will advise you that the appliance is "at risk" and, with your permission, will turn off the appliance; they will tell you it should not be used until inspection hatches are fitted so that the flue can be checked for safety.)

Do not:

- **Attempt to check the flue system yourself (unless you are a Gas Safe registered engineer). You are likely to do more harm to the installation and place you and your family at greater risk.**
- **Try to install inspection hatches yourself. You may damage other key functions of the ceiling, such as fire and noise proofing.**

If you live in rented accommodation and think your property might be affected:

- Bring this Notice to the attention of your landlord or managing agent. It is the responsibility of the landlord to ensure that inspection hatches are installed and that the boiler and flue are checked every year.

If you think you are suffering the symptoms of CO poisoning:



- **Turn the appliance off immediately and contact the National Gas Emergency Service on 0800 111 999.**
- **If you think you or your family experience any of the symptoms of CO poisoning you should seek urgent medical advice from either your GP or an accident and emergency department.**

Relevant legal documents:

- Health and Safety at Work etc. Act 1974, Section 3;
- Gas Safety (Installation and Use) Regulations 1998, Regulations 26, 27, 33 & 36;
- Building Regulations 2010;

- Building (Scotland) Regulations 2004.

References:

- Room-sealed fanned-draught chimney/flue systems concealed within voids, Technical Bulletin 008 (Edition 2, 1st December 2010), Gas Safe Register
- Safety in the installation and use of gas systems and appliances. Gas Safety (Installation and use) Regulations 1998. Approved Code of Practice and Guidance, L56, HSE
- The Building Regulations, Approved Document J (2010 edition), Combustion appliances and fuel storage systems
- Scottish Government - Building Standards - Technical Handbooks 2009 Domestic Environment
- The Gas Industry Unsafe Situations Procedure, Gas Safe Register.
[Where a gas appliance or pipework has been installed in an unsafe way, or is operating unsafely and the gas engineer can not rectify the situation immediately, they will follow the guidance outlined in the Gas Industry Unsafe Situations Procedure (GIUSP) to make the installation safe. This is the industry accepted document for guiding engineers on dealing with unsafe situations.]
- Gas appliances: Get them checked. Keep them safe, INDG238, HSE 
- Landlords: A guide to landlords' duties, INDG285, HSE 

Further information:

Further information, including a list of Frequently Asked Questions, can be found by visiting the Gas Safe Register website. This website also provides the contact details for the main warranty providers (you should address any specific enquires about warranties to your provider). For additional enquires not answered through these routes please send questions to: fluesinvoids@gassaferegister.co.uk