

Technical Bulletin 147 (Edition 2)

Developed with HHIC

Title: Clarification between ‘Manufactured’, ‘Connection’, and “Telescopic” Chimney/Flue Joints.

Date issued: 19 April 2022

Note: This version of Technical Bulletin (TB) 147 replaces the version originally published 15 July 2010 which is now withdrawn. This version has been reviewed and where appropriate revised to ensure that it remains both current and relevant.

This bulletin has been produced to clarify the differences between a ‘manufactured joint’, a ‘connection joint’, and a “telescopic joint” in relation to concealed vertical and horizontal chimney/flue systems

Introduction

This Technical Bulletin (TB) identifies the differences between ‘manufactured’, ‘connection’, and “telescopic” chimney/flue joints.

It is also important to recognise that longitudinal seam joints, along the length of chimney/flue section are considered to be a manufactured joint.

This TB also details several manufacturing techniques for the fabrication of chimney/flue lengths incorporating longitudinal seam joints.

Background.

With the introduction of Building Regulations for ‘chimney/flues in voids’ and the requirement for the inspection of joints and bracketing, boiler and chimney/flue manufacturers are continuously looking into ways to make life easier for both the appliance installer and maintenance engineer.

Note 1: For guidance on flexible concentric flue systems reference can be made to TB 139 Room Sealed, Fanned-Draught Vertical Condensing Flexible Flues Concealed Within Voids⁽¹⁾

Extended concentric flue lengths.

More recently, longer concentric chimney/flue sections have been developed that can be installed in vertical or horizontal voids, as long as they are supported in accordance with the manufacturers’ instructions, which in some cases may only require a bracket at each end.

The construction of these extended flue lengths differs between manufacturers, but they all have the inner flue section constructed from one full length extrusion without any hidden joints. The difference is in the manufacture of the outer air duct. Some are constructed using conventional welding or mechanical lock-forming, along their length, but whichever method is used, they all comply with the required levels of air tightness, demanded by the relevant Standards, and can therefore be considered as continuous chimney/flue lengths. **Appendix 1 and Appendix 2** show examples of manufactured longitudinal seams. These manufactured seams are not considered ‘connection joints’.

It may not be practicable or commercially viable, however, for manufacturers to produce the outer air duct from a single piece of material. Some products will therefore have a ‘manufactured’ joint (made as part of the manufacturing process) at the end circumference of the air duct i.e. two sections of tube sleeved together with a material

overlap and mechanically fixed during manufacture, which cannot be separated without intervention.

The integrity of the air duct is tested and maintained, meeting the required level of air tightness.

An example of a manufactured joint is shown in Appendix 1.

Flue integrity check

TB 143 sets a requirement for a “flue integrity check” to be carried out when the boiler is commissioned, including using an ECGA where possible (i.e., the boiler installation has a suitable air-inlet test-point), to check that:

$O_2 \geq 20.6\%$, OR $CO_2 \leq 0.2\%$

Boiler manufacturers have agreed that this check should also be repeated at the time of annual service or maintenance of the appliance, and this is a requirement of the Benchmark service/interim work record, to be recorded digitally on the app, and/or consumers documentation.

Note 2: For the purposes of this TB, maintenance is where ‘gas work’ has been completed on the boiler and testing in accordance with Regulation 26(9) of The Gas Safety (Installation and Use) Regulations ⁽²⁾ (GSIUR) is required.

The flue integrity check, alongside visual checks of the flue system able to be undertaken, and boiler combustion readings, will provide an additional means of checking the adequacy of the flue system and any joints (“manufactured”, “connection”, or “telescopic”).

Note 3: Where an air-inlet test-point has not been provided on, for example, older standard efficiency boilers and ‘gas work’ has been completed, registered engineers and businesses should continue to check the safe operation of the appliance in accordance with regulation 26(9) of GSIUR ⁽²⁾.

Note 4: For details of current gas safety legislation, building legislation and industry standards for the geographical areas covered by Gas Safe Register, see the [Legislative, Normative & Informative Document List \(LNIDL\)](#) ⁽³⁾ at: <https://www.gassaferegister.co.uk/sign-in/> - login and visit the Technical Information area.

Note 5: For general information about the process behind the development of Gas Safe Register Technical Bulletins and the expectations for all Stakeholders, see [TB 1000](#) ⁽⁴⁾ at: <https://www.gassaferegister.co.uk/sign-in/> - login and visit the Technical Information area.

Bibliography

(1) TB 139 - Room Sealed, Fanned-Draught Vertical Condensing Flexible Flues Concealed Within Voids

(2) The Gas Safety (Installation and Use) Regulations 1998

(3) LNIDL - Gas Safe Register Legislative, Normative & Informative Document List

(4) TB 1000 - An introduction to Gas Safe Register Technical Bulletins

Note: Gas Safe Register Technical Bulletins and the Legislative, Normative & Informative Document List can be viewed at: <https://www.gassaferegister.co.uk/sign-in/> - login and visit the Technical Information area.

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Appendix 1- Manufactured and Connection Joints

A ‘**manufactured joint**’ for both high efficiency and older, standard efficiency chimney/flues should be considered a continuous length. Where only “manufactured” joints are present, in a concealed flue scenario, these joints do not normally need to be within 1.5m of an inspection hatch.

Please note, this does not preclude the other installation and inspection recommendations in Building Regulations Approved Document J (concealed Flues Section 1.47), and TB-008 (latest edition).

A ‘**connection joint**’ in the chimney/flue system, which is assembled by the installer will normally require an inspection hatch within 1.5m of the joint.

It is noted that, starting with the original installer of the boiler and/or chimney/flue system, it is useful for there to be provided a means of informing subsequently attending engineers, that the chimney/flue system is constructed from a continuous pipe incorporating circumferential manufactured joints (where this applies).

It is suggested that this be provided on/with any consumer work report provided for the installation, to be kept with the manufacturer’s installations and servicing instructions, provided to the consumer.

Figures 1 -7 show examples of manufactured chimney/flue systems with manufactured seams and joints and are compared to a number of difference types of ‘connecting joints’.



Fig. 1- Laser welded longitudinal seam



Fig. 2- Mechanical lock forming longitudinal seam

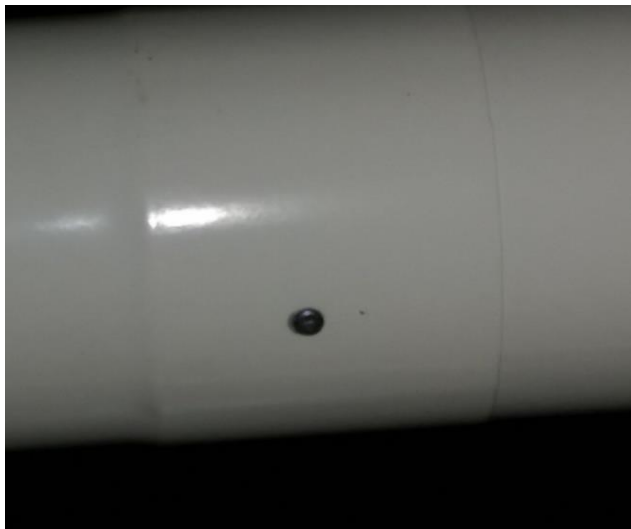


Fig. 3 Example of a 'manufactured joint'



Fig. 4 Example of a 'connection joint'



Fig. 5 Extension of a connection joint'



Fig. 6 Extension pipe for a 'connection' joint'



Fig. 7 Extension pipe for a 'connection joint'

Appendix 2 - Telescopic chimney/flue joints

Telescopic chimney/flue joints, as may be the nature of the boiler manufacturer's horizontal chimney/flue accessory, are also not considered "connection" joints. Figures 8 & 9 below show a typical telescopic chimney/flue joint, before (figure 8) and after (figure 9) being set and mechanically secured by the installer, in line with the manufacturers' instructions (specifying sealing tape around the telescopic metal air-duct joint in this example).

Figure 8:



Figure 9:

