

13th May 2013

HETAS Technical Note 4

Connecting Flue Pipes – Vertical connections between a stove outlet and a twin wall system chimney penetrating a ceiling.

The connection between the stove outlet and the chimney system is made using a single wall connecting flue pipe but how long should this single wall pipe be? There are two considerations which determine the length of this connector.

1. Firstly where a twin wall chimney penetrates a ceiling there is a minimum length of twin wall chimney that must extend below the ceiling in to the room of 425mm as given in BS EN 15287 – 2007 +A1:2010.
2. Secondly, the maximum allowable length of single wall connecting flue pipe is 2,000 mm as also given in BS EN 15287 – 2007 +A1:2010.

Clearly if the height from the appliance to make the connection with the twin wall chimney using a single wall connecting flue pipe is greater than 2,000 mm then the projection or drop of the twin wall down from the ceiling must be extended further than the minimum 425 mm in order to comply with the requirements. If the connection to the 425 mm of projecting twin wall chimney can be made using less than 2,000 mm of single wall pipe then this would also comply. It is desirable wherever possible to use a longer length than 425 mm of projecting twin wall chimney and a shorter length of single wall connecting flue pipe than the 2,000 mm maximum allowed , as this will retain more heat in the chimney and aid flue draw and appliance safety.

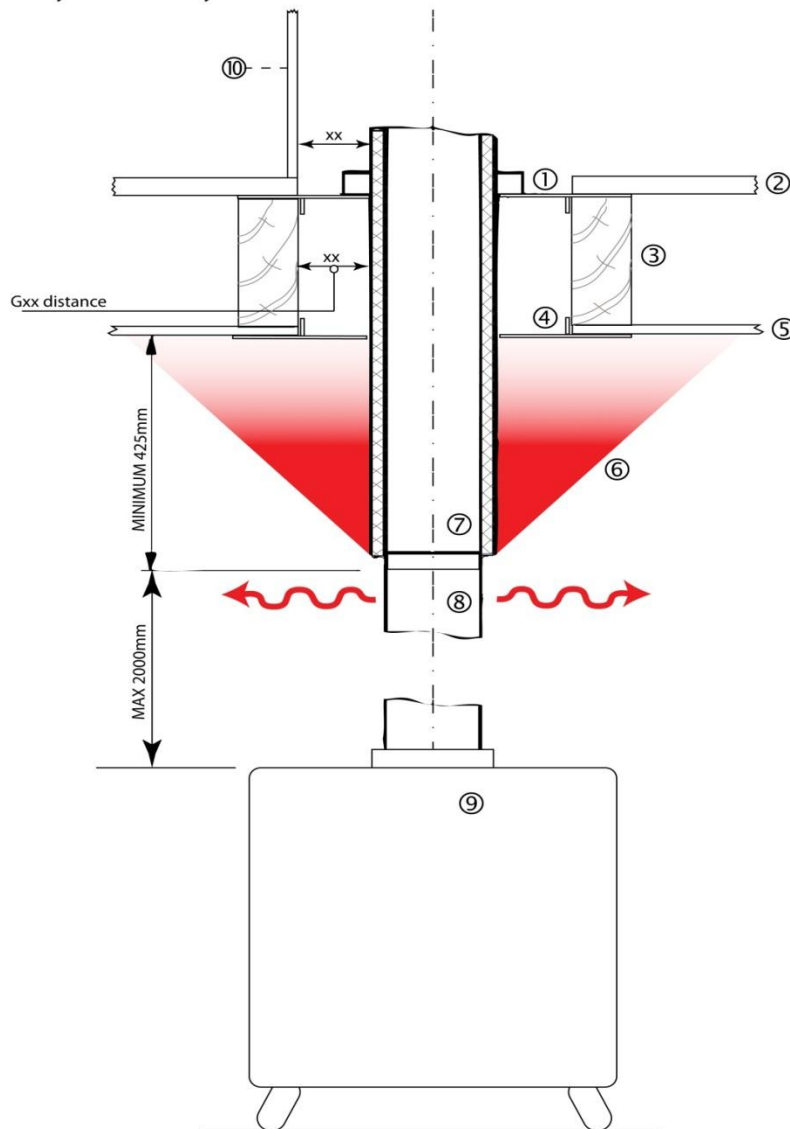
Approved Document J gives guidance on the separation of single wall connecting flue pipes from walls of combustible material of $3 \times D$, where D is the diameter of the pipe. The guidance in BS EN 15287-2007+A1:2010 ensures this is maintained by the principle that the twin wall pipe acts as a shield, see Figure 1, against radiated heat from the single wall pipe on to any combustible ceiling. The circular “shadow” ⑥ cast upwards on to the ceiling surface by the projecting twin wall chimney maintains the $3xD$ clearance (in a straight line) from the surface of the single wall pipe to the surface of the ceiling. This clearance is effective for any flue pipe diameter likely to be encountered in a domestic installation.

As with all guidance, the above is the minimum to meet the requirements and manufacturer’s installation instructions must always take precedence if they recommend more than the recommendations stated here.

Andy Mathews

Technical and Training Manager

Figure 1. System Chimney - Clearance to Combustibles



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Legend: Figure 1, Connecting Flue Pipes – Vertical connections between a stove outlet and a twin wall system chimney penetrating a ceiling.

1. Support plate
2. Combustible floor surface
3. Combustible floor joist
4. Fire stop plate
5. Plaster board ceiling
6. Heat shadow
7. Twin wall insulated system chimney
8. Connecting Flue Pipe (maximum length not to exceed 2000 mm)
9. Solid Fuel Appliance
10. Enclosure