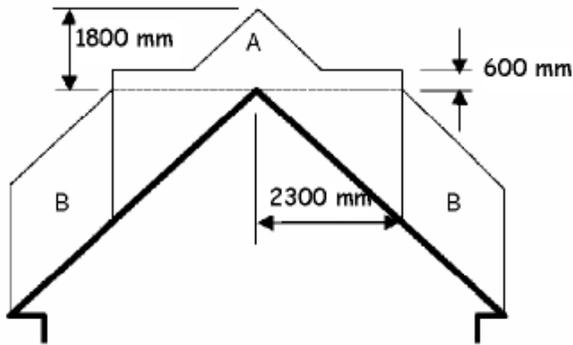


British Standards recommend that bends in the chimney are avoided, as a straight chimney gives better performance. If bends are absolutely necessary there must be no more than two in the length of the chimney (i.e. one offset). The angle of the bend should be no greater than 30° from the vertical. However, in some cases such as for chimney installations in flats it may be necessary to have more than two bends in each flue. In this situation advice must be sought from the manufacturer to ensure that the flue will create sufficient draw. Always use the standard bends or offset components which are available from the chimney manufacturer. For metal chimneys to BS 4543 the distance between bends must be no greater than 20% of the total chimney length.

### Combustible Roof Coverings

Flue terminals in close proximity to roof coverings that are easily ignitable, such as thatch or shingles, should be located outside Zones A and B in the following diagram:



### Location of flue terminals relative to easily ignitable roof coverings

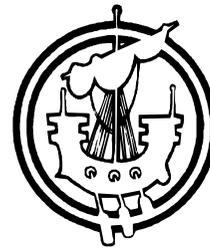
**Zone A** At least 1.8 m vertically above the weather skin; and at least 600 mm above the ridge.

**Zone B** At least 1.8 m vertically above the weather skin; and at least 2.3 m horizontally from the weather skin.

Please note that this leaflet is merely intended to provide supplementary guidance. Should you have any doubts about whether any work requires a building warrant or whether it complies with current regulations please consult the Building Standards Section at the number shown below.

Please also note that works of the nature included in this leaflet may still require a Building Warrant.

Information current at time of printing: 31/01/2011.



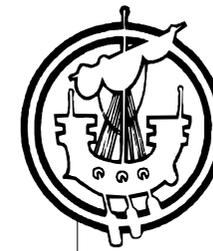
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## Building Standards

### Flues & Chimneys



The purpose of this leaflet is to provide supplementary guidance on the construction & installation of flues in accordance with the current building regulations.

Please take one.

Should you need further assistance then please do not hesitate to contact one of our Building Standards officers.

### Comhairle nan Eilean Siar

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## Design of Flues

A combustion appliance should be connected to a chimney that discharges to the external air. However there are some combustion appliances that are designed not to discharge direct to the external air, such as flueless cookers. An opening window, extract fan or passive stack ventilation system may be sufficient to ventilate a kitchen but where other types of flueless appliances are installed, the manufacturer's instructions should be followed.

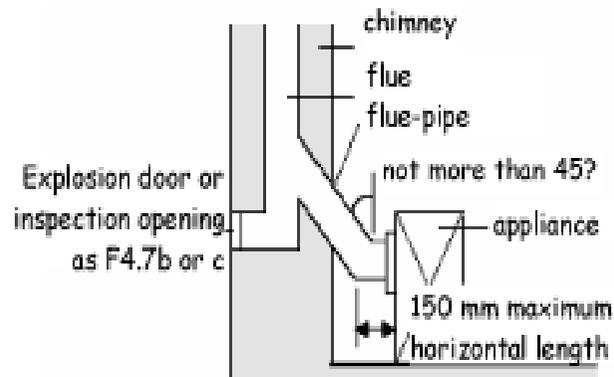
**Solid Fuel** - Every solid fuel appliance should be connected to a separate flue.

**Oil-firing** - Every oil-firing appliance should be connected to a separate flue. However this is not necessary where all the appliances have pressure jet burners and are connected into a shared flue.

**Gas-fired** - Every gas-fired appliance that requires a flue should connect into a separate flue. However, in certain instances, appliances can be connected to shared flues, if they are installed in accordance with the recommendations in BS 5440: Part 1: 2000.

The flue of a natural draught appliance, such as a traditional solid fuel appliance, should offer the least resistance to the passage of combustion gases. Resistance can be minimised by restricting the number of bends and horizontal runs should only be incorporated on back-entry appliances. The horizontal length of the back-entry flue-pipe at the point of discharge from the appliance should be not more than 150 mm. Where bends are essential, they should be angled at not more than 45° to the appliance

Please see diagram opposite.



Section through appliance and flue-pipe

The flue should have no intermediate openings. However it is acceptable to provide a draught stabiliser or draft diverter on the chimney provided it is in the same room or space as the appliance being served. An explosion door may also be provided.

Access should be provided for inspection and cleaning of the flue and the appliance and therefore an opening that is fitted with a non-combustible, rigid, gas-tight cover would be acceptable.

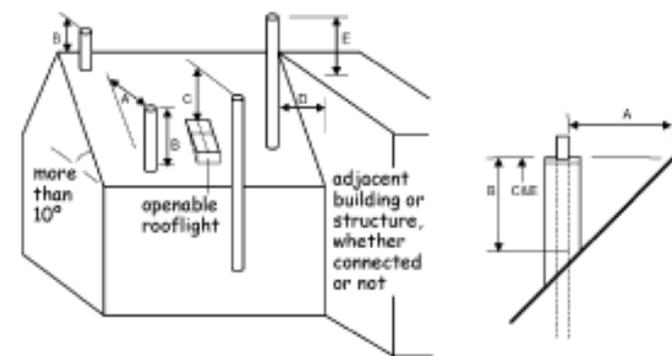
To minimise the possibility of condensation in a metal chimney, it should not be fixed externally to a building, but should be routed inside the building. However a metal chimney may be fixed externally if it is insulated and constructed of a material that can be used externally, such as stainless steel or, in the case of gas, aluminium, so long as they conform to the specifications of the National Annex to BS EN 1856-1: 2003.

Combustion gases at the point of discharge can be at a high temperature. Therefore flues discharging at low level where they may be within reach of people should be protected with a terminal guard. A flue terminal should be protected with a guard if a person could come into contact with it or if it could be damaged. If the flue outlet is in a vulnerable position, such as where the flue discharges within reach of the ground, or a balcony, veranda or window, it should be designed to prevent the entry of matter that could obstruct the flow of gases.

If an open-flued combustion appliance and extract fans are installed, the installation should be tested to show that the combustion appliance is able to operate safely, whether or not fans are running.

Any bends in a flue should be formed using manufactured flue liners. Straight sections should not be cut.

The outlet from a flue should be located externally at a safe distance from any opening, obstruction or flammable or vulnerable materials. The outlets should be located in accordance with the following diagram:



### Minimum dimension to flue outlets

A 2.3 m horizontally clear of the weather skin.

B 1.0 m provided A is satisfied; or 600 mm where above the ridge. However, where the roof is thatch or shingles, the dimensions should be as diagram 2 to clause 3.20.17.

C 1.0 m above the top of any flat roof ; and 1.0 m above any openable rooflight, dormer or ventilator , etc. within 2.3 m measured horizontally.

D/E where D is not more than 2.3 m, E must be at least 600 mm.

Notes:

1. Horizontal dimensions are to the surface surrounding the flue.
2. Vertical dimensions are to the top of the chimney terminal.