

Installation Guide

Also see illustrations pages 10-11

Chimney and flue design

The chimney and flue design is the responsibility of the engineer or installer and should conform to the requirements of Approved Document J and, where appropriate, BS EN 15287 part 1.

Any variation will require the designer to ensure the performance of the chimney meets the requirements of the appliance by calculation using the methods given in BS EN 13384 part 1 or any proprietary software program based on this standard.

Regulations and standards

The regulations and standards covering the design and installation of a chimney system in the UK are as follows:

Building Regulations

England and Wales – Approved Document J - Combustion Appliances and Fuel Storage Systems.

Scotland – Scottish Building Standards Technical Hand Book Section 3.

Northern Ireland – Building Regulations Part L – Combustion Appliances and Fuel Storage Systems.

Standards

BS EN 15287 part 1 - Chimneys. Design, installation and commissioning of chimneys Part 1: Chimneys for non-room sealed heating appliances.

BS EN 13384 part 1 - Chimneys. Thermal and fluid dynamic calculation methods.

Flue sizing

The sizing of flues for appliances should be based on the type of fuel and the appliance to be used.

• Gas Appliances

In the case of gas appliances the Building regulations Approved Document J table 5, the gas safety in use regulations and in all cases as required by the manufacturers' installation instructions.

• Oil Appliances

Flues for oil appliances should be sized in accordance with the requirements of Approved Document J Paragraphs 4.4 and 4.5.

• Solid Fuel Appliances

The size of flues for solid fuel appliances should be in accordance with the requirements of Approved Document J Paragraphs 2.4 to 2.7 and as given in table 2 of ADJ. For solid fuel appliances with back or side flue outlet, the maximum permitted length of horizontal chimney or flue pipe is 150mm.

Where the chimney passes through a wall, the opening must be lined with a wall sleeve.

The termination height of the chimney will depend on appropriate regulations and standards. The connection between a connecting flue to Excelsior must be made in the same room as the appliance. According to the UK Building Regulations, the chimney must be accessible for inspection and cleaning. We recommend the inclusion of a tee to provide easy access. Each chimney section and connected fittings shall be used as manufactured for assembly on site without any alteration. Please make sure that all elements are installed the right way up.

The system must be adequately supported with elements supplied by Docherty Group. The support components must be used at intervals depending on the load bearing criteria quoted on pages 14 and 15. Wall brackets are not load bearing and should be used to provide lateral stability only, and at intervals not exceeding the criteria quoted.

Where the chimney passes through a combustible floor, a ventilated fire stop plate must be used both above and below the aperture. A support clamp supports the weight of the chimney on the upper fire stop plate. Both plates must be secured using 6mm screws. The aperture must be constructed to maintain 50mm distance from the outer wall of the chimney to combustible materials.

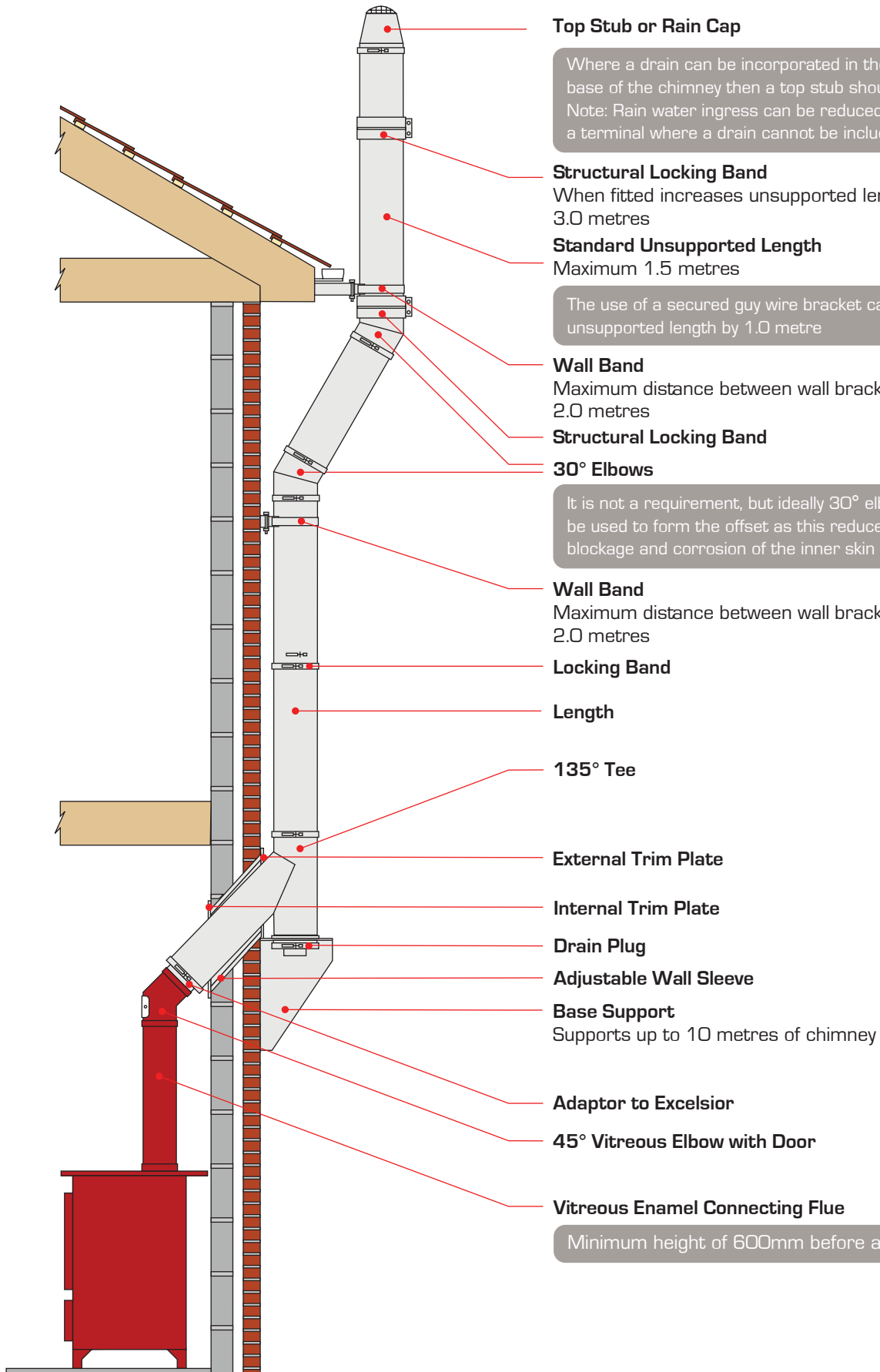
The aperture must additionally be lined with a fire resistant board. All subsequent floors having combustible floors must be treated in this way.

Chimney joints must not be positioned in the thickness of floor or ceiling joist spaces or within 50mm of floor or ceiling.

Where the chimney passes through any occupied space other than the room in which the appliance is installed, it must be fully enclosed with fire resistant material maintaining the 50mm clearance to the outer wall of the chimney. The enclosure is to prevent damage to the chimney, to prevent human contact and to ensure no combustible material can be placed too close to the chimney. The enclosure must have an access panel measuring at least 100mm x 100mm.

Where the chimney passes through a roof space, it is essential that it is adequately supported by bracing to roof timbers. If there is a chimney run of more than 1.5m from the ceiling support to the roof support, use a bracing bracket and rigid stays for such application. Also, provision must be made to ensure that no accidental placement of combustible product can occur within 50mm of the external casing of the chimney; for example, a mesh or screen around the chimney. This must cover the first 1m of the chimney and must go down to the upper face of the ceiling.

Any change of direction in a flue will create resistance to the flue gas movement. Building Regulations do not allow any part of the chimney system to form an angle greater than 45 degree from the vertical. Where the system is used for solid fuels and oil, no system can be constructed with more than two separate offsets in the chimney. If a 90 degree tee is used on the back of the appliance, this constitutes one offset. The length of chimney between two elbows must not exceed 20% of the total length of the chimney.



Top Stub or Rain Cap

Where a drain can be incorporated in the tee at the base of the chimney then a top stub should be used.
Note: Rain water ingress can be reduced by use of a terminal where a drain cannot be included

Structural Locking Band

When fitted increases unsupported length to 3.0 metres

Standard Unsupported Length

Maximum 1.5 metres

The use of a secured guy wire bracket can increase unsupported length by 1.0 metre

Wall Band

Maximum distance between wall brackets 2.0 metres

Structural Locking Band

30° Elbows

It is not a requirement, but ideally 30° elbows should be used to form the offset as this reduces risk of blockage and corrosion of the inner skin

Wall Band

Maximum distance between wall brackets 2.0 metres

Locking Band

Length

135° Tee

External Trim Plate

Internal Trim Plate

Drain Plug

Adjustable Wall Sleeve

Base Support

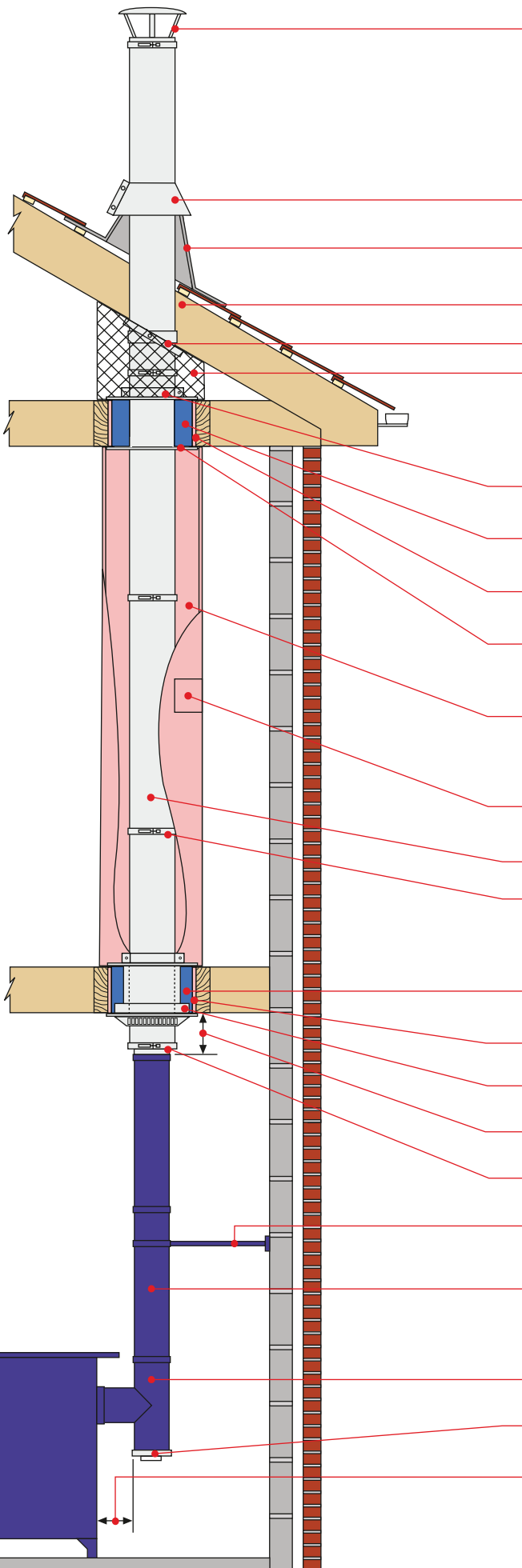
Supports up to 10 metres of chimney

Adaptor to Excelsior

45° Vitreous Elbow with Door

Vitreous Enamel Connecting Flue

Minimum height of 600mm before an offset



Rain Cap or Top Stub

Where a drain can be incorporated in the tee at the base of the chimney then a top stub should be used
 Note: Rain water ingress can be reduced by use of a terminal where a drain cannot be included

Storm Collar

Roof Flashing

Minimum 50mm clearance to rafters

Rafter Support

Wire Mesh

Shields chimney in loft space

Must cover at least 1.0 metre above floor level

Ventilated Fire Stop and Clamp

Minimum 50mm clearance to combustibles

Fire Rated Board Around Aperture

Ventilated Firestop

Minimum 50mm clearance from the outer casing of the chimney to the inner surface of a 30 minute fire rated enclosure

Must have access panel at least 100mm x 100mm

Length

Locking Band

Minimum 50mm clearance to combustibles

Fire Rated Board Around Aperture

Ventilated Fire Stop Kit

425mm minimum

Adaptor to Excelsior

Adjustable Wall Support

Vitreous Enamel Connecting Flue

90° Vitreous Tee

Tee Cap

150mm maximum