



# TWIST LOCK INSTALLATION INSTRUCTIONS

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## 1. REGULATORY / GUIDANCE DOCUMENTS

The designation of a CF system chimney is in accordance with	EN 1856-1
The installed chimney shall be designated according to	EN 1443

In addition to the information contained in this document, please refer to regulatory and guidance documents to ensure that systems comply with relevant guidelines.

## 2. PRE-INSTALLATION CHECKS

Check that all necessary instructions are on site with all the components. Check that the components are clean, dry and undamaged.

## 3. HANDLING AND STORAGE

Products are to be stored in a suitable location (dry conditions on a level floor), and left in their packaging until immediately prior to installation, when all packaging, including protective silicone cover on male coupler, should be removed. Products should be stored in a vertical position with the male coupler pointing upwards. On cold hard floors, polythene or pallets should be located underneath stored items to avoid damp damaging the packaging.

If items are being delivered by transport other than that of Flue-Stox, special care should be taken to ensure that damage is not caused during transit. The normal method of cleaning is by use of a soft brush which should not be made of black steel.

Note: Suitable (P.P.E.) Personal Protective Equipment should be worn when handling and installing these items.

## 4. ASSEMBLY

- The chimney should be installed with a minimum of horizontal runs and offsets. 45 degree bends can be used. If the appliance is gas fired the distance between bends should not exceed half the vertical height of the chimney. For solid fuel or oil fired appliances the distance between the bends should not exceed 20% of the vertical height of the chimney.
- For appliances requiring the T450 and Soor Fire Resistance Classification, 50mm minimum clearance must be maintained from combustible materials, and where flues penetrate floors. For appliances only requiring T200 classification 30mm minimum clearance must be maintained from combustible materials.
- The chimney diameter should never be reduced to less than the diameter specified by the appliance manufacturer; in some cases this may involve an increase in diameter from the appliance spigot.
- Ensure that adequate air is available for combustion. Refer to Building Regulations Approved Document J.
- Ensure chimney termination has adequate clearance from the roof of the building. Do not allow products of combustion to be discharged where they can enter an opening window or ventilation inlet. It is good practice to install a minimum vertical rise of 600mm on to an appliance before fitting a bend. If connecting to a draught diverter, a vertical rise of at least 600mm must be installed immediately above the diverter, or as recommended by the appliance manufacturer.
- The chimney should be adequately supported. A full range of support brackets is available. We recommend no more than 6m vertical rise between load bearing support brackets. Lateral support brackets should also be installed at 2m intervals, (vertical riser), and 1.5m intervals (incline / horizontal).
- Provision for inspection/sweeping must be made
- This product is not suitable for condensing applications.
- Joints shall not occur within a floor or ceiling construction.

- Chimney components shall not be modified.
- Chimneys penetrating walls shall be sleeved/ shielded and weatherproofed if through external walls.
- Where specified, lightning protection of the chimney shall be installed in accordance with EN 61024-1.
- Fire stops, spacers and ceiling supports shall be installed as specified in these instructions.
- Where there is a risk of combustibles being placed next to the chimney, the minimum distances to combustibles must always be maintained either by a permanent enclosure or shield.
- Weatherproofing where chimneys penetrate roofs shall be in accordance with these instructions.
- A variety of terminals are available for all applications. Chimneys in exposed locations can benefit from Anti Down Draught, "H" or Roto Cowl. Top Stubs are recommended for use on solid fuel appliances, drain points can be used to overcome the problem of rain entering the open terminal. The use of mesh cowls should be avoided on solid fuel appliances as they need regular inspection and cleaning to avoid sooting up. The finished installation shall have a chimney plate as detailed herein.
- On completion of the installation it should be commissioned in line with the requirements of EN 12391 including a smoke test (see also the Operating and Maintenance Instructions). If there are any leaks, or any significant spillage, the fault must be rectified before the appliance is used. Provision must be made for condensate drainage where required.

The above notes are an outline only of some of the aspects of good chimney installation practice. Please refer to the Regulatory / Guidance Documents listed herein.

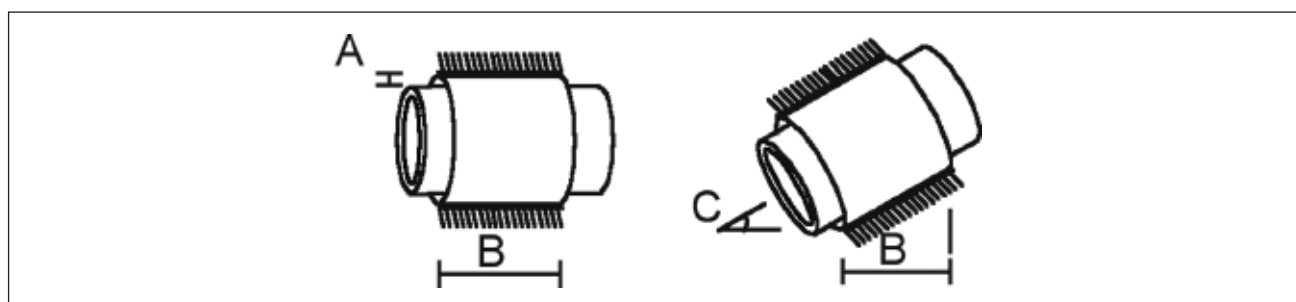
## 5. CLEARANCE / SHIELDING

The installer should ensure that all electrical cabling, pipe work and any other obstructions are located so as not to disrupt the flue route. Any alterations that may be required to structural timbers, i.e. joists, should be carried out by a competent person to the relevant standard and allowing the specified minimum clearance from any combustible materials.

**Floors** - The minimum distance to combustible materials is dependant upon the application as detailed in the table below. The T200 Fire Stop Plates and T450 Ventilated Fire Stops give a minimum clearance of 50mm. For the lower temperature applications without the requirement for soot fire resistance and where space is restricted, special Fire Stop Plates giving 30mm clearance can be made to order.

Application	Minimum Clearance	Standard Plates Provide Clearance
T450 - G	50mm	50mm
T200 - O	30mm	50mm

**Walls** - Where flues penetrate walls the above distances to combustibles must be maintained (Dimension A). This can be achieved by ordering a galvanised or stainless steel wall sleeve starting 1/ the horizontal distance through the wall (Dimension B) and 2/ the angle from the horizontal, where appropriate (Angle C in Degrees). The enclosure should be capped with a trim plate on either side of the wall and a storm collar on external walls.



Other Areas where contact with combustibles is a risk - Wherever there is a risk of combustibles falling or being placed against a chimney either an enclosure should be built or a shield installed around the chimney at the minimum distances stated above. For example, a shield may be required in the loft space. Mesh sheets are available which can be cut to size on site. Top hat spacers are available to space the mesh from the chimney outer casing.

## 6. OPENINGS

An opening into the chimney is necessary where it cannot be inspected through the appliance or where the chimney route includes offsets. This can be achieved via a Tee or an Inspection Length, depending upon the route from the appliance and the product range

Openings may be required for: -Cleaning and maintenance / Appliance performance testing / Draught Control

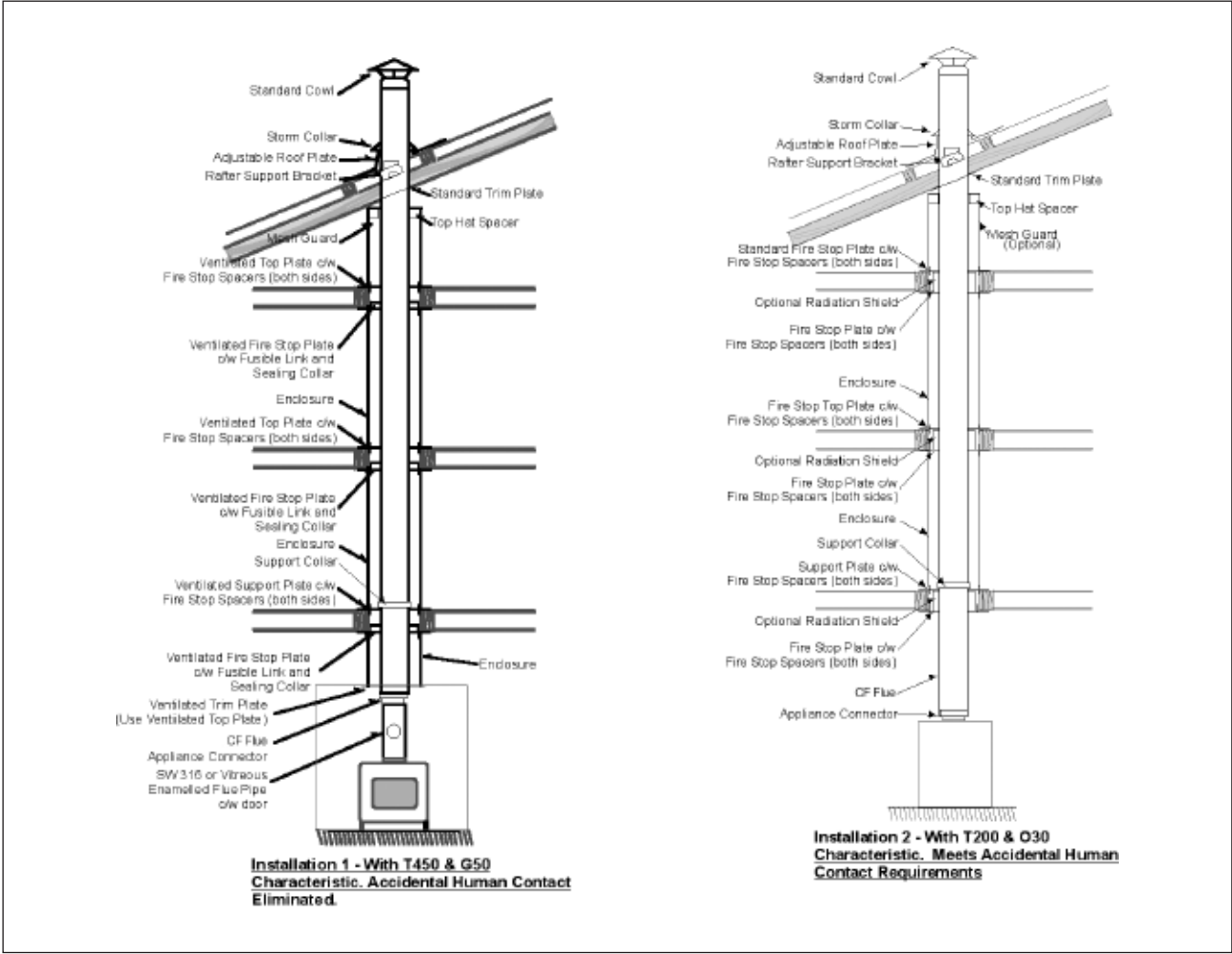
Lengths and fittings with test points (socket and plug) can be made to order on request. Where required access shall be available so that the full length of the flue from the appliance adaptor to the chimney outlet can be cleaned and the chimney can be inspected. Openings must be located in areas where there is no risk from fire or explosion. Access must be provided where there is an offset of more than 30 degrees or any other offset, which could not otherwise be inspected or cleaned.

Cleaning access, draught regulation, appliance connection openings, etc. shall be separated by at least one internal diameter away from another, unless some other configuration has been tested.

## 7. CONDENSATE DRAINAGE

Where condense is anticipated the flue route should allow for condense to either run back into the appliance, or a Tee + Tee Cap c/w Drain, should be installed at the base of the riser to allow condense to run from the chimney to a drain tube.

8. TYPICAL INSTALLATIONS



**Notes** - T450 applications must always be installed with ventilated fire stop plates, radiation shield, ventilated support plates and ventilated top plates. T200 applications can be installed with standard support plates and fire stop plates. For this application the use of a radiation shield is optional. The standard support and fire stop plates are provided with a 50mm clearance to combustibles, however, special plates can be made up for the minimum clearance of 30mm, should space be restricted.

9. ACCIDENTAL HUMAN CONTACT

For T450 applications and where there could be accidental human contact a mesh shield or enclosure should be installed. Standard CF meets the accidental human contact requirements for T200 applications without the need for shielding.

10. INSTALLATION INSTRUCTIONS FOR SPECIFIC COMPONENTS

**Installing Lengths** - The flue joint must always be made with the male enclosed part inserted into the upper length. The upper piece is then rotated in a clockwise direction fastening the two pieces together. The two pieces are then locked together with a locking band.

**Locking Bands** - Fit the locking band over the joint of the two lengths. The locking band is supplied with a stainless steel nut and bolt, which is to be securely fastened.

**Sealant** - In circumstances where a slight positive pressure is likely within the flue, the joints can be sealed with a silicone sealant. The sealant is applied on both the inner and outer. Care should be taken to ensure no surplus sealant is allowed on the external casing as it is difficult to remove and can leave a mark. Please see our work instruction for sealant application for more information. \*Not suitable for T450 applications.

FIRE STOPPING THROUGH COMBUSTIBLE FLOORS AND WALLS: -

Combustible Walls

Where CF passes through a combustible wall a wall sleeve must be installed to maintain the minimum distances to any cavity wall infill.

Support Requirements	T450 G50 System	T200 O30*
Load Bearing System	B/ Ventilared Fire Stop Plate & Sealing Collar C/ Ventilared Support Plate c/w Support Collar	B/ Fire Stop Plate C/ Optional Radiation Shield D/ Support Plate c/w Support Collar
Non-Load Bearing System	B/ Ventilared Fire Stop Plate & Sealing Collar D/ Ventilared Top Plate	B/ Fire Stop Plate C/ Optional Radiation Shield E/ Fire Stop Plate

\* Clearance provided by standard product is 50mm.

## T450 Applications Combustible Floors

### **IMPORTANT** - Assembly of the Ventilated Fire Stop Plate

The plate is sent out pre-assembled.

#### Useful Dimensions

Code	ID/OD (mm)	Box Section (mm)*	Plate Size SQ (mm)
05	125/175	275	346
06	150/200	300	373
07	175/225	325	395
08	200/250	350	395

\* This dimension is the minimum internal measurement and must allow for a plaster board lining to be incorporated into the box section.

The ventilated fire stop plate has been designed for fixing to wooden joists. If you need a plate to be attached to an alternative medium please inform our sales department when ordering.

Use 2" Long Zinc Plated Woodscrews to fix to wooden joists. Screw hole size is 4.5mm.

#### A/General

Before installing the Components the joist box section must be altered where necessary to the correct dimensions by a competent person. The box section must also be lined with a plasterboard lining. The 50mm clearance is the dimension from the chimney external casing to the plaster board lining. Check that all components have the spacers intact. If a spacer has broken off call the office for a replacement part to be sent out to you. **Do not bend or move the spacers from their original position.**

#### B/Installation of Ventilated Fire Stop and Spacer

1. Assemble the ventilated fire stop plate and fire sealing collar according to the separate instruction above.
2. Pass a length of flue through the fire stop plate before passing the flue through the box section. Ensure that the protruding ring is pointing upwards.
3. Check that the flue is central within the fire stop spacer, and that the flue is vertical with a spirit level.
4. Use wood screws to fix the fire stop plate radiation shield.

#### C/Installation of Radiation Shield

1. Measure the joist box section and fix the radiation shield at the correct height.
2. Pass the radiation shield over the top of the flue with the small lugs pointing downwards.
3. Locate the small lugs in the fire stop plate below.
4. Now fit the support plate and support collar.

#### D/Installation of Ventilated Support Plate and Support Collar

The Ventilated Support Plate comes in one piece, which fits over the top of the flue.

1. Pass the support plate over the top of the flue.
2. Locate the support plate over the joists (or suitably constructed timber or metal frame).
3. Check that the support plate is central around the flue.
4. Securely fix the plate to the joist/timber frame with woodscrews
5. Fit the support collar ensuring that the bolts are tightened sufficiently to take the required load.

#### E/Installation of Ventilated Top Plate

The ventilated top plate is a non-load bearing component and is supplied without a collar. This plate is to be installed as A and D above but without the requirement for the flue outer casing to be drilled as no collar will be fixed.

## T200 Applications Combustible Floors

Code	ID/OD (mm)	Box Section (mm)*	Plate Size SQ (mm)
05	125/175	275	346
06	150/200	300	373
07	175/225	325	395
08	200/250	350	395

\* Plasterboard lining is not required for T200 applications.

#### A/General

Before installing the Components the joist box section must be altered where necessary to the correct dimensions by a competent person. Check that all components have the spacers intact. If a spacer has broken off call the office for a replacement part to be sent out to you. **Do not bend or move the spacers from their original position.**

#### B/Installation of Fire Stop and Spacer

1. Pass a length of flue through the fire stop plate before passing the flue through the box section. Ensure that the protruding collar is pointing upwards. This collar will set the 50mm minimum clearance around the flue.
2. Check that the flue is central within the fire stop spacer, and that the flue is vertical with a spirit level.
3. Use wood screws to fix the fire stop plate securely to the joists.
4. Now fit the radiation shield.

### C/Installation of Radiation Shield (Optional)

The radiation shield comes as an adjustable sleeve to fit the height of most joist spaces. The standard shield is designed to fit 150mm-250mm height. If the required height is different, please advise our sales department when ordering.

1. Measure the height of the space in which the radiation shield is to sit.
2. Adjust the radiation shield to match this height.
3. Secure the radiation shield at this height with rivets.
4. Pass the radiation shield over the top of the flue and sit centrally on the fire stop plate.
5. Now fit the support plate and support collar.

### D/Installation of Support Plate and Support Collar

The Support Plate comes in one piece, which fits over the top of the flue.

1. Pass the support plate over the top of the flue.
2. Locate the support plate over the joists (or suitably constructed timber or metal frame).
3. Check that the support plate is central around the flue.
4. Securely fix the plate to the joist/timber frame with woodscrews
5. Use the holes in the support collar to mark our fixing points on the flue outer casing.
6. Drill the outer casing of the flue to house stainless steel 1/2" self Tappers or rivets (1/8"). **CAUTION!! Care must be taken to ensure that the internal lining is not penetrated. The drill must therefore be set to ensure a maximum penetration of 15mm. After drilling carry out a visual inspection of the inner liner.**
7. Each hole in the support collar must be fixed to ensure that the support assembly is sufficient to carry the maximum loads.

### E/ Installation of Fire Stop as a Top Plate

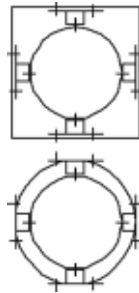
Where there is no requirement for a load bearing support on the floor, the fire stop plates can be installed above as well as below the floor. As this is a non-load bearing component there is no requirement for a support collar. This plate is to be installed as A and D above but without the requirement for the flue outer casing to be drilled as no collar will be fixed.

### Installing a Mesh Shield

When installing a mesh shield either internally or externally please specify the following information and we will supply mesh and top hat spacers to suit.

1. Flue OD
2. Mesh Height Required
3. Clearance required 50, 30mm or more
4. Number of spacers required (4 at top, 4 at bottom if necessary, 4 additional ones for each join in the mesh)

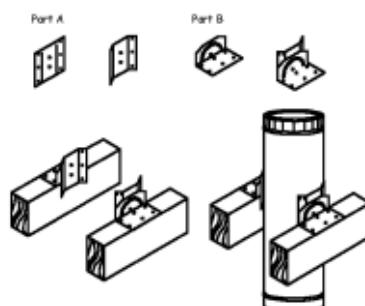
Note: Mesh is in roll 1.2m wide so for larger diameters there will be a joint if the mesh height is to be more than 1.2m.



### Rafter Support Bracket

This bracket is to be installed so that the flue has a minimum of 50mm clearance to the nearest combustible material. A box section may be required to set this 50mm clearance and to house the rafter support bracket itself.

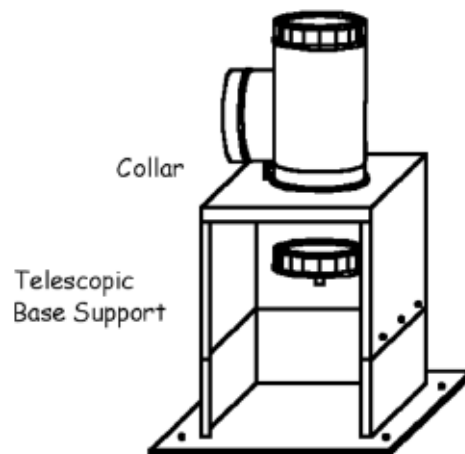
1. Bend down the line of slots on both sides of Part A. The bends need to be sufficient so that this part makes three contact points with the outer casing of the flue.
2. Use the nuts and bolts fixed to Part A to join it to Part B.
3. Assemble the flue system, ensuring the 50mm clearance is maintained (temporary support may be required).
4. Locate the rafter support bracket on top of the joist/box section. With Part A positioned around the flue, mark out the points where holes need to be drilled in the outer casing.
5. Remove the flue and drill 12 off 3mm holes in the outer casing. **CAUTION!! Care must be taken to ensure that the internal lining is not penetrated. The drill must therefore be set to ensure a maximum penetration of 15mm. After drilling carry out a visual inspection of the inner liner.**
6. Relocate the flue between the brackets and fix the brackets on either side to the outer casing.
7. Secure the brackets to the timbers using 6 off 3mm wood screws (not supplied).



## Telescopic Base Support

The telescopic base support will require a sound and level floor to which it can be bolted.

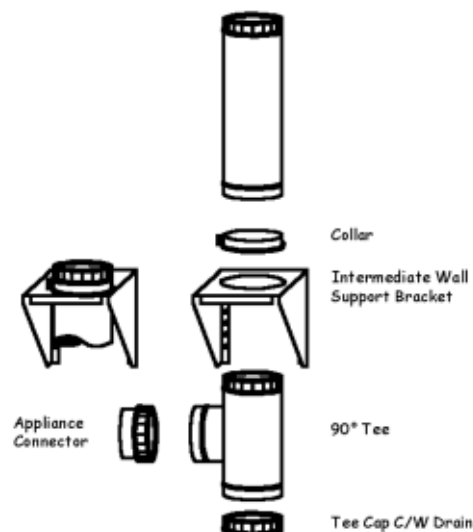
1. Loosely assemble the tee and collar on the base support for locating purposes.
2. Move the base support into the correct position to house the flue system, mark out fixing points on the floor and then remove base support and drill suitable holes.
3. Adjust the height to enable the tee to pick up the appliance connection, remove the tee. Then secure the adjustable sleeve in position using the holes provided.
4. Re-assemble the tee, tee cap and collar.



## Intermediate Wall Support

Ensure that the brick wall or other media is suitable to house a support bracket. Suitable bolts will be required to fix the bracket to the wall. Assemble the support plate and two side plates using the holes provided.

1. Determine the best location for the bracket considering that the support collar is best situated just under the swage before the crimped end of the flue. If this is not possible then the bracket can be located anywhere other than right on a joint.
2. With the bracket in position fix it securely to the wall starting at the bottom and working up.
3. Pass the flue up through the bracket and locate the collar underneath the swage.
4. Alternatively, pass the flue up, locate the collar along the length of the flue and mark out the fixing points.
5. Remove the flue and carefully drill the outer casing. **CAUTION!! Care must be taken to ensure that the internal lining is not penetrated. The drill must therefore be set to ensure a maximum penetration of 15mm. After drilling carry out a visual inspection of the inner liner.**



## Installation of Flashings and Weather Proofing

### Flashings

Aluminium, lead and flexible pipe flashings are available and the external chimney casing temperature and the type of roof surface should be considered when choosing the appropriate flashing. In general the CF Aluminium flashing plates will be suitable. For flat or nearly flat roofs the flat flashing plate should be used. The adjustable flashing plate should be used for roof pitches up to 30 degrees. Flashing plates can be made to order for pitches outside this range.

## Installation Procedure

Locate the chimney route so that it will penetrate the ceiling through the joists and rafters where this is possible. Otherwise it may be necessary to seek the advice of a structural engineer. Approval from a structural engineer would be required for example if you were to cut through a rafter on a trussed rafter roof, or cut through a purling or ridge timber on either roof system. Any alterations must be carried out by a competent person.

**Inside Preparations** - Inside, determine the centre point where the chimney will penetrate the ceiling. This point should be clear of electric cables and water pipes etc. Drill a small hole with a masonry bit and mark the spot with a small length of dowel or a pencil to aid locating the penetration point from outside.

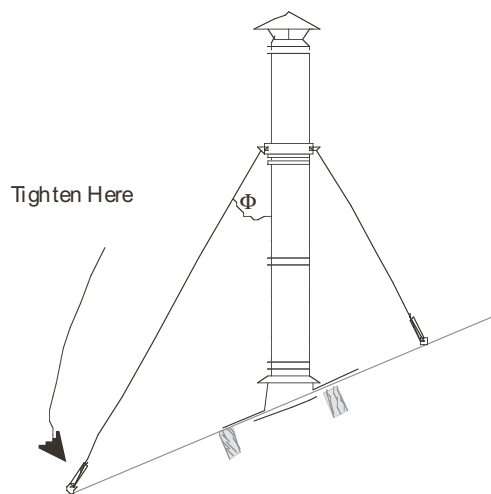
**Outside Preparations** - For pitched roofs remove and set aside sufficient tiles from the penetration point to allow the flashing to be fitted. Mark out a circle in the roof liner using the hole in the roof plate as a template. Cut back to the circle in segments. Pass the chimney through the roof lining segments and then tape the roof lining segments to the flue. Pass the roof plate over the chimney. Fit the roof plate across the joists and fix with 30mm woodscrews and washers. Then replace the tiles. For flat roofs use the roof plate as a template to mark out a circle which is then to be cut out and removed. Then mark out a square approximately 2" larger than the roof plate all around. Cut back to this line in segments. Lift back the segments and fit the roof plate over the flue and fix to the battens. Re-fit the segments forming a weatherproof dressing. Only weatherproof up to 1 or 2" below the top edge of the roof plate. After the roof plate is fitted a storm collar is then simply clamped into place on the outer casing of the chimney directly above the flashing plate. Waterproof silicone based sealant (suitable for use in operating temperatures of up to 180 degrees) should be used to seal the collar.

## Weatherproofing External Walls

Where the chimney passes through an external wall you will require a trim plate, storm collar and waterproof silicone based sealant. Ensure that the external wall surface is free from dust. Pass the chimney through the wall, then fit the trim plate using sufficient silicone sealant to seal between the wall and the trim plate. Then clamp the storm collar around the flue and again apply sufficient sealant to form a seal between the storm collar and the trim plate and also between the storm collar and the chimney.


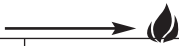
## Guy Wire Bracket

It is recommended that all joints be fitted with structural locking bands when using guy wire brackets. Brackets should be located at least every 1M to 1.5M depending on location & exposure to a maximum of 3M above the roof. For installations beyond this height we recommend you contact our office. To install guy wires you shall need a guy wire bracket and a guy wire kit. The kit contains 30m of cable which will be more than sufficient for each installation. The structure which the guys are being fixed to must be structurally sound. Clamp the guy wire bracket around the flue. Measure the guys, cut and assemble. The guys must be fitted so that their angle from the vertical is more than 30 degrees. Once installed tighten the guys to remove any slack. Be careful not to over tighten the guys



## Chimney Plate

The plate should be permanently and indelibly marked and fixed in a visible position. The plate must not be covered or removed. Possible locations are by the cleaning/inspection access, the side of a fireplace, at the chimney inlet or possibly by the electricity-gas-water meter.

	Flue-Stox Unit 6 Boston Court, Kansas Ave, Salford, M50 2GN Tel 0161 848 8987, Fax 0161 848 9003 e-mail sales@flues.co.uk		IMPORTANT SAFETY INFORMATION - This label must not be covered or removed.	
Property Address:				
The Hearth & Chimney Installed in the:				
Are suitable for:				
Product Designation:		Example EN 1856-1 - T450 - N1 - D - Vm - L50050 - G50 EN 1856-__ - T____ - ____ - __ - ____ - L____ - ____		
Installation Designation:				
Distance to Combustibles:				
				
Nominal Size:	130	150	175	200
Thermal Resistance:				
Installers Name:				
Installed On:				
Installed By:				
Address & Telephone No.:				
Other Information:				

## Guidance on completing the "Installation Designation"

Example Installation Designation:

CF on multi fuel appliance	EN 1443 - T450 - N1 - D3 - G50
CF on gas/oil fired appliance	EN 1443 - T200 - N1 - D3 - O30

CF products are labelled as detailed above in the chimney plate. The "Installation Designation" shall reflect the combination of products installed. For example CF has a temperature rating of T450 when tested to EN 1856-1 and installed as detailed in these instructions to achieve the soot fire classification G50 (i.e. with ventilated fire stop and support plates). However if the product is installed with standard fire stop and support plates then the "Installation Designation" will be T200 and without soot fire resistance (i.e. "O" classification). IF IN DOUBT please call the sales or technical department.