

TOVE
Sflue

TOVE
Sflue

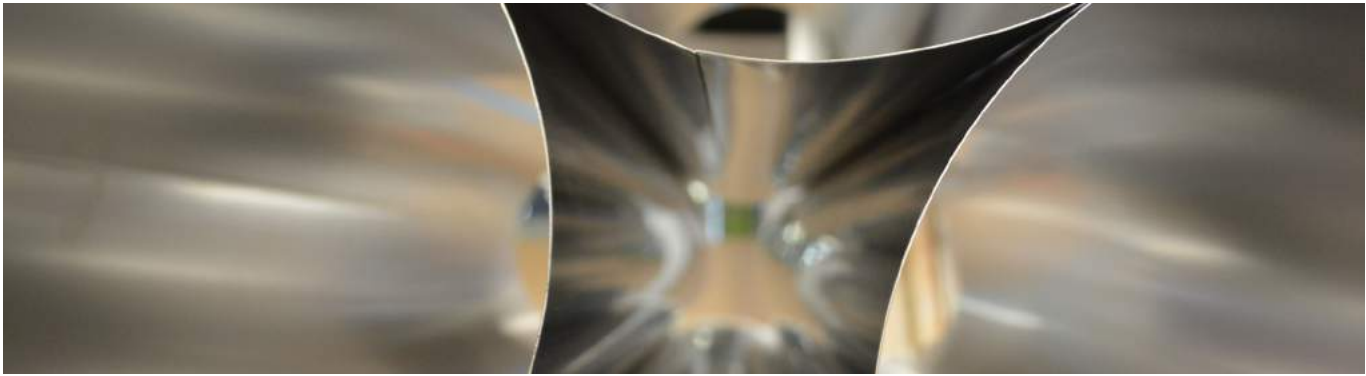
Twin Wall Flue

Economical twin wall, insulated stainless steel chimney system for wood burning/multi fuel stoves



100% Manufactured
in the UK





Introduction

Sflue chimney system has been specifically designed to meet the requirements for multi-fuel appliances that operate under negative or neutral draught conditions. With a specific range of components and a multi-barb twist-lock jointing system, Sflue offers the ultimate in ease of installation and quality at a competitive price. Sflue is a CE approved product and has been tested to the requirements of BS EN 1856-1, see Table 1 - Chimney designation. Under no circumstances should Sflue be used on appliances that generate high levels of condensation or positive pressure within the chimney system. For such systems our NOVA® product should be used.

Description

Sflue is a prefabricated, factory made twin-wall insulated stainless steel system chimney. The fully welded construction, combined with a high performance / high density insulating medium, provides the optimum level of performance required for modern-day solid fuel appliances such as DEFRA approved high-efficiency wood-burners alongside traditional stove installations.

The construction provides a high thermal resistance which ensures rapid stabilisation of the flue gas temperature and draught, whilst maintaining a relatively low temperature on the external surface of the chimney. Sflue is designed for internal and external applications, suitable for negative pressure applications.

Sflue utilises an eight-barb twist lock jointing system to secure each joint. The components are secured by engaging the barbs with a firm twist of each section. A locking band must then be used at each joint. The joint design facilitates a maximum unsupported height above the last support of up to 1.5 metres, subject to the design considerations detailed within the Installation Instructions and on page 14 of this brochure.

Sflue is manufactured from a high grade 316L (1.4404 : X2CrNiMo 17-12-2) stainless steel liner and a 304 (1.4301 : X5CrNiMo 18-10-2) outer case. The product utilises a high performance mineral wool which is auger injected into a 25mm annulus between the inner and outer to a mean density of 250kg/m³, offering rapid stabilisation of draught and excellent thermal performance. The unique joint design allows the inner liner to freely expand and contract throughout the system as the flue gas temperature varies, alleviating the need for additional expansion components.

Application

Sflue is available in four internal diameters ranging from 127mm to 203mm and is suitable for solid fuel applications operating under negative draught / dry conditions or where the maximum positive pressure will not exceed 40Pa as designated by N1, at a maximum flue gas temperature of 450°C.

When used for solid fuel where the flue gas temperature is greater than 250°C and passing through a combustible floor, the ventilated support components must be used as detailed on page 14.

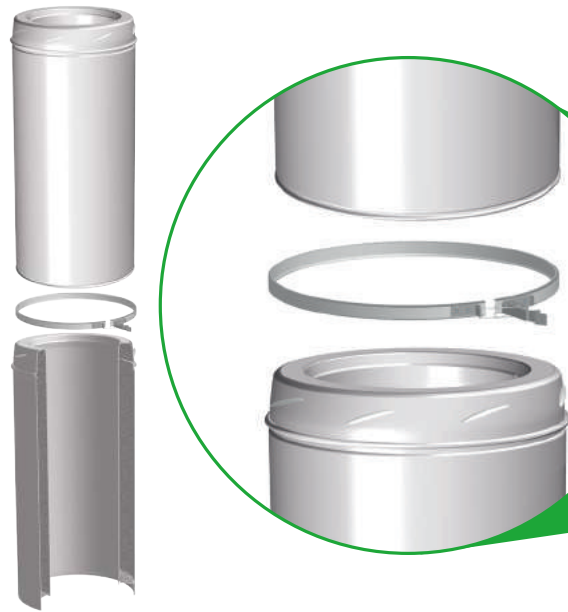
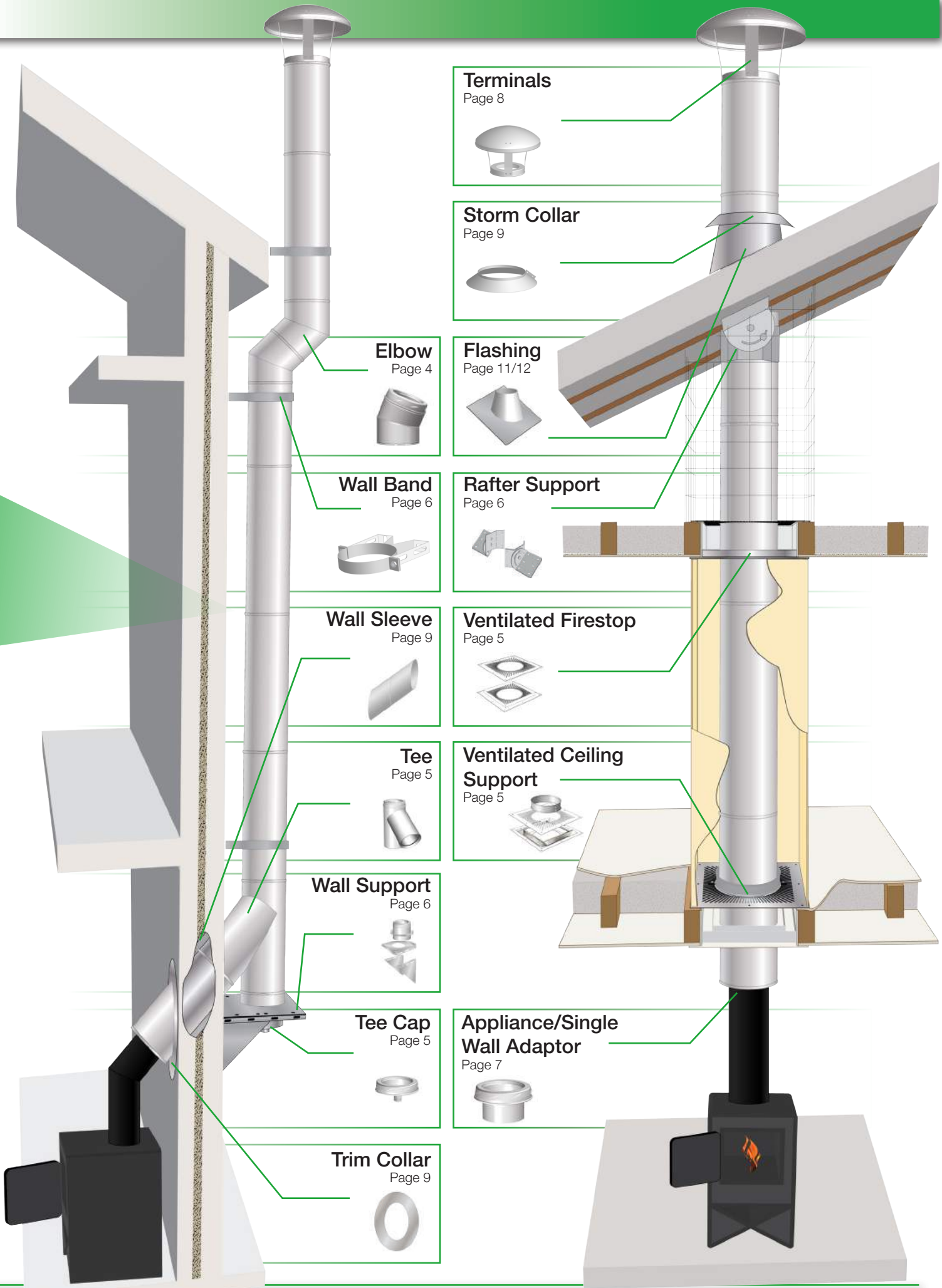


Table 1 - Chimney designation to BS EN 1856-1

Sflue product designations to BS EN 1856-1								
0086-CPD-496040	Sflue	BS EN 1856-1	T450	N1	D	Vm	L50040	G(50)
Standard number	_____↑							
Temperature class	_____↑							
Pressure class	_____↑							
Condense resistance D=dry W=wet	_____↑							
Corrosion class	_____↑							
Material specification Liner grade 316L Liner thickness: 0.4mm	_____↑							
Sootfire resistance G=yes O=no	_____↑							



Terminals
Page 8



Storm Collar
Page 9



Flashing
Page 11/12



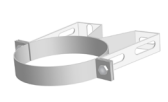
Rafter Support
Page 6



Elbow
Page 4



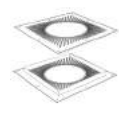
Wall Band
Page 6



Wall Sleeve
Page 9



Ventilated Firestop
Page 5



Ventilated Ceiling Support
Page 5



Tee
Page 5



Wall Support
Page 6



Tee Cap
Page 5



Appliance/Single Wall Adaptor
Page 7



Trim Collar
Page 9



LENGTHS & ELBOWS



Straight Length

Available in nominal installed lengths of 1000mm, 500mm, 300mm & 120mm.

ø	Installed Length			
	120mm	300mm	500mm	1000mm
	Code	Code	Code	Code
127mm	2110605	2141105	2141005	2140905
152mm	2110606	2141106	2141006	2140906
178mm	2110607	2141107	2141007	2140907
203mm	2110608	2141108	2141008	2140908



Adjustable Length

The two-part adjustable length offers a degree of flexibility when standard length dimensions are not suitable. All adjustable lengths are supplied with separate insulating material for insertion into the annulus once the installed length has been determined.

As the insulation density is installed on site and not controlled by SFL, we recommend that this component is located at least 300mm from any combustible material.

Type	Short (200mm - 325mm)	Long (350mm - 530mm)
ø	Code	Code
127mm	2144005	2141205
152mm	2144006	2141206
178mm	2144007	2141207
203mm	2144008	2141208



Inspection Length

A 500mm length incorporating a removable door for inspection/cleaning

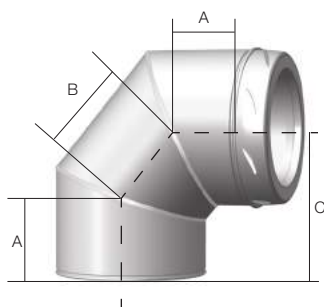
ø	Code
127mm	2141805
152mm	2141806
178mm	2141807
203mm	2141808



2 Segment Elbows (15°, 30°, 45°)

Provides a change of direction, measured from the vertical by the specified angle. See technical data on page 15 for dimensions. Elbows are supplied with an unbarbed female coupler and screw-toggle type locking band for rigid joint bracing, especially when used as an offset around gutters and fascia boards.

Angle	15°	30°	45°
ø	Code	Code	Code
127mm	2131405	2132305	2132205
152mm	2131406	2132306	2132206
178mm	2131407	2132307	2132207
203mm	2131408	2132308	2132208

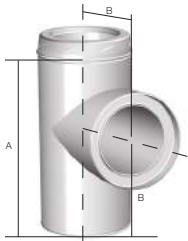


Three-segment 90° Elbows

Provides a change of direction of 90° and counts as two 45° elbows where used in a solid fuel system according to building regulations approved document J (Part F for Scotland). Can also be used under the alternative installation instructions as detailed in BS EN 15287-1

ø	Dimension (mm)			Code
	A	B	C	
127mm	87	126	148	2145305
152mm	92	136	157	2145306
178mm	97	144	165	2145307
203mm	102	156	174	2145308

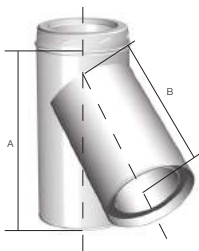
TEES



90° Equal Tee

Used as the entry to a vertical chimney from a horizontal stove outlet or as an inspection opening.

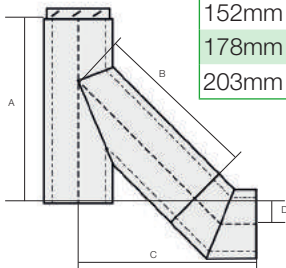
Ø	Dimension (mm)		Code
	A	B	
127mm	300	150	2114305
152mm	325	162	2114306
178mm	350	175	2114307
203mm	375	187	2114308



135° Tee

Used at the base of a vertical chimney, or to allow a smooth transition from the horizontal to vertical plain when used with a 45° elbow. The coupler on the branch is unbarbed to allow unlimited rotational adjustment and provided with an adjustable screw-toggle locking band.

Ø	Dimension (mm)					Code
	With 45° Elbow					
	A	B	C	D		
127mm	495	340	388	38	2141305	
152mm	495	375	422	45	2141306	
178mm	745	420	463	54	2141307	
203mm	745	450	492	60	2141308	



Tee Cap with Drain

Used at the bottom of a vertical chimney to facilitate drainage. Fitted with a stainless steel 1" BSP external thread drain connection.

Ø	Code
127mm	2153205
152mm	2153206
178mm	2153207
203mm	2153208



Tee Cap

Used to close off the branch or base of a tee or for use as an access/inspection component.

Ø	Code
127mm	2119105
152mm	2119106
178mm	2119107
203mm	2119108

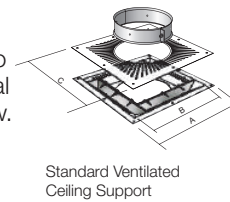
FLOOR PENETRATION

Solid fuel and oil fired appliance (T450)

The following components MUST be used where Sflue is used on solid fuel or oil fired appliances where the flue gas temperature will not exceed 450°C and /or where the chimney system penetrates a combustible floor. Each ventilated component offers a 50mm clearance to combustible materials.

Standard Ventilated Ceiling Support (T450)

Used to both support and firestop the chimney system when it passes through the first combustible floor directly above the appliance. The support component incorporates a patented intumescent matrix design which expands rapidly with temperature and seals the plate to prevent the potential spread of fire or smoke from the room below.



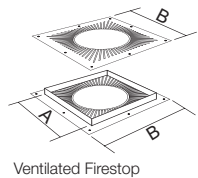
Standard Ventilated Ceiling Support

Ø	A	B	C	Code
127mm	361	281	379	2172705
152mm	381	301	399	2172706
178mm	411	331	429	2172707
203mm	431	351	453	2172708

For painted variations add the following letters after the part number:- White: ZW

Ventilated Firestop (T450)

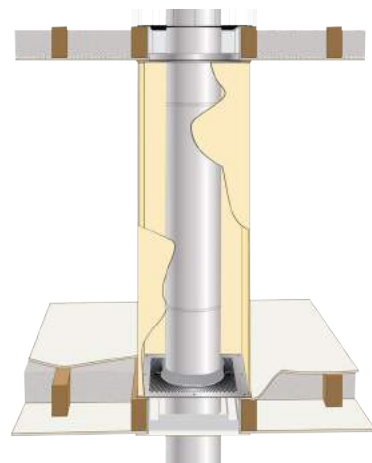
Used where the chimney passes through the upper combustible floors and where sections below the floor are enclosed within a non combustible shaft. This item is non load-bearing.



Ventilated Firestop

Ø	A	B	Code
127mm	281	379	2188705
152mm	301	399	2188706
178mm	331	429	2188707
203mm	355	453	2188708

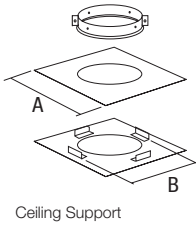
For basic installation information concerning floor-penetrations, please see page 14 of this brochure



PENETRATION & SUPPORT COMPONENTS

Non-combustible floors

The following components can be used on gas or oil fired appliances where the flue gas temperatures does not exceed 250°C and / or where the chimney passes through a non-combustible floor.



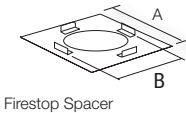
Ceiling Support

Ceiling Support

Provides a 50mm air gap clearance to a penetrated floor or ceiling and is only used where Sflue penetrates a non-combustible floor, and / or services a gas or oil fired appliance where the flue gas temperature does not exceed 250°C

∅	A	B	Code
127mm	330	280	2102705
152mm	355	305	2102706
178mm	381	331	2102707
203mm	406	356	2102708

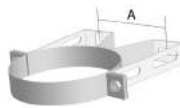
Firestop Spacer



Firestop Spacer

Used to provide location, fire and dust stopping where Sflue is used through non-combustible floors, and / or serves a gas or oil fired appliance where the flue gas temperatures does not exceed 250°C. This item is not load bearing.

∅	A	B	Code
127mm	330	280	2108705
152mm	355	305	2108706
178mm	381	331	2108707
203mm	406	356	2108708



See page 14 for application information

Wall Bands

Wall bands provide lateral support for the chimney and must be used at intervals not exceeding 3.0 metres beyond any load bearing support.

∅	A	Code
127mm	142	3115155
152mm	162	3115205
178mm	192	3115234
203mm	212	3115255



See page 14 for assembly details

Wall Band Extension Pieces

Used with Wall Bands, these components allow the clearance between the wall and outer surface of the chimney to be increased. Where externally applied, the intervals between Wall Band fixing centres must be reduced from 3.0 metres to 2.5 metres. The maximum clearance is as detailed below.

∅	Min	Max	Code
All	50	100	3119136

Guy Wire Bracket

A clamping collar for the attachment of struts/ supports



∅	Code
127mm	2109205
152mm	2109206
178mm	2109207
203mm	2109208

Support length (Strut/Guy Attachment)



A 100mm installed length which incorporates a plate located 33mm from the bottom edge and features slotted holes for rotational adjustment, for fixing to bespoke bracketry. This component also doubles as a strut / guy attachment length offering anchoring points to which guys, or preferably rigid stays can be secured using M8 nuts and bolts. Manufactured from stainless steel.

∅	Code
127mm	2171305
152mm	2171306
178mm	2171307
203mm	2171308

For loading details and maximum distance between supports, please see page 13

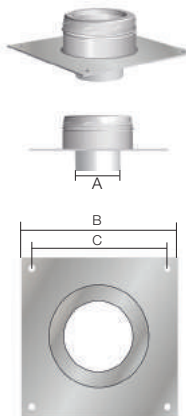
Roof / Rafter Support



Provided with adjustable and locking gimbals plates to permit a chimney to be supported on roof joists, trussed rafters etc.

∅	Code
All	2102900

Single Wall to Sflue Anchor Plate

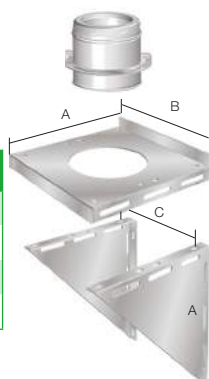


Designed to be used when connecting Sflue to a lintel or pre-cast chamber. A short section of liner projects a nominal 150mm through the bottom of the plate. This component could also be used to connect a liner to Sflue on a capped chimney within the attic space. Maximum Load: 13m

∅	A	B	C	Code
127mm	128	400	350	2152705
152mm	153	400	350	2152706
178mm	179	400	350	2152707
203mm	204	400	350	2152708

Wall Support Bracket

Used to take the vertical load of the chimney when supported from a wall. The support bracket is fully adjustable allowing varying clearances from the wall (50mm as standard). Requires M10 wall fixings.

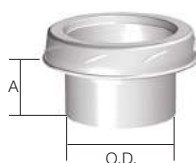


∅	A	B	C	Code
127mm	282	311	265	2151705
152mm	302	331	285	2151706
178mm	331	360	314	2151707
203mm	355	384	338	2151708

SUPPORT COMPONENTS

Appliance Adaptor

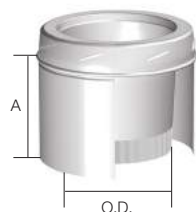
Used to connect the appliance outlet to the Sflue chimney system. Also used to connect Sflue to single wall connecting flue pipe.



∅	A	O.D.	Code
127mm	36	123	2119405
152mm	36	148	2119406
178mm	36	178	2119407
203mm	36	198	2119408

Adaptor to Cast Iron

A crimped, reduced inner section to adapt a cast iron stove outlet directly to twin-wall, featuring an outer sleeve.



∅	A	O.D.	Code
127mm	103	114	2119505
152mm	103	139	2119506
178mm	103	165	2119507
203mm	103	190	2119508

Appliance Increaser Adaptor

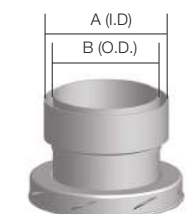
Used to increase the appliance outlet size by one diameter.



∅	A	O.D.	Code
127mm	30	97	2119705
152mm	30	123	2119706
178mm	30	148	2119707
203mm	30	173	2119708

Sflue to Flex Adaptor

Used to connect Sflue to a flexible flue liner.



∅	A	B	Code
127mm	134	125	2150105
152mm	161	145	2150106
178mm	187	175	2150107
203mm	218	195	2150108

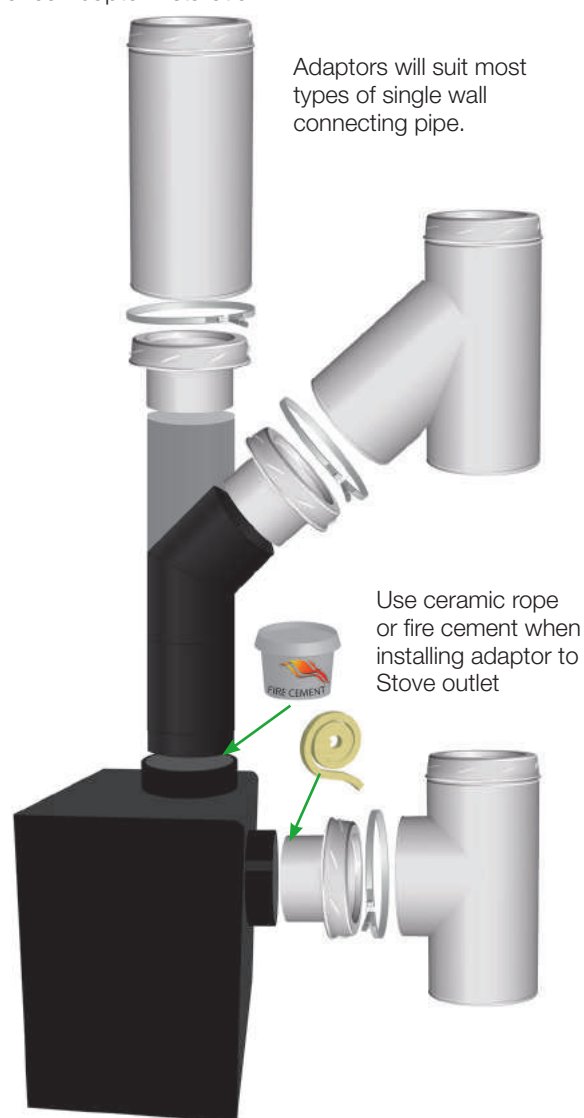
Increaser

Facilitates an increase in diameter by one step. Constructed with a stepped coupler-plate-coupler design.

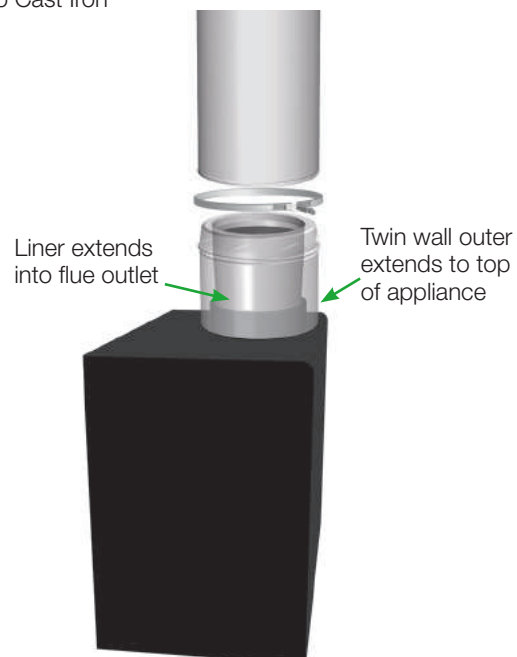


∅	Flue size A	Code
127mm	152	2151005
127mm	178	2154805
127mm	203	2154905
152mm	178	2150606
152mm	200	2154806
178mm	200	2151207

Appliance Adaptor installation



Adaptor to Cast Iron



TERMINALS

Solid Fuel Chimney Termination Heights.

Chimney termination heights and positions are subject to current Building Regulations and National Standards. The illustrations are based on Approved Document J of the Building Regulations for solid fuel and oil fired appliances. Domestic natural gas fired appliances are governed by BS5440-1. All other European countries are governed by their own Regulations, however reference can be made to the countries National Annex of BS EN 15287-1 for individual requirements.

If the chimney serves an oil fired appliance with a pressure jet burner, the chimney must discharge a minimum 600mm above the roof penetration point, or any adjacent structure, if it is within 750mm. It must also be at least 600mm from any opening into the building and 300mm from any combustible material.

Where used with an oil fired appliance with a vaporising burner, termination must comply with the details in this diagram

Minimum distance measured from the top of the chimney construction, excluding any pot or terminal:

- A 2.3 metres horizontally clear of the roof surface, e.g. if the roof pitch is 45°, then the chimney should project 2.3 metres above it. AND:
 - a) At least 1 m above the highest point of intersection of the chimney and weather surface; or
 - b) At least as high as the ridge.
- B 1.0 metre, provided A is satisfied, or 600mm above the ridge if G is less than 600mm.
- C 1.0 metre above the top of any flat roof, and the top of any openable roof light, dormer window or ventilator, etc., if it is located within 2.3 metres.
- D/E If D is less than 2.3 metres, E shall be not less than 600mm.
- F 600mm above the ridge.
- G If G is within 600mm of the ridge then B shall be 600mm above the ridge.



Top Stub

The terminal offers the least resistance to flue gases and is ideal for solid fuel and oil fired appliances, providing there is drainage at the base of the chimney.

Dimension		
∅	A (mm)	Code
127mm	228	2117305
152mm	228	2117306
178mm	228	2117307
203mm	228	2117308



Rain Cap

The Rain Cap offers a degree of protection from rain and is suitable for solid fuel and oil fired appliances.

Dimension		
∅	A (mm)	Code
127mm	109	2107405
152mm	95.5	2107406
178mm	131	2107407
203mm	122	2107408



Rain Cap with 1" Mesh

Dimension		
∅	A	Code
127mm	109	2107605
152mm	95.5	2107606
178mm	131	2107607
203mm	122	2107608

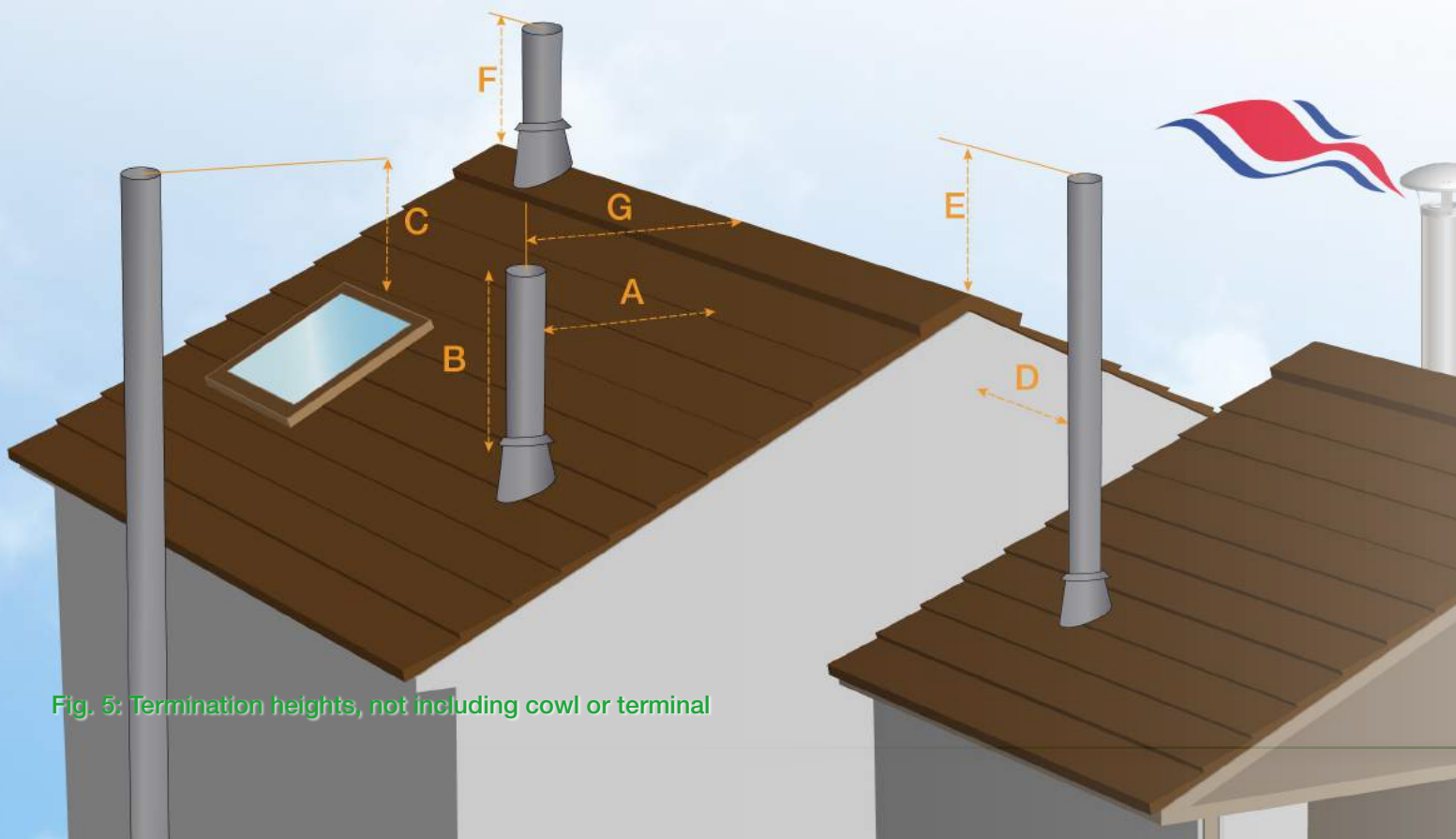
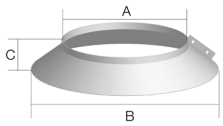


Fig. 5: Termination heights, not including cowl or terminal



Aluminium Storm Collar

Used to weather the top of the flashing, supplied with a tube of silicon sealant.

∅	A	B	C	Code
127mm	177	280	70	70123407
152mm	202	301	70	70123409
178mm	227	330	70	70123410
203mm	252	351	70	70123411



Trim Collar

The trim collar is a polished stainless steel circular collar with a nominal 105mm wide circular flange. This item is used to offer an aesthetic closing ring where a chimney passes through an outside wall.

∅	Code
127mm	2108505
152mm	2108506
178mm	2108507
203mm	2108508



45° Adjustable Wall Sleeves

Must be used where a 135° tee is used to pass the chimney through an external wall and thus providing a continuous, uninterrupted run through the wall. Provides 50mm clearance as standard. Adjustable for a wall thickness of 200mm - 380mm

Important: Once extended, the joint must be secured with self-tapping screws and covered around the circumference with a heat resistant foil duct tape.

For masonry/non combustible walls

∅	A	Code
127mm	280	2107105
152mm	300	2107106
178mm	330	2107107
203mm	350	2107108



45° Wall Cover Ring

The wall cover ring is designed to offer an aesthetic trim around the chimney where it penetrates a wall at a 45° angle.

∅	Code
127mm	2108405
152mm	2108406
178mm	2108407
203mm	2108408



Locking Band

The locking band must be used on all joints and is **included** with each component having a female coupler.

∅	Code
127mm	2108605
152mm	2108606
178mm	2108607
203mm	2108608



Locking Band (Screw Toggle)

The screw-toggle locking band is provided as standard with the unbarbed female coupler on elbows and 135° tee branches.

∅	Code
127mm	2108605MT
152mm	2108606MT
178mm	2108607MT
203mm	2108608MT



Structural Locking Band

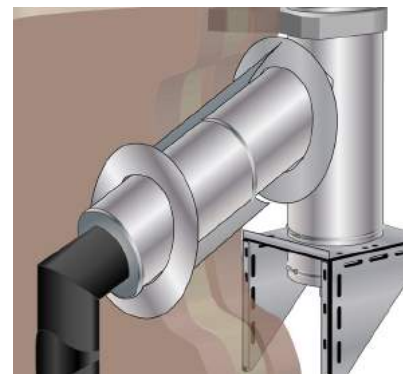
Required for added security on unsupported stacks up to 2.5m above the final support or wall band in accordance with the instructions on page 14.

∅	Code
127mm	2159805
152mm	2159806
178mm	2159807
203mm	2159808

Intumescent Sealant

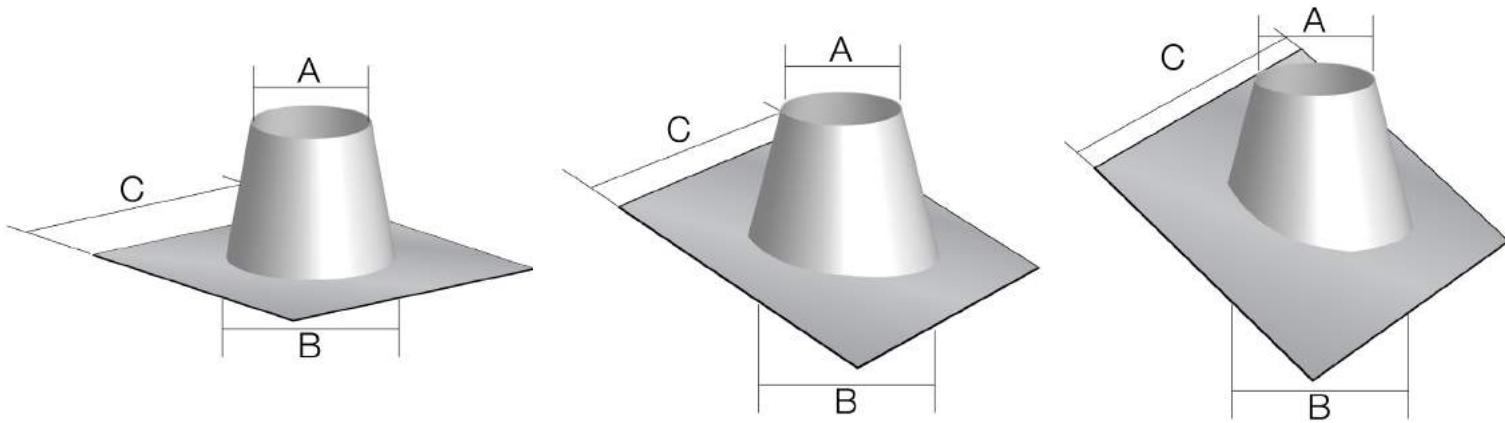
Required for the correct installation of the ventilated ceiling support.

	Code
310ml	2159805



Angled wall cover rings

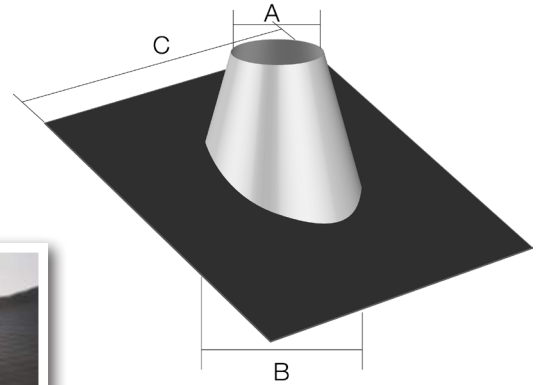
FLASHINGS & WEATHERING



SFL EcoPro

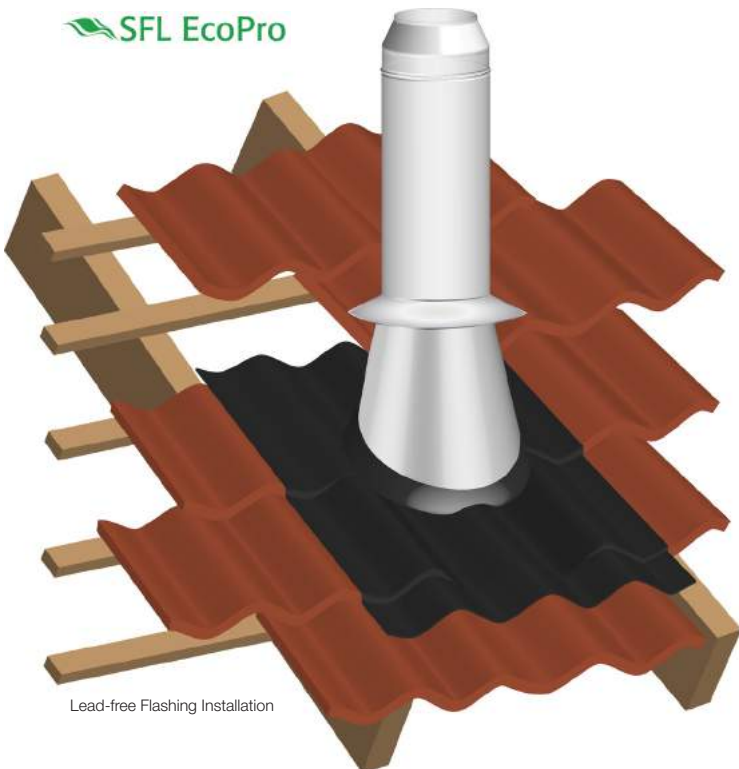
In addition to the conventional range of aluminium flashings for slate roofs, SFL now offers an environmentally friendly alternative to lead flashings for use on uneven roofing materials. SFL Eco Pro Lead-free, malleable flashings feature a durable 0.6mm 304 BA stainless-steel cone, formed and adhered to the flashing base. The flashing base can be dressed in exactly the same way as lead and is highly flexible. Craftsmen experienced in working with lead covering will find it easy to apply.

The lead-free base is highly weather resistant, completely waterproof and provides a breathable membrane which prevents the build-up of condensation. It is one third the weight of conventional lead and does not require the application of patination oil to prevent oxidation. As well as all the physical and environmental benefits, there is peace of mind that your flashing will not be the target of lead thieves and the inconvenience caused by lead theft.



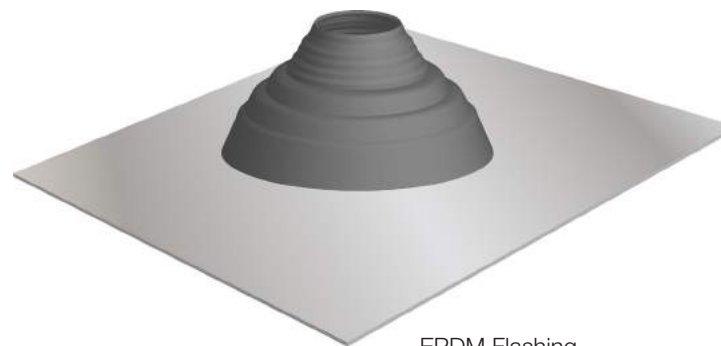
N.B. Where the lead-free base is in contact with rainwater contaminated by copper or bitumen, a protective coating will need to be applied. Please contact SFL Customer Services for details.

SFL EcoPro



Lead-free Flashing Installation

EPDM Synthetic Rubber Flashing



These flashings offer an installation friendly alternative to the traditional type of roof flashing. The EPDM flashings are available in four sizes which covers an external diameter range between 60mm and 450mm.

Aluminium Flashings

The SFL aluminum flashing range offers a competitive alternative to the traditional lead flashing, while still maintaining a traditional design and malleable material. All aluminum flashings require a Storm Collar (p.9).

Flat Flashing

For flat or nearly flat roofs.

5° – 30° Adjustable Flashing

For low pitched roofs.

32° – 45° Adjustable Flashing

For high pitched roofs.

Dimension (mm)												
∅	A	B	C	Code	A	B	C	Code	A	B	C	Code
127mm	190	280	495	70000007	190	280	495	70053007	190	375	660	70324507
152mm	210	300	495	70000009	210	300	660	70053009	210	403	660	70324509
178mm	235	325	660	70000010	235	325	660	70053010	235	440	820	70324510
203mm	260	350	660	70000011	260	350	660	70053011	260	475	820	70324511



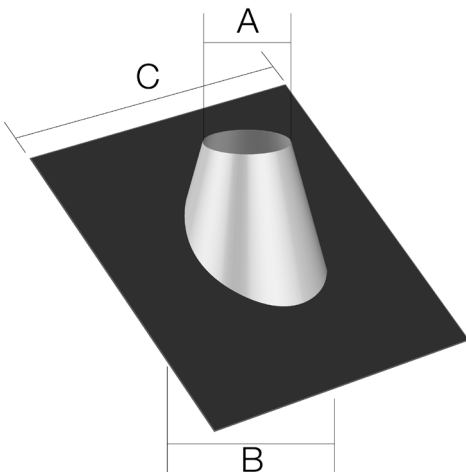
SFL EcoPro Lead-Free Flashings

5° – 30° Adjustable Flashing

For low pitched roofs.

32° – 45° Adjustable Flashing

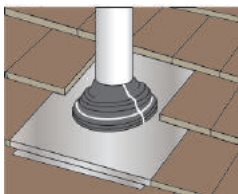
For high pitched roofs.



Dimension (mm)									
∅	A	B	C	Code	A	B	C	Code	Code
127mm	205	275	900	70053007P	191	350	900	70324507P	70324507P
152mm	227	300	900	70053009P	211	379	900	70324509P	70324509P
178mm	260	338	900	70053010P	242	425	900	70324510P	70324510P
203mm	282	364	900	70053011P	263	452	900	70324511P	70324511P

The EPDM flashing system will effectively seal and remain pliant over a wide range of external chimney surface temperature extremes from -30° to 115°C. The EPDM cones have also been proven to withstand intermittent surface temperatures of up to 150°C.

EPDM flashings should not be used on single wall chimney systems serving solid fuel appliances or any application where the potential surface temperature of the chimney will exceed the maximum design temperatures details above.



EPDM Flashing Installation

EPDM Synthetic Rubber Flashing

The selection of the correct flashing depends on the outside chimney diameter and intended roof pitch. The table identifies which flashing should be used. Each consists of a malleable aluminium base to which an EPDM rubber cone is sealed. The cone is easily trimmed on site to suit the external diameter of the chimney. Separate installation instructions are provided with every flashing.

∅	Ext Dia (mm)	Roof Pitch	Flashing No.	Cone Index Cut Line	Base Size (A)	Code
127mm	180	0-40°	2	E	600x600mm	4901020
152mm	200	0-30°	2	F	600x600mm	4901020
152mm	200	0-45°	3	C	764x764mm	4901030
178mm	230	0-40°	3	D	764x764mm	4901030
203mm	250	0-35°	3	F	764x764mm	4901030

SYSTEM DETAILS

Lateral Supports

Wall Bands are available for the lateral support of the installation. All Wall Bands offer 50mm clearance from the outer case of the flue. Optional Extension Brackets are available to increase this distance up to a maximum of 100mm, see page 6.

Roof / Rafter Support

A roof / rafter support bracket is available where the flue section passes through the roof to termination. This component offers both lateral and vertical loading.

Joint design and construction

The joint is made by fitting the female end over the male end and engaging the joint system by rotating the component clockwise. A locking band is then fitted to finalise the joint, as detailed below.

The Sflue joint incorporates an eight barb* twist lock coupler system to allow easy and rapid installation of the product. When used with the Sflue support components the joint will support up to 1.5* metres free standing above the last support. See the following installation Instructions for further details.



Approvals

Sflue has been assessed and CE marked to BS EN 1856-1 to the performance designations as detailed on page 4, Table 1.

Sflue has also been assessed by the Loss Prevention Council for fire resistance. A fire resistance of two hours can be achieved in accordance with the stability and integrity criteria of BS 476: Part 20 for duct type B.

Quality

All components are manufactured under a quality assurance scheme, certificate No. FM557622, administered by British Standards in accordance with BS EN 9001. In addition SFL operate a CE approved factory production control system as required under the Construction Products Regulation.

Installation Regulations

Where the flue passes through combustible floors it is important that the correct firestop components are used and the correct distance to combustible materials is observed.

All firestop and support components within the Sflue range are designed to offer a minimum clearance to combustible material of 50mm. In all instances the requirements of the building regulations must be complied with and the appropriate references are: Document J of the DOE Building Regulations, Section F of the Building Standards (Scotland), Section L of the Building Regulations (Northern Ireland). Reference should also be made to the relevant British and European Standards governing the installation of flue and chimney products for the associated fuel and appliance types as detailed:

- *Solid Fuel and Oil Fired Applications: BS EN 15287*
- *Domestic Gas Installations up to 60kW: BS5440: Part 1*
- *Commercial Gas Installation up to 70kW and 1.8MW (net), the installation should conform to BS 6644*

For further information, please refer to the following installation Instructions in this document.

Note: In the UK, connection to an appliance which is not connected to a fuel supply, may be carried out by a competent person. However connection to an appliance that is connected to a fuel supply must be carried out by an approved and registered heating engineer, e.g. Gas Safe(Gas) or OFTEC (Oil). For other European countries, reference should be made to EN 15287: Part 1: *Chimneys- Design, installation & commissioning of chimneys. Chimneys for non-room-sealed heating appliances.* The National Annex NA of EN 15287 should detail the national regulatory requirements for that particular country.

Components

Sflue offers a complete range of prefabricated components allowing total flexibility to meet today's demanding applications. Installed lengths of 1000mm, 500mm, 300mm and 120mm are available, together with adjustable lengths. A variety of tees, elbows, supports, fixings and firestop components are available as standard throughout the diameter range.

Those components within the range that are manufactured from only single skin, can be vulnerable when exposed to the products of combustion from solid fuel appliances. This is especially true for terminals; however in the majority of cases, an open-ended terminal better suits appliance performance, but it is acknowledged that on occasions, other types of terminal from the range have to be used to reduce rain entry. The tee cap and drain when used on solid fuel are also vulnerable to flue gas by-products, particularly if the chimney is not regularly maintained and cleaned. Such components are considered sacrificial and their life expectancy will vary depending on application, location, maintenance and fuel usage. For this reason, these items are only covered by a 12 month guarantee and not the standard 10 year conditional manufacturing defects warranty.

Life Expectancy and affecting factors

Sflue is manufactured to the highest standard and tested in accordance with EN 1856-1. Under normal operating conditions Sflue should provide many years service and is provided with a 10 year conditional manufacturing defect warranty. However careful consideration of the following points must be observed to limit the risk of chemical corrosion to the product.

Chemical contamination of combustion air

Under no circumstances should an appliance be located where there is the potential of chemical contamination of the combustion air. Typical examples are de-greasing plants, dry cleaning agents and chemical cleaning products.

Chemical chimney cleaning products

Under no circumstances should chemical chimney cleaning products be used. Only traditional sweeping of the chimney should be employed.

Use only approved solid fuels

Where used on solid fuel, care should be taken to ensure that only high quality fuel is used. SFL do not recommend fuels such as petroleum coke or other fuels containing a blend of petroleum coke. Also some smokeless fuels contain halogens that are released during combustion, forming Hydrochloric and Hydrofluoric Acids. These fuels can lead to premature failure of the chimney system through corrosion. Before burning any fuel, SFL would suggest that written confirmation is obtained to ensure that the fuel is halogen free. Only HETAS Approved solid fuels should be used with SFL products.

It is also important when burning wood that it has not been treated and is free of any potential chemicals such as preservatives, insecticides or pressure treatments. Freshly cut firewood can contain up to 50% moisture, provision must be made to allow the wood to season so that the moisture content is reduced to around 20%. This must be done in a dry environment and can take up to 8 months. Green wood can lead to products like creosote being deposited on the chimney liner and could lead to a chimney fire occurring or premature corrosion / failure of the liner.

Coastal locations

It is advised where the chimney is exposed to severe coastal locations that suitable external protection is applied to the outer case of the product. This could be achieved using a specialist protective coating or by having the product professionally painted. It is recommended that only stainless steel components are used for external applications; however where galvanised components are used, they should be adequately protected using an appropriate coating.

Calculation and Technical Support

Using the latest software modelling, SFL can undertake full chimney sizing calculations to BS EN 13384 Parts 1 & 2 as well as advise on other technical matters regarding the Clean Air Act and current regulations regarding chimney systems.

Product weights

Maximum weight of Sflue per metre run installed, excluding support components.

Ø (mm)	127	152	178	203
kg/m	6.7	8.2	9.7	11.2

Maximum structural considerations for components

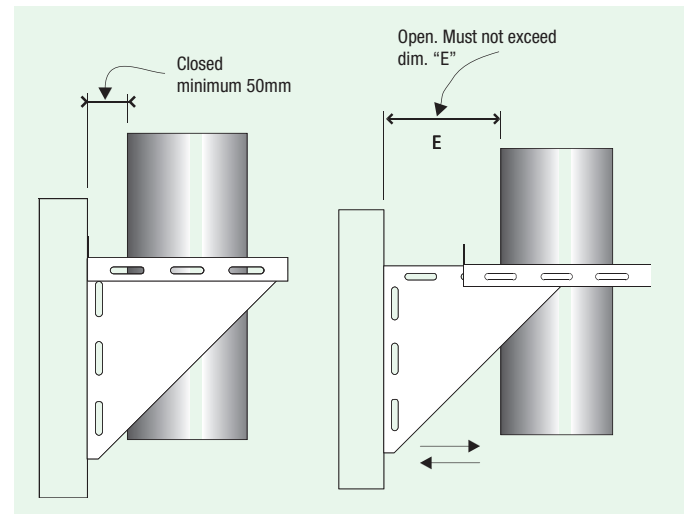
The table below shows the maximum number of metres that can be supported by various components. It is essential that these are not exceeded. Where possible components such as inlet tees and inspection lengths should not be vertically loaded, but suspended below a support component, such as the wall support assembly. Where this is unavoidable, refer to the maximum heights in the table below.

Table 2.

Components	Diameter (mm)			
	130	150	180	200
Inspection length	13m	13m	13m	13m
Ceiling support	6m	6m	6m	6m
Ventilated ceiling support	6m	6m	6m	6m
Anchor plate	13m	13m	13m	13m
90° tee	13m	13m	13m	13m
135° tee	10m	10m	10m	10m
Roof Support	9m	9m	9m	9m

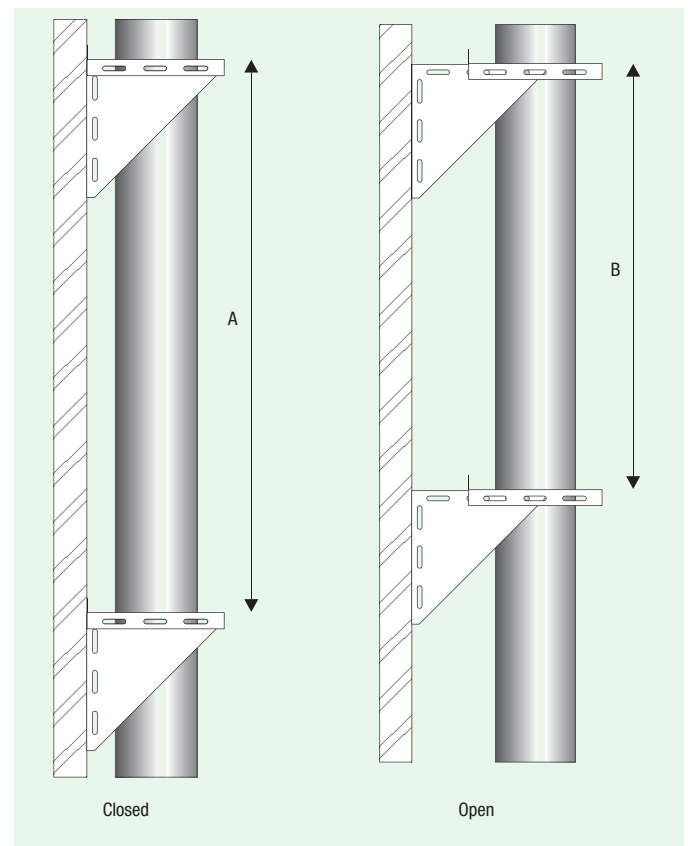
Wall Support Bracket – technical information

Support configuration and distance between brackets



ø (mm)	A (m)	B (m)	E (mm)
127	30	25	150
152	30	25	150
178	20	15	200
203	20	15	200

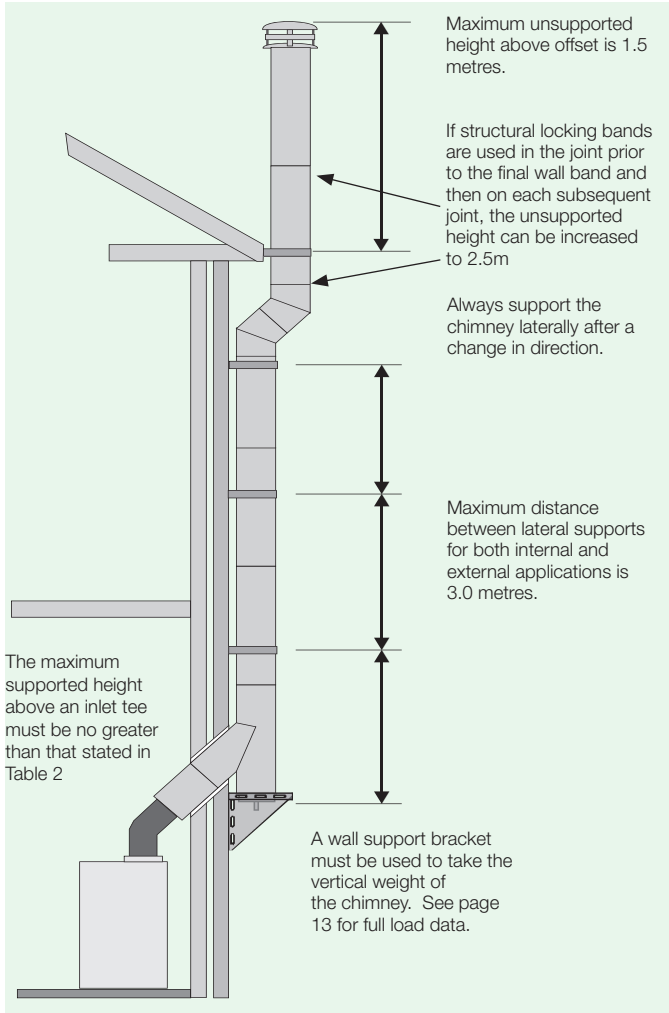
This table details the maximum distance in metres between wall supports, based on the support configuration below.



IMPORTANT: Wall support loadings are dependent on appropriate wall fixings and the structural integrity of the wall itself.

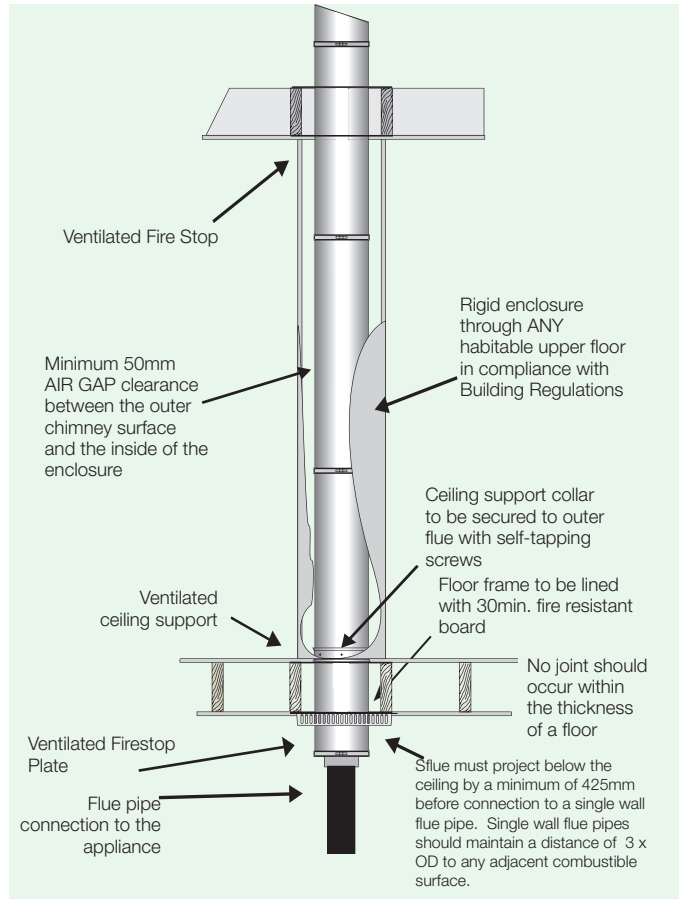
INSTALLATION

The illustration below shows a typical support arrangement for an external chimney. The vertical weight of the chimney is taken by a wall support bracket. A removable tee cap with drain (21532XX) is fitted to the underside of the wall support bracket which can be removed for sweeping and inspection. Wall bands (3115XXX) are then installed every 3.0 metres to provide lateral support. It is essential that adequate bracing is provided directly before and after an offset or change in direction. It is important that adequate fixings are used throughout the chimney system to anchor support components to the structure, such as M10 rawl bolts etc.

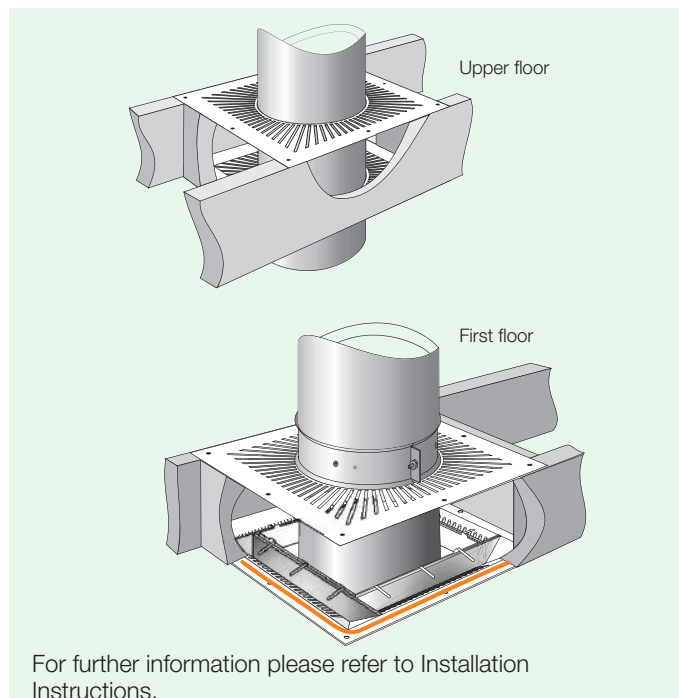


Combustible floor penetration (>250°C)

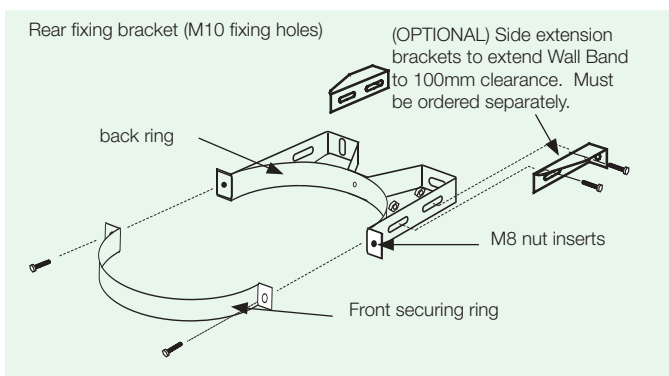
Where the chimney system is used with appliances producing flue gas temperatures exceeding 250°C, and where the chimney passes through a combustible floor, the following ventilated components **MUST** be used. All floor penetration components are designed to be secured to a pre-built frame construction and lined with a 30 minute fire resistant board to the dimension detailed in the table opposite.



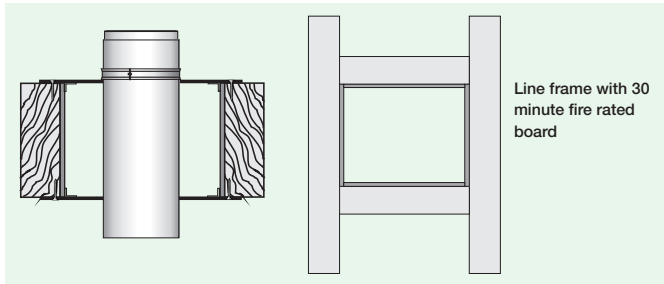
Basic installation diagram of ventilated ceiling support and ventilated firestop components



Wall Band Assembly



Ventilated Ceiling Support and Ventilated Firestop



Note: The fire rated board is required under the test conditions of BS 476: Part 20 where the chimney passes through a representative combustible floor. The purpose is to protect the ceiling void from the effects of radiated heat from the outer case of the chimney where the chimney below the ceiling is engulfed in fire.

Framing data and dimensions

Chimney Size	127	152	178	203
'A' Square*	281	301	331	351

* The above dimension does not allow for 30 minute fire rated lining, adjust according to thickness used.

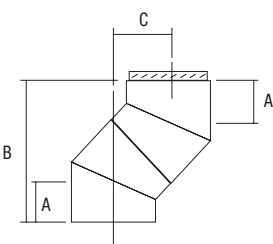
Elbow offset dimensions

This data relates to just two elbows used to form an offset as shown in Fig. 2. It also indicates the installed length of the elbow segments. Data is also provided where standard lengths are also incorporated within the offset, see Fig. 3.

15°

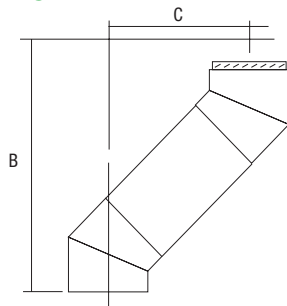
Ø	15°			30°			45°		
	A	B	C	A	B	C	A	B	C
127	87	342	45	87	325	87	87	297	123
152	92	362	48	92	343	92	92	314	130
178	97	381	50	97	362	97	97	331	137
203	102	401	53	102	380	102	102	348	144

Fig. 2



Elbows are not loadbearing. Vertical runs after changes of direction should be re-supported appropriately.

Fig. 3



Ø	120mm length						300mm length					
	15°		30°		45°		15°		30°		45°	
	B	C	B	C	B	C	B	C	B	C	B	C
127	457	76	429	147	382	208	631	123	584	237	509	335
152	478	79	447	152	399	215	651	125	603	242	526	342
178	497	81	466	157	416	222	671	128	621	247	543	349
203	516	84	485	162	433	229	690	130	640	252	560	356

Ø	500mm length						1000mm length					
	15°		30°		45°		15°		30°		45°	
	B	C	B	C	B	C	B	C	B	C	B	C
127	825	174	758	337	651	476	1308	304	1191	587	1004	830
152	844	177	776	342	668	484	1328	306	1209	592	1021	837
178	864	180	795	347	685	491	1347	309	1228	597	1038	844
203	884	182	814	352	702	498	1367	312	1247	602	1055	851

Detailed installation instructions are provided with all adaptors and terminals, and are also available separately on request, detailed below are key installation requirements for the Sflue chimney system together with regulatory requirements for the UK. For countries outside of the UK, please refer to your country's own regulations and national standards.

General

The installation of the Sflue product must be in accordance with local building regulations and associated National Standards and Codes of Practice.

For additional guidance, reference can be made to BS EN 15287-1: *Chimneys- Design, installation & commissioning of chimneys. Chimneys for non-room-sealed heating appliances* The National Annex NA of EN 15287-1 will detail the national requirements for the particular country.

Every chimney section and fitting shall be used as manufactured for assembly on site without any alteration or cutting. Components are joined with a multi barbed twist lock coupler and secured with a locking band. The only exception are elbows, which are designed to allow full rotation of the component and therefore do not have locking bars on the female end. All components must be installed with the male coupler facing up as detailed on Page 12.

Sflue is suitable for both internal and external applications. No part of the chimney system should be constructed to form an angle greater than 45° from the vertical.

Although components are included that will permit horizontal application, they should only be used for connection to the appliance.

Offsets can be constructed using elbows, lengths and adjustable components available within the system. For full details regarding offset dimensions and heights for various elbow/length combinations see tables opposite. According to building regulations: If bends are necessary there must be no more than four in the length of the chimney. The angle of the bend should be no greater than 45° from the vertical, with the exception that 90° factory made bends or tees may be treated as being equal to two 45° bends.

Where an offset is used, the length of chimney between the two elbows **MUST NOT** exceed 20% of the total vertical length of the chimney.

Where serving solid fuel or oil appliances, any part of the chimney which passes through any room other than that in which the appliance using the chimney is situated, should be protected to prevent damage and accidental location of combustible material against the outer skin. It is a building regulation requirement that ANY factory made insulated chimney should be enclosed where passing through a cupboard, storage space or accessible roof space.

Where used with solid fuel or oil appliances producing flue gas temperatures exceeding 250°C, the clearance at floor / ceiling joists must be established using the ventilated ceiling support and ventilated firestop components. When connecting to a single wall connecting flue or vitreous pipe, at least 425mm of Sflue must project below the appliance

The internal diameter of the chimney must conform to the requirements of the appliance manufacturers instructions and should not, under any circumstances, be less than the diameter of the appliance outlet unless operational requirements of the appliance can be demonstrated by calculations to BS EN 13384-1

The height of the chimney will depend on the building structure, however a height of 4.5 metres from the top of the appliance outlet to termination is considered the minimum for solid fuel. To prevent excessive cooling of the flue gases when connecting a single wall flue pipe from the stove to the Sflue chimney, SFL recommends that the length of the single wall pipe is no more than 2.0 metres within the 4.5 metre height recommendation under Building Regulations.

Adjustable Lengths

Each Adjustable Length is supplied in two halves together with an insulation pack. Depending on the required finished length of the component, additional insulation is added to the annulus of the top section. The top section is then slid over the bottom section and the component installed. Self-tapping screws are then used to secure the overlapping sections.

The Adjustable Length does NOT load bear. Always use a Wall Support Assembly immediately above this component when vertically applied. Adjustable Lengths should maintain a clearance of at least 300mm to combustible materials.

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