

# Clearline AKC

## Twin Wall Installation Instructions and Maintenance Guide



**Please read all instructions before beginning your installation. Failure to install this system in accordance with these instructions will invalidate the conditions of certification and the manufacturer warranty.**

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IT IS VITAL THAT THIS FLUE PIPE SHOULD BE INSTALLED WITH THE CORRECT MINIMUM CLEARANCES AS SPECIFIED IN THESE INSTRUCTIONS.

## PRODUCT IDENTIFICATION

Clearline AKC Twin-Wall Chimney  
Sizes:125mm to 200mm

Tested for compliance with BS EN1856-1:2003

No. 0099-CDP-A71-037

Product Designation: EN1856-1 T600 - N1 - W - V2-L50040 G(60)

HETAS listed for use on solid fuel applications

Outer skin 304 grade stainless steel. Inner skin 316 grade stainless steel. Rockwool 128kg per cubic metre, 25mm thick. All seams fully welded. **Distance to combustibles 60mm.**

Available in black powder coated, as well as stainless.

## **FUELS AND APPLIANCES**

CLEARLINE AKC conforms to BS EN1856-1:2003 It is an all stainless steel insulated chimney system designed to be used with solid fuel, biomass, oil or gas, and with both condensing and non-condensing boilers. Clearline AKC has been tested to have a working temperature of 600°C. Chimneys installed in accordance with these instructions will comply with British Standards.



Failure to follow the installation instructions could cause FIRE, CARBON MONOXIDE POISONING, OR DEATH.

## **GENERAL INSTALLATION REGULATIONS**

Chimney installation should be carried out by a competent person. We recommend the use of HETAS approved installers for solid fuel applications. If installation is carried out by a non HETAS registered installer, the installation must be certified by a local Building Control inspector. Planning permission may be required, and reference should be made to the local Building Control Department.

### **VENTILATION**

It is very important that sufficient air for combustion and ventilation is provided to the room containing the appliance to enable correct and efficient working of the appliance and chimney system.

### **CARBON MONOXIDE ALARMS**

A carbon monoxide alarm must be provided in the room where the solid fuel or gas appliance is located.

- All chimney installations should comply with Document J of Building Regulations.  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/468872/ADJ\\_LOCKED.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/468872/ADJ_LOCKED.pdf)
- The Clearline AKC Chimney requires a 60mm clearance to combustible material including timber joists, dry wall, plaster and plywood.
- Clearline AKC is an open-ended system, each component secured with a locking band which is included with flue lengths and elbows.

- There should be no more than 4 bends in a system. (A 90° Tee on the back of the stove counts as 2 bends). If four bends are used there should be sweeping access between the two offsets.
- There should be no flue joins between a floor or ceiling joists or rafters, with at least 150mm twin-wall flue projecting below and above before an additional connection with twin wall.
- The flue must not go more than 45° off vertical.
- The minimum recommended height from top of stove to termination is 4.5metres, however many stoves will run on a shorter flue.
- The minimum flue size for non defra approved stoves is 150mm.
- The flue size must NEVER be smaller than the appliance outlet, unless approved by stove manufacturer.
- Flue needs to switch from single skin to twin wall at 425mm below a ceiling.
- Where the chimney passes through any part of the building, (with the exception of the room where the appliance is installed), where there is a risk of accidental human contact, i.e a bedroom etc., or where there is a risk of contact with combustible materials, the chimney must be enclosed in an appropriate way to meet Building Regulations. This can be achieved by boxing-in the chimney, or by the use of a protective wire mesh frame in roof spaces etc. The minimum distance of 60mm to any combustible material, including loft insulation should always be observed and any enclosure should be ventilated using the appropriate ventilated fire stops.
- Twin wall should also be boxed-in in attic spaces. This can be achieved with wire mesh to a minimum of 1200mm in height.
- Single skin flue should be 3 times its diameter from combustible material if not heat shielded. (i.e. 150mm pipe should be 450mm from combustible materials).
- It is recommended that the maximum horizontal offset should not exceed 20% of the total length of the chimney.
- All offsets should be supported above and below with the appropriate support component i.e. ceiling, joist, wall or roof support.
- It is recommended that a vertical run of at least 600mm should be allowed immediately above the appliance prior to any change of direction.
- To allow for expansion as the stove heats up, it is important that the weight of the flue system is not carried by the appliance. If the chimney is built from the stove upwards then the flue lengths must be raised by 3-5mm before the supports are fixed. A common practice would be to use small combustible packers (eg. folded cardboard) placed in the flue spigot to sit the first length or adaptor on. When the stove is lit these will burn away while the fire-cement sets.
- Twin wall lengths are designed to be assembled without the use of any jointing compound.

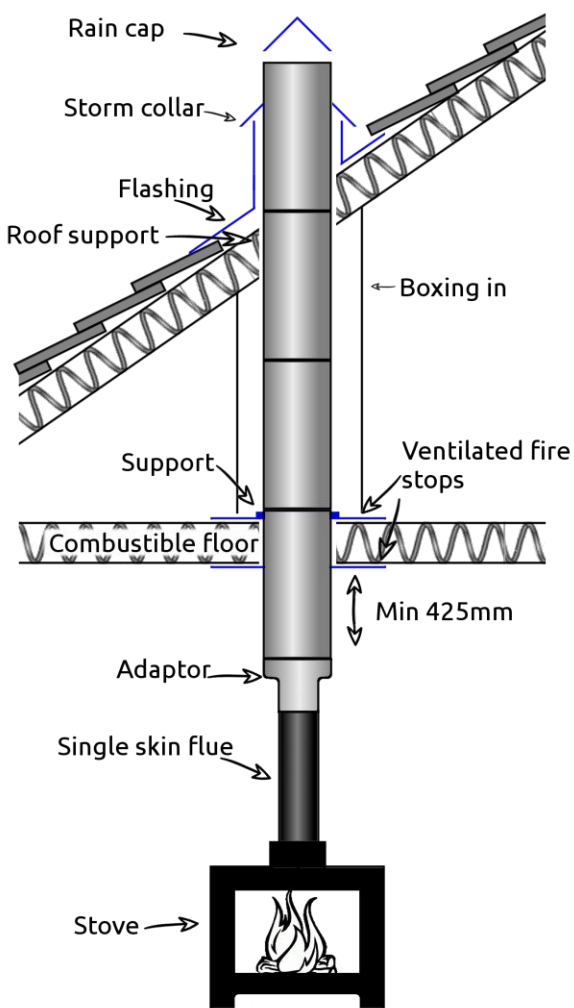
- If black twin wall flue is used straight off the stove then it is important that the full length of the adaptor tail is recessed into the flue spigot. This may require the adaptor tail to be cut down.

### NOTICE PLATE

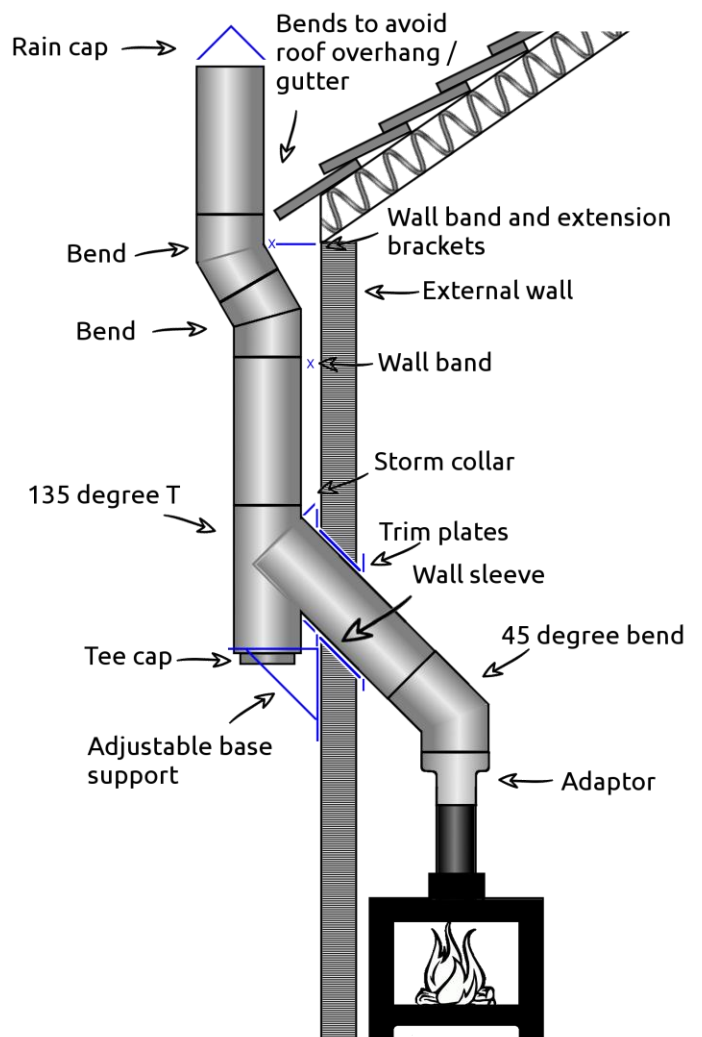
The Notice plate for Clearline AKC should be marked up in indelible ink and securely fixed in an unobtrusive but obvious position within the building such as:

- Next to the electricity meter
- Next to the chimney installation
- Next to the water supply stop-cock

### Typical internal flue system



### Typical external flue system



## CLEARLINE AKC COMPONENTS

\*\*\* Denotes flue diameter ie: 150mm = 10-150-001

Please be aware that not ALL components are available in Black, such as components that are normally concealed.

### STARTING COMPONENTS

SW-TW ADAPTOR

Code:10-\*\*\*-001

Tapered adaptor for connecting to traditional stoves with a flue collar, or going from single skin to twin wall, same diameter. Eg. 150mm single skin to 150mm twin wall. Working length 128mm.



SW-TW 100-125 INCREASING ADAPTOR

Code:10-100-002

100mm single skin to 125mm twin wall.

SW-TW INCREASING ADAPTOR

Code:10-125-002

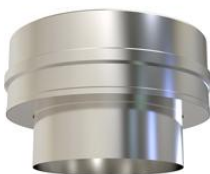
Eg: 125mm single skin to 150mm twin wall.



SW-TW FLAT ADAPTOR

Code: 10-\*\*\*-005

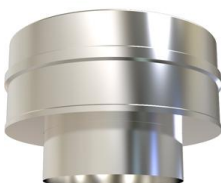
Eg: for contemporary, European stoves, like Westfire, Opus, stoves without a flue collar.



SW-TW FLAT INCREASING ADAPTOR

Code:10-125-009

Eg: For connecting directly from 125mm outlet on European stove (without a flue collar) to 150mm twin wall.



## ADAPTOR TO FLEX

Code:10-\*\*\*-099

Used to convert from Twin wall insulated flue beneath, to flexible liner above.  
Includes a locking band.



## ADAPTOR FROM FLEX

Code:10-\*\*\*-101

Used to convert from Flexible liner beneath, to Twin wall insulated flue above.



## FLUE LENGTHS

All flue lengths include a locking band.

### 1000MM LENGTH

Working length 957mm

Code:10-\*\*\*-010

### 500MM LENGTH

Working length 457mm

Code:10-\*\*\*-011

### 250MM LENGTH

Working length 207mm

Code:10-\*\*\*-012

### 100MM LENGTH

Working length 100mm

Code:10-\*\*\*-018



## 1000MM CONNECTING STARTER LENGTH Code:10-\*\*\*-021

Working length 957mm – with integrated adaptor. This length allows the Clearline Single Skin flue to socket up into the section by 325mm, then back down to connect to the stove. This part allows the stove to be removed later without dismantling the chimney system, so as to comply with building regulations.



## 500-880MM ADJUSTABLE LENGTH Code:10-\*\*\*-014

Adjustable lengths come with **two** locking bands – distance to combustibles remains at 60mm, the same as all standard lengths.

Each adjustable length comes with an extra short length of rockwool which gets compressed to ensure insulation continues throughout. Care must be taken to ensure that when assembled to required length no air gaps are left.

There is a high-temp plastic seal in the adjustable length locking band to avoid any movement once length has been adjusted to required height. The locking band fits onto the lower lip of the pipe.

## 350-500MM ADJUSTABLE LENGTH

Code:10-\*\*\*-015

## 250-350MM ADJUSTABLE LENGTH

Code:10-\*\*\*-016





### 500MM TESTING LENGTH

Code:10-\*\*\*-019

Working length 457mm, including analysis port



### PELLET GASKET

Code:15-\*\*\*-102

A rubber seal used on condensing installations to stop the condensates from penetrating the flue.



### BENDS AND TEES

All bends and Tees are fully welded on the inside and outside and come with a locking band. Please note - Flue pipe bends are measured in degrees from the vertical plane. Roof pitches are also measured in degrees, but from the horizontal plane. Ie, a 30 degree flue bend will not follow a 30 degree roof pitch.

### 135 DEGREE TEE

Code:10-\*\*\*-034

Used when exiting a wall at 45 degrees, allowing sweeping access to the external part of the flue system. Tee Cap has to be ordered separately. Two locking bands are included.



**90 DEGREE TEE**

Code:10-\*\*\*-035

When using the rear outlet on a stove. Tee Cap has to be ordered separately.



**TEE CAP**

Used with 90 Degree and 135 Degree Tees

Code:15-\*\*\*-036



**TEE CAP WITH DRAIN**

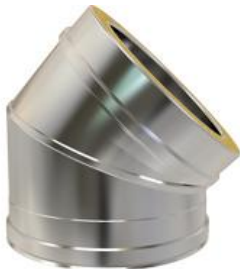
For condensing systems.

Code:15-\*\*\*-037



**45 DEGREE BEND**

Code:10-\*\*\*-031



**30 DEGREE BEND**

Code:10-\*\*\*-032



15 DEGREE BEND

Code:10-\*\*\*-033



### **SUPPORTING COMPONENTS**

Clearline AKC Twin Wall can extend 1.5metres above the roof without extra support.

CEILING PENETRATION SUPPORT KIT

Code:15-\*\*\*-0

This kit includes two Ventilated Ceiling Supports and one Floor Support Band.



JOIST SUPPORT

Code:15-\*\*\*-068

Flue support used on horizontal joists or timbers when passing into a cold roof. It can be used on the floor in a loft to replace second ventilated ceiling support.



ROOF SUPPORT

Code:15-\*\*\*-067

This supports the flue as it passes roof rafters, pivoting to meet any roof pitch.



**50-80MM WALL BAND**

Code:15-\*\*\*-051

Provides lateral support, to be used every 1500 -2500mm



**80-130MM WALL BAND**

Code:15-\*\*\*-052

Provides lateral support, to be used every 1500 -2500mm



**130-210MM WALL BAND**

Code:15-\*\*\*-053

Provides lateral support, to be used every 1500 -2500mm



### 210-420MM WALL BAND

Code:15-\*\*\*-055

Provides lateral support, to be used every 1500 -2500mm.



### STRUCTURAL LOCKING BAND

Code:15-\*\*\*-054

Increases the maximum unsupported height of the flue from 1.5m to 2.5m, one should be used on the joint below the roof support, and on each joint above the roof, except the termination, replacing the standard locking band.



### FLOOR SUPPORT BAND/GUY WIRE BRACKET

Code:15-\*\*\*-069

Included in the Ceiling Penetration Support Kit. The Floor Support Band sits on top of the upper ventilated ceiling support.

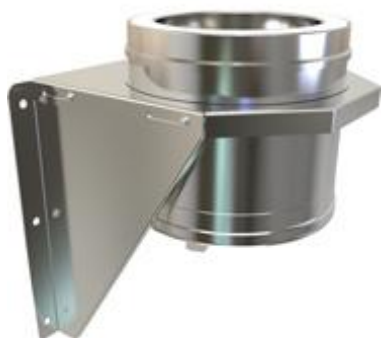
The Guy Wire bracket is used where there are guy wire attachment points on three sides, otherwise a roof brace kit should be used.



### ADJUSTABLE BASE SUPPORT 50-80MM

Code:15-\*\*\*-060

Used for external systems supporting up to 20metres of flue. Incorporates a 200mm flue length. This part supports the chimney up to 12metres above and 8metres below. Wall bands are required at 1.5 -2.5metre intervals, as the situation requires.



#### ADJUSTABLE BASE SUPPORT 80-280MM

Code:15-\*\*\*-063

Used for external systems supporting up to 20metres of flue. Incorporates a 200mm flue length. This part supports the chimney up to 12metres above and 8metres below. Wall bands are required at 1.5 -2.5metre intervals, as the situation requires.



#### TRUNCATED STACK PLATE

Code:10-\*\*\*-062

Used for truncated systems, changing from a flexible liner inside a masonry chimney to Clearline AKC Twin Wall insulated flue above. Holes already drilled in each corner for fixing the plate down. The flexible liner connection utilises the screw fitting detail.



#### ROOF BRACE KIT

Code:RBK

A roof brace can be used whenever there is need to stabilise the chimney above roof level.

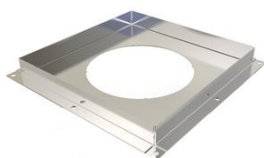


## **PENETRATION COMPONENTS**

### **SOLID FIRESTOP PLATE**

Mainly used in gas or oil installations.

Code:10-\*\*\*-070



### **WHITE VENTILATED FIRESTOP PLATE**

Used when penetrating a ceiling or floor in a domestic installation. The Ceiling Support Kit comprises of two of these and a Floor Support Band. Can be used with the Ventilated Firestop Cover Plate.

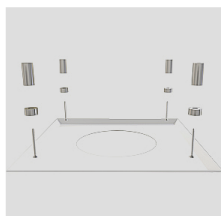
Code:10-\*\*\*-073



### **WHITE FIRESTOP COVER PLATE**

This is powder coated to match white ceilings. Used to cover existing Ventilated Firestop Plate, still allowing enough free air around the flue and the boxing in above. The plate includes magnets and spacers to ensure enough free air movement.

Code:15-\*\*\*-075



ROUND FINISHING PLATE 0-30 DEGREE Code:15-\*\*\*-108 150mm wide. Covers any gap to combustibles, or making good around flue as it passes through ceilings.



ROUND FINISHING PLATE 30-45 DEGREE Code:15-\*\*\*-109 150mm wide. Covers any gap to combustibles, or making good around flue as it passes through ceilings.



WALL SLEEVE 45 DEGREE Code:15-\*\*\*-100  
Used when going through a wall at a 45 degree angle.



## **FLASHINGS**

Lead and aluminium flashings for tiled roofs. Dektite Premium for flat roofs, full range of sizes available. Please see website for details.



## STORM COLLAR

Code:15-\*\*\*-082

Provides a skirt to deflect water. Positioned an inch or so above the flashing. When fitting, a bead of silicone should be used round the top to seal.



## TERMINATIONS

### RAIN CAP

Code:15-\*\*\*-090

Must be used to prevent rain ingress. Includes a locking band.



### ANTI -DOWNDRAUGHT COWL

Code:15-\*\*\*-091

Includes a locking band.



### SPINNING COWL

Code:15-\*\*\*-094

Regular maintenance is required for this type of cowl.



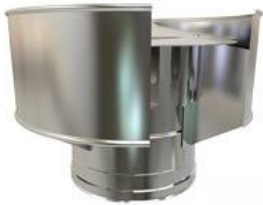
### CONE TOP COWL

Code:15-\*\*\*-093



**GAS COWL**  
For gas systems only

Code:15-\*\*\*-092



**H COWL**  
Attention must be paid to how the chimney is to be swept.

Code:15-\*\*\*-103



**INSULATION COVER PLATE**  
Used to close off a flue system to cover any exposed insulation material. Can be used when using a generic cowl or when no rain cap is required.

Code:15-\*\*\*-104



## **ACCESSORIES**

### **DRAUGHT STABILISER**

Helps to regulate the draught within the chimney, used with a flue length with a door eg: 90 degree T.

Code:15-\*\*\*-007



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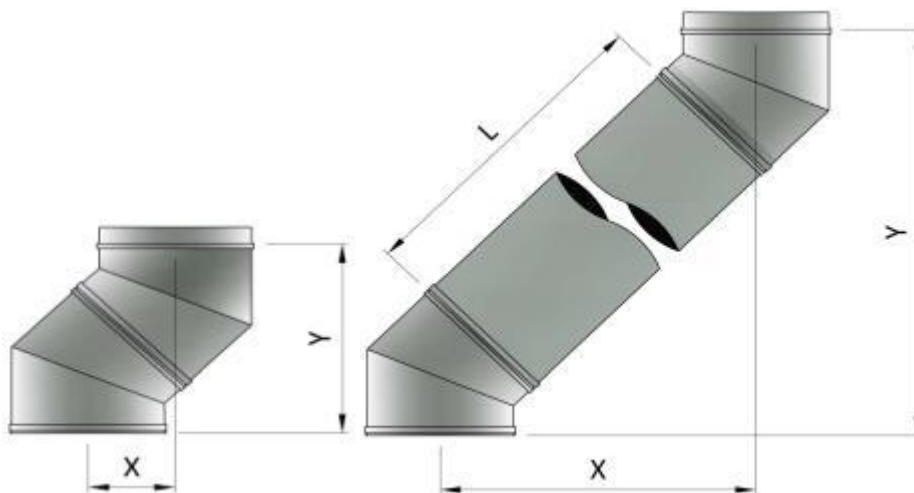
IT IS VITAL THAT THIS FLUE PIPE SHOULD BE INSTALLED WITH THE CORRECT MINIMUM CLEARANCES AS SPECIFIED IN THESE INSTRUCTIONS.

## **MAINTENANCE AND CHIMNEY CLEANING**

### **INSPECTION**

- Chimney sweeping should be carried out by competent persons. The chimney should be designed to allow for easy inspection and and cleaning.
- A flue length with door, an inspection elbow or a 90° or 135° Tee with tee cap can form a suitable inspection point (unless cleaning/inspection can be done through the appliance).
- To aid cleaning, sufficient distance should be left between changes of direction to permit the safe passage of cleaning brushes within the system.
- It is recommended that chimneys serving solid fuel appliances be swept as frequently as necessary, but at least once a year.
- Chimney flue cleaning and inspection require the use of appropriate equipment – under no circumstances should chemical cleaners or mild steel tools be used to sweep stainless steel chimneys.
- We would advise that monthly checks are carried out to ensure that there is no build up of any deposits in the flue way of the connecting flue pipe or system chimney.

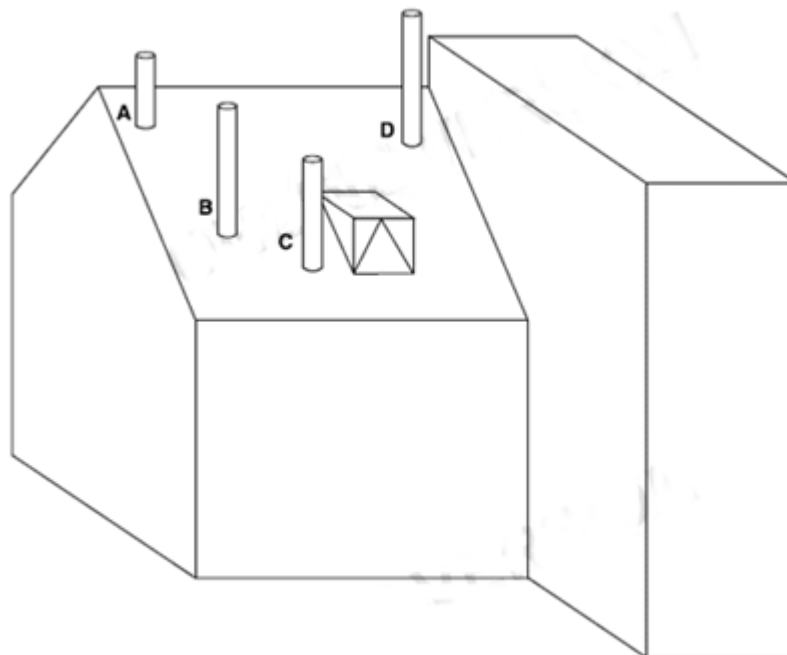
## OFFSET CHARTS



<b>Clearline AKC Offset Charts</b>									
<b>Internal Flue Diameter mm</b>		<b>125mm</b>		<b>150mm</b>		<b>175mm</b>		<b>200mm</b>	
<b>Bend</b>	<b>Length</b>	<b>X</b>	<b>Y</b>	<b>X</b>	<b>Y</b>	<b>X</b>	<b>Y</b>	<b>X</b>	<b>Y</b>
<b>45 Degree</b>	-	122	295	130	313	137	331	145	341
	250mm	269	442	276	459	283	477	291	496
	500mm	445	619	453	636	460	654	468	672
	1000mm	799	972	803	991	814	1008	821	1027
<b>30 Degree</b>	-	68	275	77	287	77	289	84	312
	250mm	172	454	180	466	181	468	187	492
	500mm	297	670	305	682	306	684	312	708
	1000mm	552	1103	555	1115	556	1117	562	1141
<b>15 Degree</b>	-	34	260	35	268	36	274	37	282
	250mm	88	460	89	468	90	474	91	482
	500mm	153	701	154	710	154	715	158	723
	1000mm	282	1184	283	1192	284	1198	285	1026

## CHIMNEY HEIGHT

Flue outlet heights for standard roofing materials



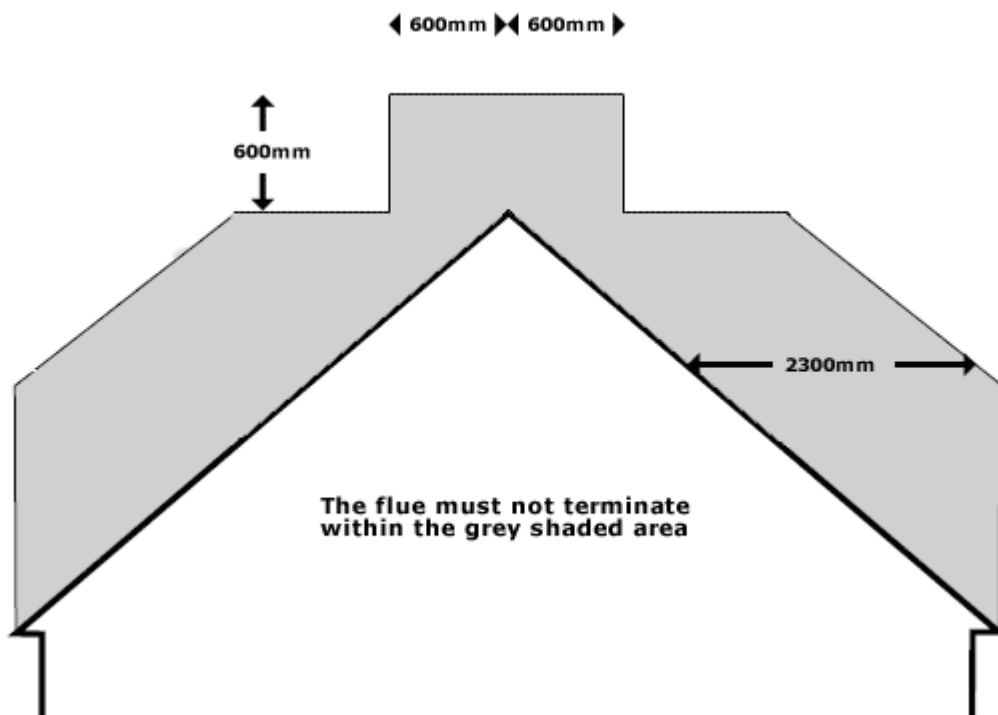
Point where flue passes through weather surface (Notes 1,2)		Clearances to flue outlet
<b>A</b>	At or within 600mm of the ridge	At least 600mm above the ridge
<b>B</b>	Elsewhere on a roof (whether pitched or flat)	At least 2300mm horizontally from the nearest point on the weather surface and: a) At least 1000mm above the highest point of intersection of the chimney and the weather surface; or b) At least as high as the ridge
<b>C</b>	Below (on a pitched roof) or within 2300mm horizontally to an openable rooflight, dormer window or other opening (Note 3)	At least 1000mm above the top of the opening
<b>D</b>	Within 2300mm of an adjoining or adjacent building, whether or not beyond the boundary (Note 3)	At least 600mm above the adjacent building
<b>Notes</b> 1. The weather surface is the building external surface, such as its roof, tiles or external walls. 2. A flat roof has a pitch of less than 10°. 3. The clearances given for A or B, as appropriate, will also apply.		

These are the recommended heights that you can use as a way of meeting the building regulation requirements.

Very simplified these recommendations can be summed up in the following way:

The horizontal distance from the top of the flue pipe to the roof should be at least 2300mm, or above the ridge. Unless the flue termination is within 600mm horizontally of the ridge, in which case the flue should be at least 600mm above the ridge.

### Flue outlet height unsafe areas diagram



The grey area in the picture shows where the flue must not terminate on a roof with standard (non flammable) roof material.

For further information refer to building regs:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/468872/ADJ\\_LOCKED.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/468872/ADJ_LOCKED.pdf)

## **WARRANTY**

**This product is guaranteed for 12 years from date of purchase. For the warranty to be valid the following conditions must be observed:**

- The chimney must be correctly sized and installed according to these instructions, current Building Regulations and relevant British and European standards.
- Maintained and swept annually by a qualified and competent person and maintenance records kept updated for both appliance and system chimney.
- Used in combination with an appliance burning only approved fuels in accordance with Clearline AKC and the appliance manufacturer's instructions

**Please Keep These Instructions In A Safe Place For Future Reference.**



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