Convesa

AVANT KW-KX

r.02

INSTALLATION INSTRUCTIONS

CONTENTS

1 General information

1.1 Introduction

This chimney must be installed in accordance with all these instructions. Ensure that all chimney components are available and check them to ensure there has been no damage before assembly. Do not use damaged or modified components.

Use appropriate personal protective equipment when carrying out the installation.

This instructions document does not consider information about chimney sizing. The diameter of the chimney should be according to the appliance manufacturer instructions and the standard EN-13384-1.

Only for UK. To the installer: Remember your responsibilities under the Health and Safety at Work etc. Act 1974, specially to possible exposure to dangerous substances, in particular to the caustic nature of fire cement and the possibility of disturbing asbestos in older properties.

1.2 Applicable standard

Metal chimney system AVANT SUPER, model KW and KX, is CE certified according to EN 1856-1, number 0099/CPR/A71/0105.

1.3 Applications and intended uses

Metal chimney AVANT SUPER is designed for the following applications:

- Evacuation of combustion products from heating appliances to the outside atmosphere.
- Extraction of industrial kitchen hoods (EI 30 according to EN 13501-3).
- Air duct and ventilation.

Depending on the type of stainless steel of the inner wall, it can be used for different fuels:

- KW Model (Inner wall AISI 316L – Outer wall AISI 304) → Gas, gas oil or solids (firewood, coal, pellets, etc.).
- KX Model (Inner wall AISI 304 – Outer wall AISI 304) → Gas or gas oil (without condensation).

Suitable for natural draft (negative pressure) and forced draft (positive pressure until 200 Pa with seal).

The maximum operating temperature is 600 °C without a seal, and 200 °C with a seal.

It can be installed indoors and outdoors. It should be noted that in outdoor installations, chimneys must be properly insulated.

1.4 Distance to combustible materials

A minimum distance must be maintained between the external wall of the chimney and any combustible materials. The minimum distance is:

50 mm → For solids fuel installations - G(50).

10 mm → For gas or gas oil fuel installations with flue gas temperature below 200 °C - O(10).

1.5 Jointing system

The assembly of all components is made with a male-female system. The male end of each component is on the top and the female end on the bottom part, see figure 1.1.

The joint between both elements must be fixed with the locking band. The locking band is made of stainless steel and is fitted with a quick release clip. The locking band is supplied with each component with a female end.

The locking band design includes a series of openings to improve water evacuation in extreme rain conditions. The locking band should be positioned with the lever lock on the right side and the openings facing down. To facilitate assembly, the locking band is already placed on the female end of each piece, in its correct position, and it is not necessary to remove it to connect with the previous element. FitSystem®.

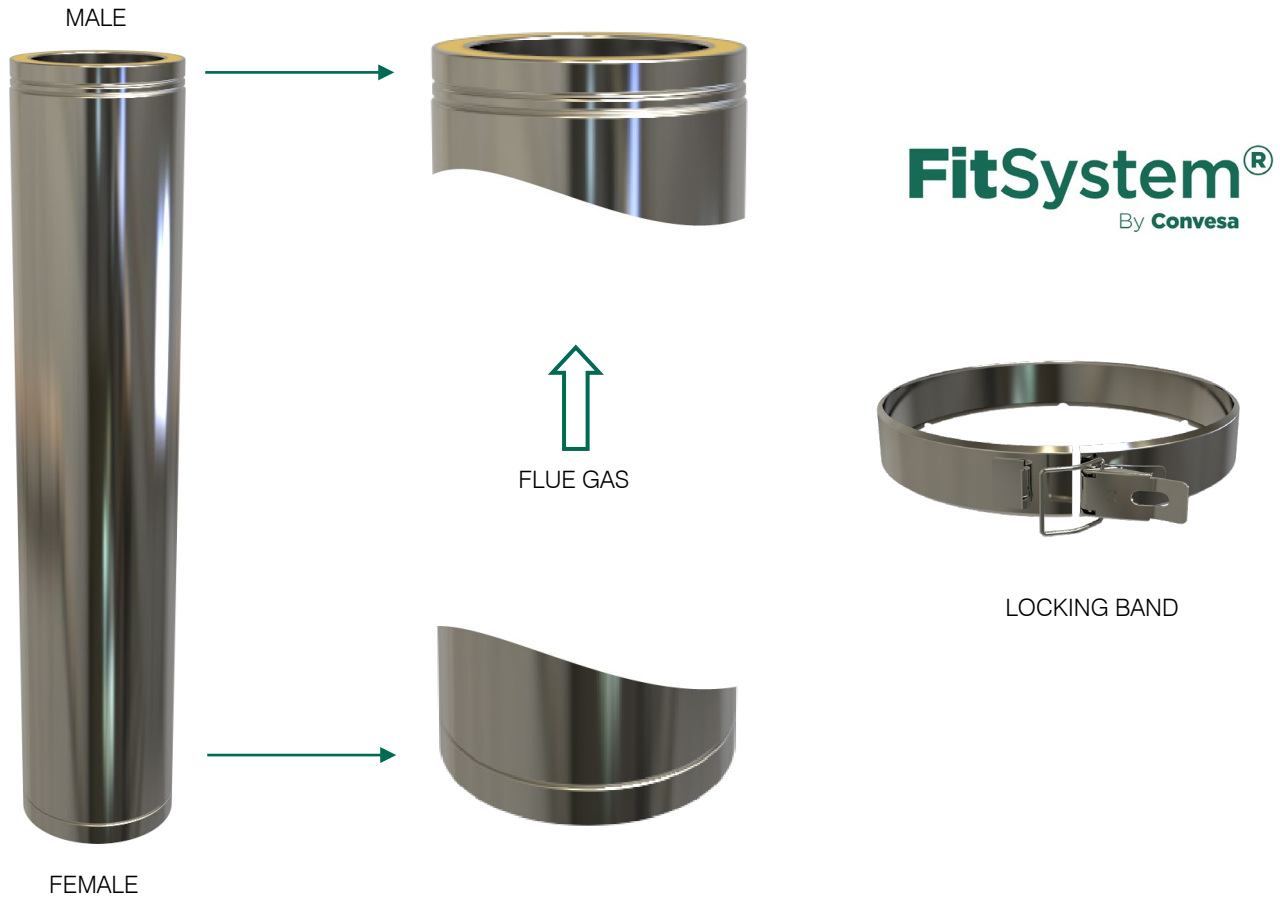


Figure 1.1

1.6 Pipe 1 meter weight

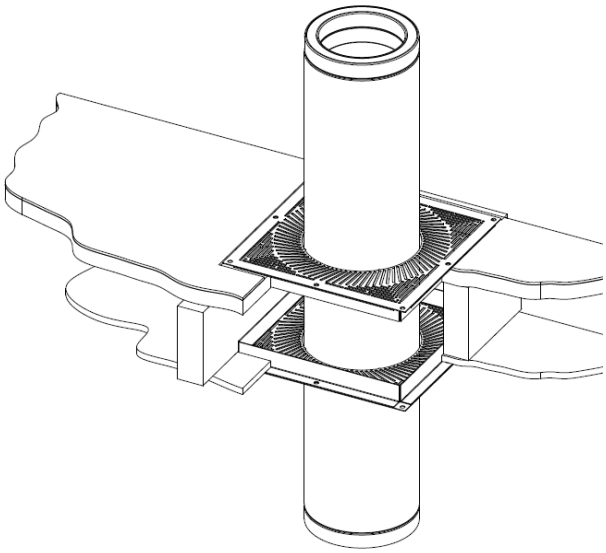
Code	$Ø_{int}$ (mm)	$Ø_{ext}$ (mm)	Weight (kg)
KWT108	80	130	4,3
KWT110	100	150	5,1
KWT112	125	175	6,1
KWT115	150	200	7,1
KWT117	175	225	8,6
KWT120	200	250	9,7
KWT125	250	300	11,8
KWT130	300	350	13,9

2 Firestop components

Ventilated firestop plate. This component is used where the chimney passes through a combustible floor or ceiling. This plate gives the required 50 mm distance from the external part of the chimney to combustible materials. The slots let a suitable ventilation to avoid heat accumulation inside the framing or the enclosure of the chimney.

The firestop plate should be positioned around the chimney. The outer edge should stand over the floor or ceiling and each corner must be secured to the floor or ceiling with screws using the holes provided.

The figure bellow shows an example of firestop plates installation.



3 Assembly with silicone seal

The chimney should be installed with silicone seals when the pressure of the flue gas outlet is positive (forced draught). Each joint between chimney elements must have a silicone seal.

Before assembly each component the seal must be placed on the corresponding site with the two lips outside. These two lips must be lubricated with soap or silicone lubricant around the entire perimeter. See Figure 3.1 and Figure 3.2. Each component is connected with the previous one as shown in Figure 3.3. The joint between both elements must be fixed with the locking band.

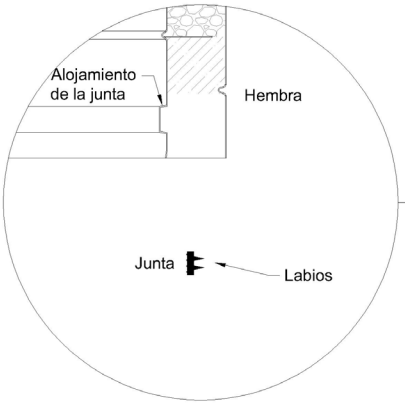


Figure 3.1

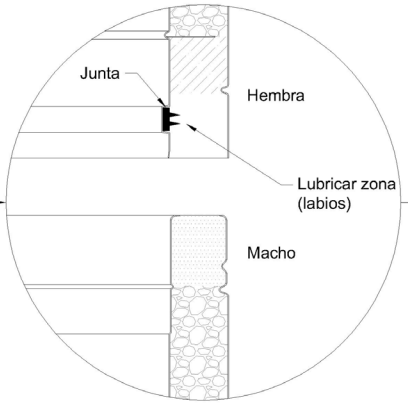


Figure 3.2

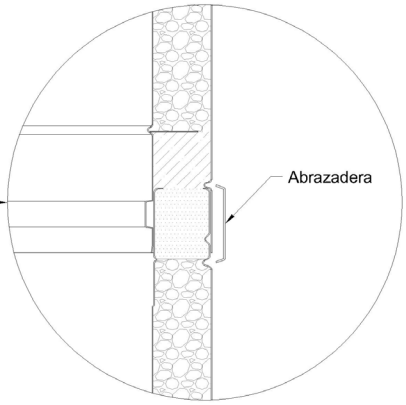


Figure 3.3

4 Adjustable lengths

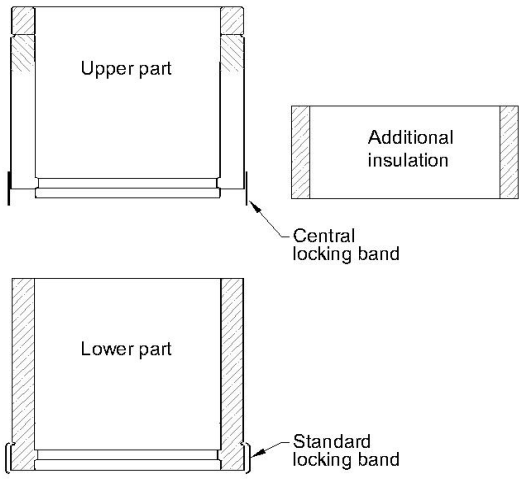
The adjustable length consists of the upper part (with the central locking band welded), the lower part, the standard locking band and the additional insulation. Next steps are necessary to obtain the length required

ATTENTION: Anti-cut gloves must be used to minimize risk.

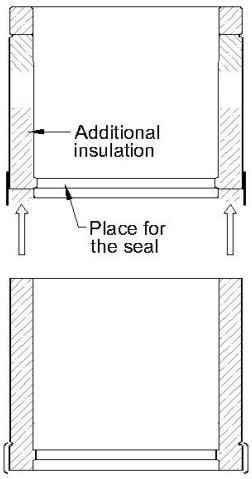
Cut the additional insulation with a knife to the appropriate length (effective length required - minimum length) and insert it into the upper part of the adjustable as shown in step 2.

If the installation includes seals (for positive pressure), place the seal on the corresponding site and lubricate the seal with soap or silicone lubricant.

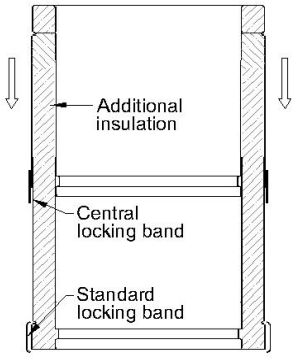
Connect the two parts of the adjustable as shown in step 3. Fix the central locking band over the centre of the two parts of the adjustable.



Step 1



Step 2

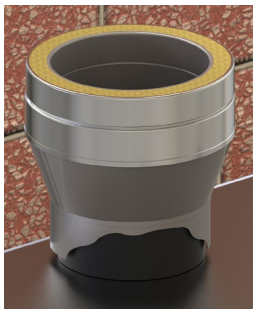


Step 3

5 Appliance adaptors

This component is used to connect the chimney to the boiler. It has a simple wall part that makes the connection. This side can fit inside (male) or outside (female) the boiler spigot.

In condensation installations the appliance adaptor must be male to avoid condensate leaks. These installations normally work with positive pressure, therefore, the connection must be sealed to avoid smoke leaks.



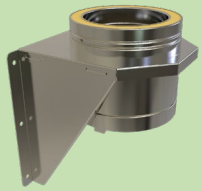
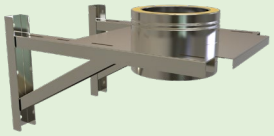
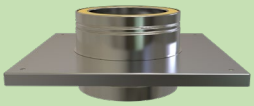
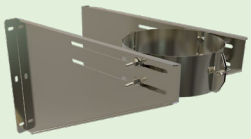
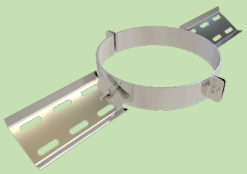
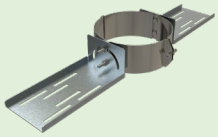
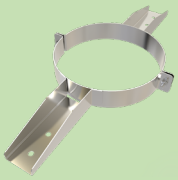
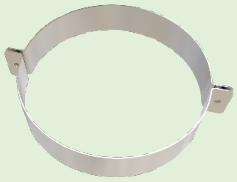
FEMALE

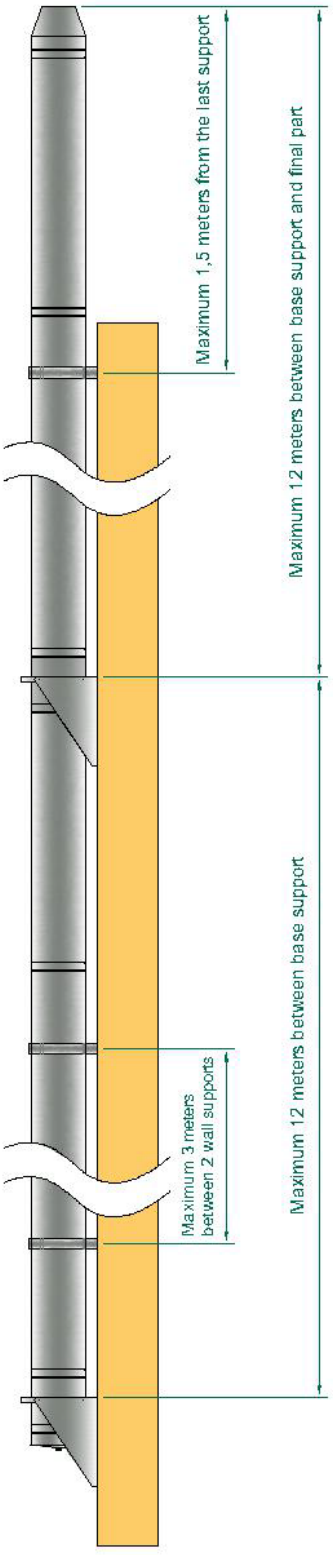
MALE

6 Supports

6.1 Vertical load supports

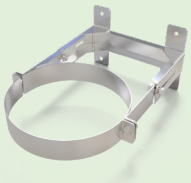
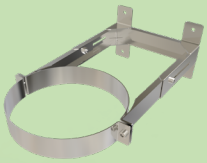
These are the accessories for supporting the weight of the chimney.

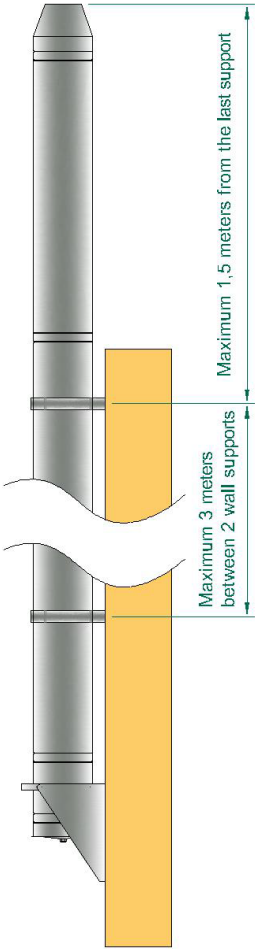
Code	Name	Distance to wall	Maximum distance between supports	Picture
KWSB	Base support	50 - 80 mm	12 m	
KWSR	Base support	80 - 280 mm	12 m	
KWSP	Console plate	-	12 m	
HISR	Base support	120 - 375 mm	Ø130 ÷ Ø225 9 m Ø250 ÷ Ø350 6 m	
HIST	Roof support	-	1,5 m	
HISV	Reinforced roof support	-	3 m	
HISF	Joist support	-	3 m	
HISH	Horizontal support	-	2 m	



6.2 Lateral wind supports

These are the accessories that support the lateral load exerted by the wind. They are not designed to support the weight of the chimney, so they must be combined with vertical load supports.

Code	Name	Distance to wall	Maximum distance between supports	Picture
HISA	Wall support	50 - 80 mm	3 m	
HIS1	Wall support	80 - 130 mm	3 m	
HIS2	Wall support	130 - 210 mm	3 m	
HIS4	Wall support	80 - 440 mm	3 m	



6.3 Freestanding supports

The maximum permitted height of the chimney above the last support is 1.5 metres. These accessories allow this height to be increased. They do not support the weight of the chimney, only the lateral load exerted by the wind.

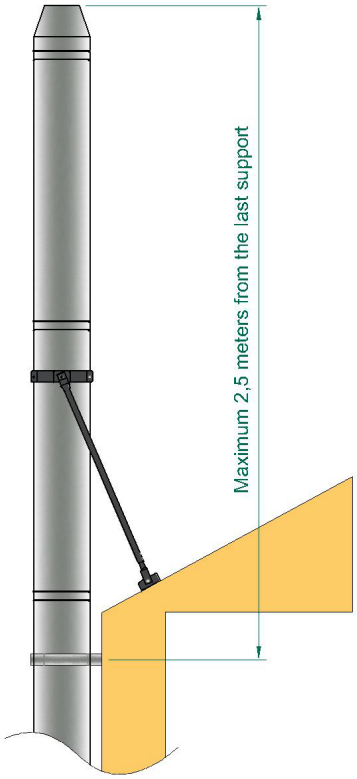
Anti-wind locking band: HIAV.

Locking band with 3 points distributed at 120° for fixing with cables. It is necessary to fix with cables at the 3 points. The maximum height can be increased by 1 additional metre.

Roof brace kit: HITV.

Includes two rigid telescopic arms for fixing to the roof. The maximum height can be increased by an additional 1 metre.

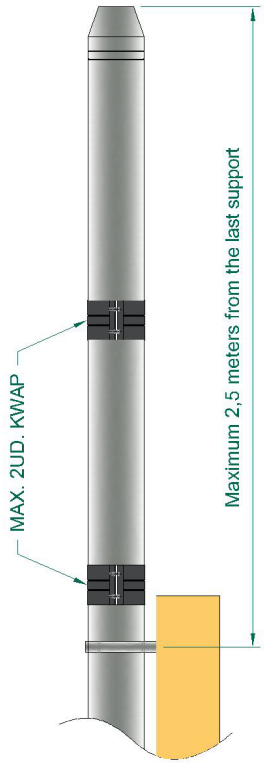
HIAV



HITV

Structural locking band: KWAP.

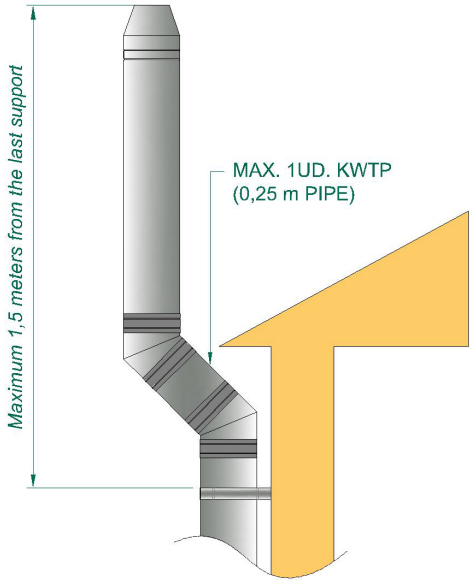
It is a reinforced locking band that replaces the standard locking band. A structural locking band must be placed at all joints above the last support, not including the cap, with a maximum of 2 units. The maximum height can be increased by an additional 1 metre.



KWAP

Offset locking band: KWAQ.

It is a reinforced locking band specifically for mounting on elbows. It replaces the standard locking band. A offset locking band must be placed on all joints above the last support, not including the cap, with a maximum of 4 units. With these locking band, the maximum permitted height of the chimney above the last support is 1.5 metres.



KWAQ

7 Increasers and Reductions

These components are used to make changes in the section of the chimney. When they change the diameter to a bigger one, following the flue gas direction, they are considered increasers. Otherwise, when they change the diameter to a smaller one, they are considered reductions.

In horizontal sections of condensation systems, eccentric increasers or reductions must be used instead of concentric ones to prevent the build-up of condensate.

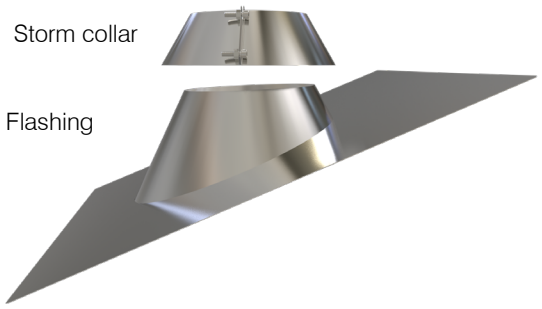
Increaser and reduction, both concentric, are shown below in their assembly position.

INCREASER

REDUCTION

8 Flashing and storm collar

This component is used to prevent water leak through the chimney hole on the roof. The flashing has to be installed like a roof tile (the upper side has to be under the superior roof tile and the lower side has to be over the inferior roof tile). The storm collar has to be installed fitting the chimney pipe and then pushing down to the flashing, then the junction between the pipe and the storm collar has to be filled with outdoor silicone.



9 Cap and Terminals

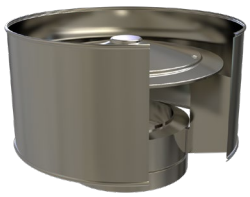
These components are used to assembly on the top of the chimney. Its geometry depends on the mounting orientation (vertical / horizontal) and the special function of each cap or terminal. Main types are shown below:

Standard cap: KWCP.

It is used to protect the inside of the chimney from rainwater. It does not completely prevent water for entering. A model with bird-proof mesh is available.

Anti-wind cowl: KWCA.

Cap with wind and rainwater protection function. It does not completely prevent water for entering. The outer cylinder prevents the wind from cutting off the chimney draught.



Anti-wind cap: KWCD.

Cap with wind and rain protection function. It does not completely prevent water for entering. There is a model with anti-bird mesh.

Cone: KWCO.

Open-ended chimney offers the least resistance to smoke. Due to the possibility of rainwater entering, a drain must be installed at the base of the vertical part of the chimney.

Giratory cap: KWCG.

Cap with rain protection and a system that rotates according to the direction of the wind, preventing the wind from cutting off the chimney draught. Includes an anti-bird mesh.

Rotation cowl: KWAA.

It is driven by the wind to improve the draught.

It works automatically by the action of the wind and the natural depression existing in the duct or chimney. The rotation of the self-aspirator is made with two greased ball bearings.

Jet cup: KWJE.

Cap that prevents rain from entering through an internal cone that directs water towards 2 drainage fittings.

It has an anti-bird mesh on the top.

Horizontal terminal: KWTH.

This termination is installed in cases where the chimney ends horizontally. It has an anti-bird mesh.

10 Outlet siting

According to local standards.

Figures below show the distances recommended for the most commonly outlet terminations.

The chimney will be correctly installed if it is as shown in the following figures and the following points are also taken into account:

- Do not exceed the distance marked between supports and ensure that they are correctly fixed to the building.
- On roofs with an inclination < 20° the chimney must rise above the ridge (see figure 10.1).
- On roofs with an inclination > 20° one of the assumptions indicated in figures 10.2 and 10.3 must be met.
- On roofs with obstacles, at least one of the conditions indicated in figure 10.4 must be met.
- When there are obstacles outside the building where the chimney is installed, the discharge outlet must be raised as indicated in figure 10.5.
- If there are windows or openings on the same roof where the chimney is installed, it must be raised one metre above and also respect the distances indicated in figure 10.6.

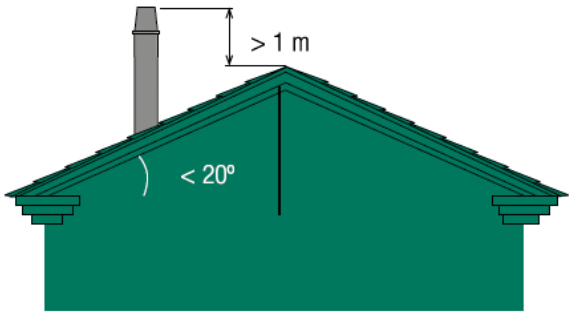


Figure 10.1

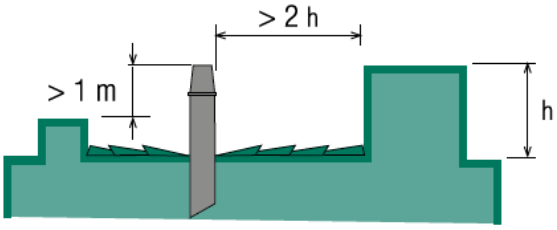


Figure 10.2

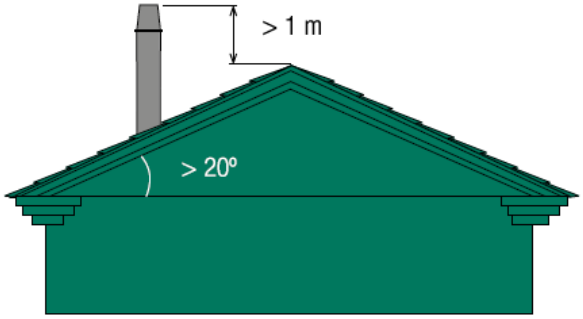


Figure 10.3

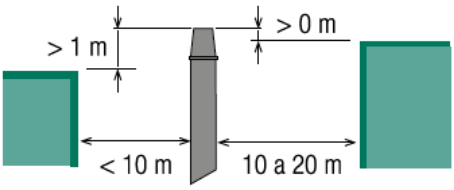


Figure 10.4

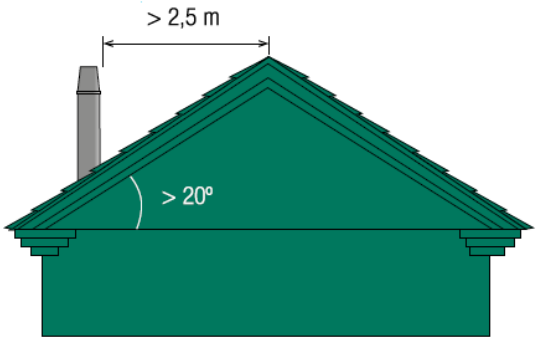


Figure 10.5

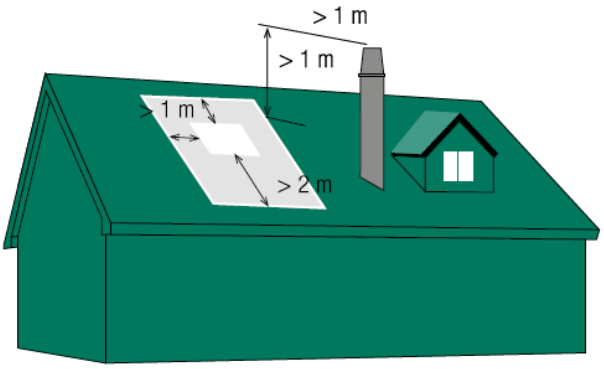


Figure 10.6

11 Maintenance

According to local standards.

The inner pipe of the chimney must be cleaned at least once a year. This cleaning is recommended with a non-metallic bristle brush.

At least annually, it is recommended to visually inspect the exterior condition of the entire chimney, as well as the supports and anchors to the wall or structure, to verify there is no wear, deterioration, or abnormality.

12 Chimney notice plate

The chimney notice plate should be marked up in indelible ink and securely fixed in a visible position closed to the chimney.