

FIREPLACES – A BURNING ISSUE

The problem from the builder's point of view is that an open fire place has been out of fashion for nearly a generation, so that proper construction has become somewhat of a lost art among builders and bricklayers.

The complications and possible builder liability arising from poor fireplace and chimney construction far out way the cost and effort required to get it right the first time.

There are a couple of major problems with fireplaces once in use, with the most common and possible hardest to solve being that of smoking.

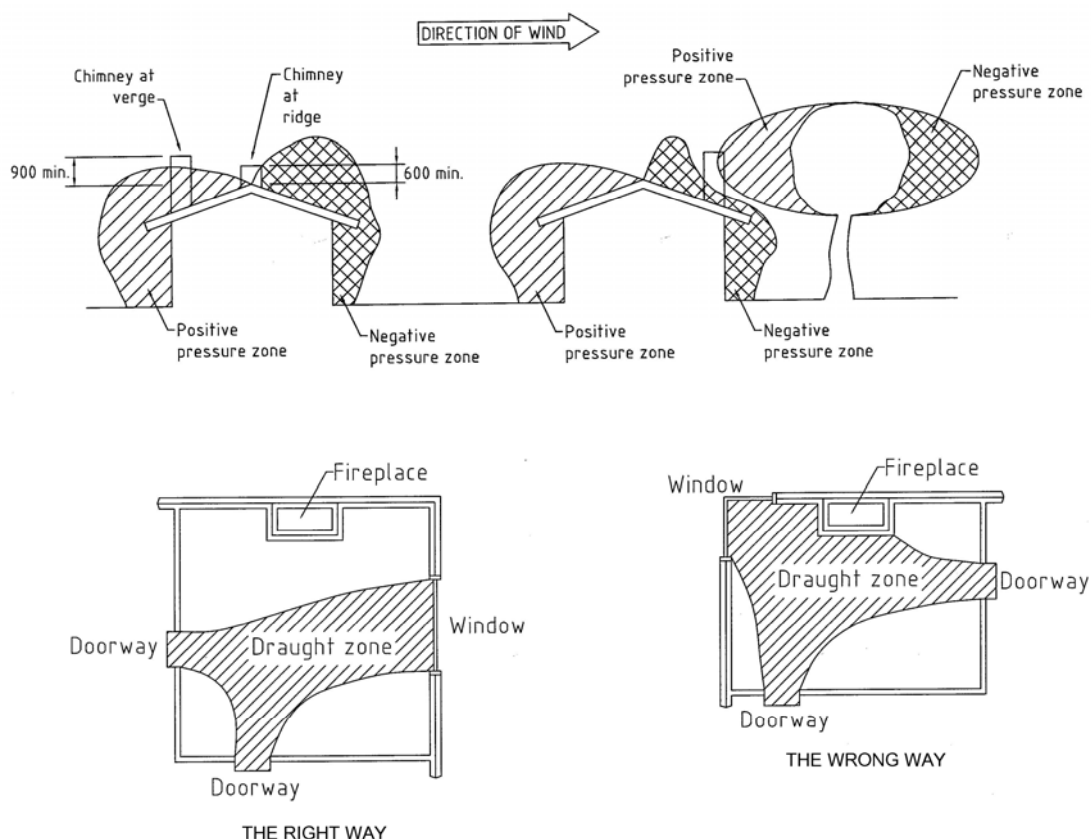
Smoking refers to the basic failure of smoke to be drawn up the chimney into the outside air. Smoky chimneys have either insufficient draught or they are subject to a down-draught and there are a few reasons for this.

INSUFFICIENT DRAUGHT

- The fire is starved of air – often the problem in tightly closed rooms.
- The fireplace opening is too high or too wide, or both, resulting in unsuitable air flow
- Bad Chimney design which creates eddies of hot gases which prevent proper upward flow of smoke in the flue.
- To small or to big inner chimney dimensions

DOWN DRAUGHTS

- The top of the chimney is in a zone of high pressure.
- The fireplace is in a low pressure zone, due to air loss through unsealed doors and windows or other openings.
- The wind is being deflected by barriers such as adjacent buildings, trees and hills.



The frustrating thing about smoking problems and the damage they cause is that the location of the problem is infinitely more complicated than building the thing to the correct specifications in the first place.

Another problem is water entry. Unless prevented at the outset, water can easily travel through the chimney wall to the inside of the house or even worse, it can run onto and into your expensive firebox at the bottom. To avoid this occurring, the correct type and method of flashing around the exterior of the chimney and wall must be used in combination with some form of cowling.

Additionally the use of the correct type of mortar is important. The sandier the mix and the courser grain sand used, the greater the likelihood of problems with water entry and problems with damage to interior decorations.

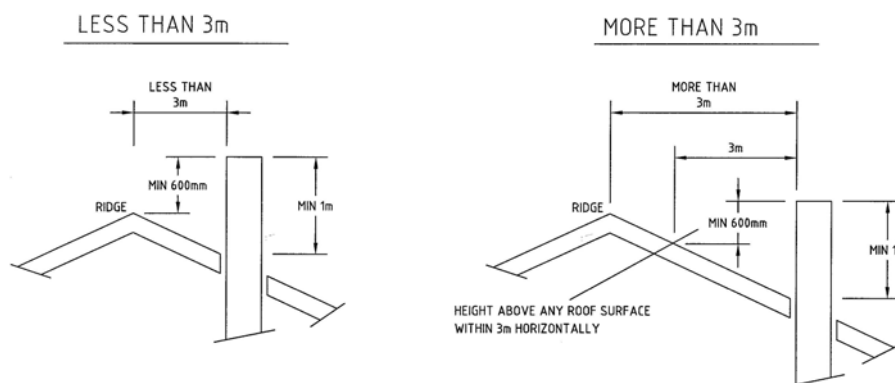
Additionally, people believe spraying silicon will solve the problem of water entry through the brickwork and mortar but experience indicates that this just does not work satisfactorily.

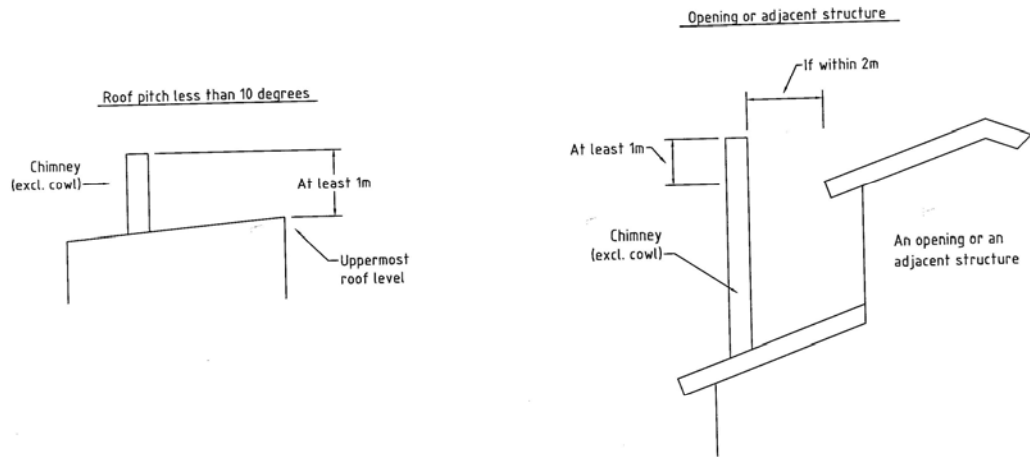
If all this sounds too hard, it is not. It is simply that the very nature of a fireplace is such that it pays to do it right the first time. The old fireplaces you see still standing in the country, long after the house surrounding it has burned, fallen or rotted away are testament to the quality of workmanship and importance place that fireplaces occupied in the lives of our forefathers.

IMPORTANT:

- Rather build the chimney flue slightly larger than smaller if you cannot adhere to the recommended size. The internal flue size should under no circumstances be smaller than the dimension of the smoke outlet at the top of the gather of the appliance. A too big internal flue size can also cause problems.
- The use of a Home Fires flue liner will ensure a perfect flue of the correct size throughout. When such a liner is used, surrounding brickwork can be reduced to 110mm if the chimney is not too high. Savings on brickwork and plastering the inside of the chimney offset the costs of the liners.
- The inside brickwork of the chimney needs to be plastered if a flue liner is not used.
- The chimney flue should be at least 2.4 metres long to provide an adequate draught, thereby preventing smoke from being expelled to the front of the barbecue. For a fireplace the chimney should be at least 3.6 metres long.
- The level of the top of the chimney varies depending on roof type. Refer to figure 3.
- In the case of a thatch or timber-roofed home always ensure that the chimney extends at least 600 mm above the apex of the roof, irrespective of the distance between chimney and roof apex. Only a Home Fires rotating cowl should be fitted. Never fit a fixed cowl in the case of a thatch roof.
- A Home Fires cowl (fixed or rotating) should be fitted to the top of the chimney to prevent rain from entering the flue and causing unnecessary corrosion of the barbecue or fireplace box. This cowl also prevents downdraughts and resultant smoking problems.
- In multiple installations, each barbecue/fireplace unit should have its own flue extending to the top of the chimney.

Figure 3:





MULTIPLE FLUES

Never vent more than one fireplace, stove, or other open flame burner into a single flue. If you want to vent other burners into the fireplace chimney, each additional source of flame will require its own flue.

A chimney may contain two, three, or four flues, a situation that eliminates the need to build a separate chimney for each source of flame. Multiple-flue chimneys most often are used with back-to-back fireplaces and those located one above the other in two-story homes. The chimney of a kitchen fireplace often includes a second flue to vent a gas or wood-burning range of barbecue grill; or you can have a barbecue grill on the outside of the unit if it can be placed on a patio or deck.

Fireplaces are often built with an extra, unused flue for future additions. It's easier and less expensive to build an additional flue into the chimney originally that to add one later to serve a wood stove or other heat source.

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