West Sussex Fire & Rescue Service Thatch Pack

A safety guide for residents of thatched properties

West Sussex Fire & Rescue Service

Making West Sussex Safer

In the event of a fire

This list should prompt you to consider the information you will need to hand, should a fire ever break out, once completed keep this booklet in a safe place near to an exit.

999 – details to assist the control operator

Any landmarks or directions to assist in locating your property?

_____

Are there any access issues? (locked gates, narrow lanes, low height clearance?)

_____

Possible hazards? (overhead cables, wells, cellars, gas/oxygen cylinders?)

_____

Details to assist Fire Service crews at the scene

Location of utilities

Gas – main valve _____

Electricity _____

Water – main stop cock _____

Oil/LPG tank/s – isolating valves _____

Location of water supplies (fire hydrants/river/pond/swimming pool, etc)

_____

Salvage plan information

List the location of any possessions you would want to be considered as a salvage priority in the event of a fire:

_____

_____

_____

Useful numbers

Home buildings insurance details

Insurer _____

Telephone _____

Policy number _____

Home contents insurance details

Insurer _____

Telephone _____

Policy number _____

Emergency contact number details (friend, relative, neighbour etc)

Name _____

Telephone _____

Relationship_____

Contents

Introduction

Thatched roofing is enjoying a revival in the UK

Three materials are widely used in thatched roofing depending on location and availability: long straw, combed wheat reed and water reed, all of which will burn rapidly in a fire.

This booklet has been produced as a useful guide for householders to help prevent a fire occurring.

Although thatch fires are not common, the thatch is designed to repel water which can make extinguishing such fires very challenging.

Prevention is essential, detection is nearly always too late!

Open Fires and Wood Burners

Many thatched homes were built with single skin brick chimneys that rise centrally through a deep layer of thatch.

They were designed to cater for open fire places where flue gases do not reach sufficiently high temperatures to pose a threat adjacent to the chimney.

Modern enclosed solid fuel appliances are designed to burn at a much increased temperature to promote a more efficient "clean burn".

Solid fuel stoves can generate flue gas temperatures in excess of 300 degrees C to 600 degrees C. When fitted into elderly chimneys with only a four inch layer of brick between the flue, this can result in thatch vulnerability to heat transfer.

Modern chimney linings can prevent flue leaks but do not significantly reduce the temperature achieved by heat transfer within the thatch when the appliance is in constant regular use.

It has been shown in tests that the thatch adjacent to the chimney can reach 85% of the flue gas temperature after only one day of continual use.

The critical temperature of 200 degrees C can be achieved and sustained with relative ease.

Faulty chimneys

Old or poorly maintained chimneys can deteriorate to the point where smoke and hot gases can escape from the chimney into the upper rooms, the roof space, or directly into the thatch.

Vital signs to look out for that may Indicate a problem:

- Staining of the plasterwork or wall paper around the chimney breast
- Black or brown localised deposits on the chimney or in the roof space
- Soot on cobwebs in the loft

Chimneys built pre—1960s (as is the case of most thatched homes) are likely to be single brick thickness and unlined. The protective parging or roughcast plasterwork will crumble and disintegrate with age.

Due to the age of many thatched properties, built before the introduction of Building Regulations, the construction of chimneys can be highly unconventional. Period homes often have timber lintels over the fireplace and timber joists built into the chimney stacks. These can be exposed to scorching when the protective layer inside the chimney disintegrates.

Chimney Fires

A chimney fire can occur in any home with a working flue.

Soot is not merely a by-product of burning it is a combustible material in its own right. A soot-lined chimney is lined with fuel just waiting to burn and the structure can be significantly damaged. In a thatch property the conventional chimney fire carries the additional risk of igniting the roof material.

Storing wood inside will result in “sweating” and any sap drawn to the cut surface of the wood will condense on the surface as opposed to being taken away.

Seasoned Wood

The combustion products from burning sap in “green” wood are the main cause of tar deposits within a chimney.

The benefits of using property seasoned wood are:

- The sap and tar content is substantially reduced
- Wood with a lower sap content gives off more heat
- Better value for money
- Reduction of tar deposits in the chimney

Stack wood outside where it is exposed to the wind and sun. The wood should either be stored under a shelter or the top layer should be covered to protect the stack against excessive rain.

Height of chimney

A chimney with only a small section of visible stack is likely to indicate deep thatch.

Raising the height of the chimney can reduce the risk of fire.

Safety Devices

Spark Arresters

In the past, accepted wisdom largely dictated that a major cause of fire in thatched homes was attributed to sparks issuing from the chimney and igniting the thatch.

As a consequence, many thatch householders installed spark arrestors.

Further research has established that many of the properties that suffered chimney related fires had some type of restrictor on the roof. The cause was often found to be due to a blocked spark arrestor.

It is not recommended for spark arrestors to be installed but if already fitted, it is essential that they are regularly cleaned and maintained by a qualified chimney sweep.

Bird Guard

Fitting a bird guard will prevent birds from nesting in a chimney and will allow the flue to function to its full efficiency.

Heat Sensors

Various systems are available where heat detectors connected to a control panel are inserted into the chimney thatch around the chimney.

They are designed to give an audible early warning of potential overheating of the thatch, so measures can be taken to reduce the temperature of the chimney.

Installation costs and an annual maintenance programme need to be considered, together with a plan of what action needs to be taken when the alarm is given.

The Dorset Model

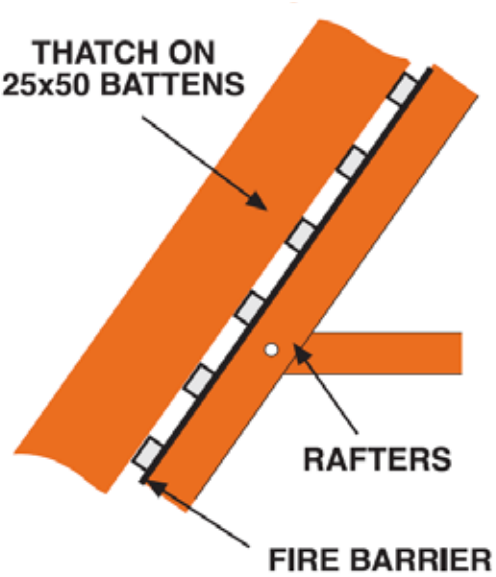
The planning demands for new thatched properties in the County of Dorset resulted in a design called the "Dorset Model"

Some of the principles could be considered if any major renovation work of re-roofing is planned.

The following establishments worked in close association to meet the criteria of the specialist advisors appointed to the technical committee:

- The local fire service
- Thatchers
- Builders
- Electricians
- Scientists
- Building Control divisions throughout Dorset.

Constructing a fire-resisting barrier between the roof timbers and the thatch layer. The thatch would then be viewed as "sacrificial" in the event of fire, and the fire-resisting barrier would help stop the roof fire from getting into the structure of the house. This would therefore drastically reduce the effect to the building, should a thatch roof fire occur.



Tar Removers

The build-up of tar deposits within the flue can increase the risk of chimney fire.

There are chemical products available that can be applied to the embers of the hearth fire or firebox in a stove to dry out the tar deposits in the flue and cause them to disintegrate.

The treatment should be repeated at the recommended intervals to prevent new deposits from forming.

Routine sweeping and scraping of the flue will still be required, especially where heavy tar deposits persist.

A qualified chimney sweep will be able to give further advice with regard to your particular requirements.

Stovepipe monitors

Stovepipe monitors can be used to monitor the temperature of the flue gasses leaving the appliance and give a good indication of the temperature in the upper part of the chimney.

The firebox can be managed to ensure that the flue gas temperature is not excessive (approx 200 degrees C) at the level of the thatch.

Advice and information

Chimneys

Chimneys should be checked or surveyed to ensure that they are structurally sound, well maintained, and able to cope with the demands of modern heating appliances.

The following key points should be considered:

- Ensure that chimneys are regularly swept by an experienced and qualified chimney sweep who should be able to identify potential problems at an early stage.
- If a chimney lining has been installed, it should be regularly inspected when the main fuel is wood, as tar deposits are highly combustible and corrosive.
- A qualified chimney engineer can identify and help address potential hazards.

Fire Escape Plan

Make sure all your family know what to do in the event of a fire and how to escape safely.

Your fire plan should include:

- Planning your escape routes and keeping exits clear.
- Keeping door and window keys handy.
- Consider how a fire in your house will be detected. Have you got sufficient smoke alarms and are they in the correct position?

Smoke Detectors

West Sussex Fire and Rescue strongly recommend that smoke detectors are installed in your property.

The householder should ensure the following:

- Fit a smoke alarm on every floor of your home, ideally in the hallway or landing ceilings.
- Have smoke detectors in the loft space and link to others inside the house.
- Don't put a smoke detector in the kitchen where it can be set off automatically.
- Test the batteries once a week.
- Detectors are available with 10 year batteries.
- You may qualify for a free home fire safety check

Kitchens

Two-thirds of fires that start inside the home relate to the kitchen.

Consideration should be given to:

- Get out. Stay out. Call 999
- Keeping items that can catch fire easily, such as tea towels and oven gloves, away from cookers and toasters
- Never leave cooking unattended
- Never cook after consuming alcohol

Electrics

Check for signs of loose wiring and faulty plugs or sockets, such as scorch marks or flickering lights. Replace any worn or taped up cables and leads.

The following key points should be considered:

- Halogen floodlights can get very hot, consider swapping for LED versions.
- Install vermin proof wires and conduits in loft spaces. Vermin control is also recommended
- Have your electrical system checked by a qualified electrician
- If your incoming power supply is overhead, check to see if it is the insulated type. If in doubt, your power supplier can give you further advice.

NEVER overload electrical sockets or extension cables.

Download our interactive socket overload calculator to check:
twothirtyvolts.org.uk/socket-overload

Contractors

If you are having any work done on your house that will involve "hot works", such as plumbing or paint stripping, make sure the contractors are fully aware of the potential risk of a thatch fire.

No hot works should ever be carried out in loft spaces.

Bonfires, Fireworks, BBQs, Fire-Pits and Chinese Lanterns

It is always good practice to restrict the use of the above to reduce the risk of fire to your property.

If possible consider discussing this with neighbours who carry out these activities near to your property.

Water Supplies

Assess the water supplies to your property. Consider having an outside tap with enough hose pipe to reach your house, including the roof.

This will help you control any small fires that you discover.

*Only tackle a fire if it is safe to do so, never put yourself at risk! *

Remember... GET OUT, STAY OUT, CALL 999

Find out the location of your nearest fire hydrants

Look for the following symbol:

Sprinkler Systems

In recent years there have been many advances in sprinkler systems.

Sprinklers are designed to save lives, but because they control fires so quickly, they also reduce property damage significantly.

Summary of advice

- Have the chimney swept regularly by a qualified sweep. A chimney in regular use should be swept at least twice a year.
- Only burn seasoned wood.
- Have the chimney inspected by a qualified chimney engineer.
- If you have a spark arrestor fitted, clean it regularly. This should be done every three months on chimneys in regular use and the arrestor should be taken down to clean.
- Fit a bird guard to deter birds from building nests in chimneys.
- Develop a fire plan for your home.
- Smoke alarms should be installed throughout your home. If you have a loft space, an interlinked smoke alarm should be installed which is linked to at least one other within your home.
- Install a fire blanket in the kitchen.
- Check the electrical system throughout your home.
- Be careful when using blow torches or heat guns.
- Restrict the use of bonfires near to your property.
- Install an outside tap with enough hose to reach around the house, including the roof. This can be used to extinguish any fires at an early stage.
- Residential sprinkler systems will greatly improve the fire precautions within your home.
- Consider forming a fireproof barrier between the roof timbers and the thatch layer when renovating or undertaking re-roofing.
- A thatch fire will be mainly restricted to the thatch and damage to the rest of the house will be limited.

Useful Contacts

Contact your local Authority Building Control or Planning Office.

Communities and local Government
firekills.gov.uk

English Heritage—Listed Buildings/graded properties
customers@Englishheritage.org.uk

The National Society of Master Thatchers (NSMT)
nsmtltd.co.uk

BFCMA (British Flue and Chimney Manufacturers Association)
feta.co.uk

HETAS (Heating Equipment Testing and Approval Scheme)
hetas.co.uk

NACE (National Association of Chimney Engineers)
nace.org.uk

SFA (Solid Fuel Association)
solidfuel.co.uk

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