



Rialtas na hÉireann
Government of Ireland

Fire Safety in Thatched Properties



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Housing, Local Government and Heritage
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Contents

Introduction	3	Outside the House	16
Fire Safety Checklist	4	Outdoor Tap and Hose	16
Part 1: Critical Risks in Thatched Buildings	5	Barbecues	16
Solid Fuel Stoves	5	Outdoor Fires	16
Open Fires	5	General	16
Chimneys and Flue Liners	6	Risks on Farms	17
Spark Arrestors	7		
Bird Guards	8	Fire Escape Plan	18
Netting	8		
Choice of Fuel	8		
Roof Spaces	9		
Part 2: Other Risks	10		
Smoke Alarms	10		
Electrical	11		
Kitchen	12		
Boilers	12		
Portable Heaters	13		
Electric Blankets	13		
Bathrooms	13		
Tumble Dryers, Washing Machines and Dishwashers	13		
Candles	14		
Smoking	14		
Stored Materials	15		
Last Thing at Night Routine	15		



Introduction

While thatch is a naturally combustible material, there are straightforward measures which owners and occupiers of thatched buildings can take to reduce the risk of fire to a safe level.


Implementing these measures will help preserve this distinctive aspect of our built heritage, improve access to insurance, and, most importantly, ensure the safety of those living in or visiting thatched buildings.

Thatch fires stem from a narrow range of sources, most connected to the improper design, maintenance, or use of the chimney. The most common single cause of thatch fires is a spark or burning ember being ejected from the chimney, landing on the thatch and starting a fire. (Please see Section 5 of *Report on Insurance and Fire Safety in Thatched Buildings*, available on www.buildingsofireland.ie, for further information.)

Accordingly, Part 1 of this document outlines the steps which should be taken to manage risks connected with the use of the chimney. It is recommended that owners of thatched buildings take immediate steps to review the safety of their chimneys.

It is strongly recommended that solid fuel stoves are not used in thatched properties, as they can eject burning materials at higher temperatures and greater velocity than open fires, thereby substantially increasing the risk of fire.

Other, more general fire safety advice follows in Parts 2 and 3.



The National Directorate for Fire & Emergency Management (NDFEM) worked closely with the Built Heritage section of this Department to develop this guidance. NDFEM are satisfied that the guidance aligns with good practice, and provides advice on fire safety matters which support risk reduction in buildings with thatched roofs.

Don't Delay – Act Today – Fire Safety Checklist

Action/Measure	Yes	No	Take Action
If there is a solid fuel stove in the property, stop using it			
Clean chimneys regularly			
Inspect chimneys for signs of deterioration			
Have chimneys inspected by a competent professional every five years			
If the flue has never been inspected by a competent professional, get it checked immediately			
If there are spark arrestors on chimneys, remove these			
Fit bird guards to all chimneys/flues			
If using an open fire only burn dry, well-seasoned fuel; use a moisture meter to check for moisture content in timber			
Ensure that smoke detectors are provided in the roof space			
Check wiring in attic for signs of vermin attack and damage			
Install a comprehensive fire detection system with smoke and heat detectors			
Consider installing a monitored fire detection system			
Test smoke detectors once a month			
Provide appropriate fire extinguishers in the property			
Check fire extinguishers to ensure they are in date			
Provide a fire blanket in the property			
Implement kitchen safety practices			
Implement electrical safety practices			
Have electrical installations inspected by a RECI electrician every five years			
Check sockets/switches for scorch marks			
Check that the incoming mains power supply is insulated			
Replace halogen lamps/bulbs with LED lamps			
Ensure boiler flues are no closer than 600mm (2ft) to thatch			
Move fuel tanks away from the building			
Provide an outdoor hose of appropriate length, connected to a lagged tap			
Operate safe working practices during building works			
Ensure flammable materials are stored in secure conditions at a safe distance from the building			



Part

1

Critical Risks in Thatched Buildings

Solid Fuel Stoves



It is recommended that solid fuel stoves are not used in thatched properties. They are a greater risk to the thatch than other forms of heating including open fires.

- The removal of solid fuel stoves is encouraged.
- Where property owners wish to continue using solid fuel stoves, the UK Fire Protection Association and Historic England guidance, *Reducing the Risk of Fires in Thatched Properties with Wood-Burning Stoves*, should be carefully followed. <https://historicengland.org.uk/advice/technical-advice/emergency-and-fire/fire-advice/>

Open Fires

Open fires are safer than solid fuel stoves in thatched buildings. However, open fires are not as safe as heating methods that do not generate high temperatures in chimney flues, such as; central heating, storage heating, and certain ranges. If you elect to use an open fire, great care should always be taken in their use.

- Always use commercially available firelighters when lighting a fire.
- Do not burn paper or cardboard – these create lightweight embers that can rise up the chimney and potentially reach the thatch.



- The height of the chimney or chimney pot should be at least 1.2 metres (4 ft) above the thatch, to reduce risk from sparks or embers. Any proposals to raise the chimney height should be considered with reference to the building regulations and planning permission requirements.

- Never use petrol, paraffin or similar fuels to light a fire.
- Keep combustible material such as newspapers, books, rugs, blankets and clothes well away from the fireplace.
- Keep a bucket of sand, or a fire extinguisher near the fire in case it needs to be extinguished quickly.
- If leaving a fireplace unattended, use a fireguard that fits closely around the fireplace.
- When drying clothes, keep them well back from the fireplace even when a fireguard is being used.
- Avoid placing a mirror above a fireplace as there is a risk of loose clothing catching fire when people stand too close to the fire when using a mirror.
- Always ensure that a fire is out before going to bed or leaving the house.

- Hot ashes, embers and coals should be collected in a metal (not plastic) bucket. Wet the ashes after placing them in a bucket and store it outside, at a distance from the house, sheds or any flammable features such as fences or hedges.

Chimneys and Flue Liners

Chimneys are exposed to wind and weather externally, and the effects of hot corrosive gases internally, so they are susceptible to deterioration. Chimney and flue liner fires generally occur when internal soot or tarry deposits ignite. There is a risk of sparks and lumps of burning tar being ejected onto the thatched roof, with a high likelihood of a chimney fire progressing to involve the thatch itself. New purchasers of thatched properties should always have chimneys and flue liners inspected by a competent professional.

Cleaning

- Regular cleaning of chimneys and flue liners by a competent sweep to remove combustible soot and tar deposits is an essential fire safety measure.
- When sweeping chimneys or flue liners check the debris for lumps of tar as this can indicate tar accumulation.
- Chimneys serving open fires should be cleaned by a competent sweep at least once a year if using smokeless fuel, and twice a year if using coal, timber or turf.
- Flues liners serving solid fuel stoves should be cleaned four times a year.

Chimney Maintenance

- Look for smoke staining of roof timbers and/or soot on surfaces in attics, as this is evidence of a defective chimney.
- The condition of the chimney lining should be inspected by a competent professional. Smoke and gases can seep into roof spaces and under the thatch, and increase the risk of fire.
- Building owner/occupiers should take note of dark brown stains on a chimneybreast, above a fireplace opening, or in a roof space. Staining often indicates that the chimney's lining is in poor condition.
- Where staining is evident, have the chimney inspected by a competent professional using CCTV. Don't use the chimney until an inspection and any necessary repairs have been undertaken.
- Following a chimney fire, and before reusing the fireplace or a solid fuel stove, the chimney flue should be inspected by a competent professional using a CCTV survey to determine if any damage has been caused.
- When re-thatching or renewing the ridge, the thatcher should strip back the thatch and inspect the chimney, looking for signs of smoke, charring and gaps in the brickwork, and carry out repairs as needed.

Flue Liner Installation and Maintenance

- All new solid fuel stoves and flue liners must comply fully with the building regulations *Technical Guidance Document J*.
- Single-skin flexible flue liners should not be used with solid fuel stoves. Only use double-skin flexible liners or solid liners.
- Flue liners to solid fuel stoves should be inspected by a competent professional using CCTV at least every three years.
- Metal flue liners often require replacement after ten years.
- Flue liners should be replaced after a chimney fire, as the metal will have experienced both the heat of the fire and the cold shock of water used to extinguish the fire.

Spark Arrestors

It is recommended that spark arrestors attached to chimneys are not used in thatched properties. Spark arrestors are no longer recommended as they do not always catch sparks and can clog up with combustible tar deposits.

- The removal of spark arrestors is encouraged.

Bird Guards

- Metal bird guards will prevent the construction of nests in chimneys. Birds can build a nest in a chimney extremely quickly, often in a matter of days. Nests are a hazard as they can catch fire and emit embers which could ignite the thatch.

Netting on Thatch

- Where wire mesh netting is installed to keep out vermin and birds, run it from ridge to eaves, and not side to side. That way it can be removed quickly by fire crews in the event of a fire.
- Use a 19 gauge $\frac{3}{4}$ inch wire. It is important not to overtighten or fix the wire. Do not overlap the edges of the mesh. Butt them together and secure using a metal hook.



Choice of Fuel

- Burning inappropriate fuel and/or wet timber is a significant contributory factor to accidental fires.
- Never burn waste material, such as paper, cardboard, plastics, household refuse or building waste timber. This can create embers which can ignite the thatch and/or lead to tar deposits in the flue or chimney.
- Only burn dry timber with a moisture content of less than 20%. Use a moisture meter if necessary to test timber. Burning wet timber can create tar residue in a chimney or flue which can lead to chimney and thatch fires.
- Store timber outdoors, undercover with adequate ventilation.
- If the smoke emitted from the top of a chimney is black, this is a clear sign that the fuel or timber is too wet.
- Blackening of the stove door glass is another sign that tar could be building up in the flue or chimney.

Roof Spaces

The roof space or attic in a thatched property is a high-risk area as a fire originating here could spread to the thatch.

- Smoke detectors should be provided in the roof space to give early warning of a fire.
- Ideally, roof spaces should not be used for storage. At the very least, storage of combustible materials should be kept to an absolute minimum.
- Provide an access hatch, with a minimum size of 900mm x 600mm (3 ft x 2 ft), so a firefighter with breathing apparatus can enter the roof space for fire-fighting purposes.
- Run all wiring in metal conduits to avoid damage by vermin.
- Avoid halogen lights as they can overheat. Any lights in the roof space should be of the sealed or enclosed bulkhead type.





Part

2

Other Risks

Smoke Alarms

- Fit smoke alarms to the manufacturer's instructions today, in accordance with the requirements of *Technical Guidance Document B- Fire Safety-Volume 2- Dwelling Houses 2017*. Make sure they are in working order. Working smoke alarms will warn you if there is a fire. Early warning of a fire or presence of smoke is the best means of ensuring human safety. Remember: your sense of smell does not work when you are asleep and smoke can put you in a deeper sleep.
- If someone in the home has impaired hearing, they may not hear an audible warning from a smoke alarm, e.g. if not wearing a hearing aid at night. There are smoke alarm systems that use strobe lights or vibrating pads.
- Smoke alarms should be tested by pressing the test button with the handle tip of a floor brush. Do this once a month.
- Replace the batteries when they are not working, and once a year in standard alarms, or as soon as you hear the warning beep.
- If you have 10-year battery smoke alarms, you need to replace the whole alarm after 10 years.



- Given the unique risk with thatched properties, provide interlinked smoke detectors in every room of the house and in the attic or roof space.
- Fit heat detectors in the kitchen and in rooms with open fires to prevent false alarms.
- Put smoke alarms on ceilings, not on walls, to ensure faster detection of smoke.
- Vacuum the smoke alarms regularly and wipe the cover. If they get clogged with dust they may not work properly.
- Connect the fire detection system to a remote alarm monitoring service, particularly if the thatched property is a holiday home or is unoccupied for long periods.
- Unplug appliances at night or when not being used.
- Charge appliances like laptops, hairs straighteners and phones, on a hard surface and not on a bed, sofa or carpet where they can overheat.
- Do not overload sockets and extension leads. Plugs and sockets that heat up or trip regularly should not be used until they have been inspected by an electrician.
- Keep cables away from sources of heat and avoid running cables under rugs or carpets where they can overheat and be damaged without being noticed.
- Keep lamps away from curtains and other fabric.
- Use LED lighting or bulbs as these do not tend to overheat.
- Turn off lamps at the socket or unplug them at night.
- Avoid halogen lamps as these get very hot.
- Avoid installing recessed down-lighters in lath and plaster ceilings and directly under thatch.
- Do not charge high-powered appliances like scooters and bikes overnight or when the house is unoccupied and the equipment and charger are unattended.

Electrical

- Electrical installations should be inspected periodically to ensure they are in safe working order. Many insurance companies require that electrical installations in a thatched property are inspected and tested by a RECI electrician every 5 years.
- Ensure overhead mains supply lines are insulated and keep them at least 30cm (1 ft) away from the thatch and wire netting to prevent arcing. If you are concerned, contact the ESB.

Kitchen

- Put a fire blanket and fire extinguisher within easy reach in the kitchen and learn how to use them.
- Distraction is one of the major causes of kitchen fires. If you need to leave the cooking, turn down the heat, set a timer, or ask someone to keep an eye on things.
- Ensure handles of saucepans, etc. are turned inwards so they cannot be overturned.
- Be careful of unattended children and pets.
- Take care of loose clothing or long loose hair which can catch fire.
- Clean cookers, ovens, grilles, hobs, extractor fans and toasters regularly, as a build-up of fat, grease or crumbs can easily catch fire.
- Always turn the cooker off after use and check it before going to bed.
- Never use a cooker to dry clothes.
- Flammable items, such as tea towels, oven gloves, and curtains, should be kept away from cookers and toasters.
- Cables and leads for kettles, toasters, etc., should not run across the hob.
- Chip pans should not be used in thatched properties.
- For further guidance, please see: <https://www.gov.ie/en/publication/450da-fire-safety-in-the-kitchen/>

Boilers

- Boilers should be inspected and serviced at least once a year.
- Where possible, house them in a detached boiler house at least 2m (6ft) away from the thatched property to reduce risk of fire spread.
- Provide automatic fire extinguishers at the boiler.
- Keep boiler flues at least 600mm (2ft) below the thatched eaves to prevent hot gases igniting the thatch.
- Keep the boiler at least 2m (6ft) away from any fuel tank.



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Portable Heaters

- Use portable heaters with extreme care.
- Never dry clothes on electric heaters and cover any vents.
- Keep them away from soft furnishings, bedding and curtains.
- Do not use flammable substances such as aerosols, adhesives, and cleaning fluids near heaters.
- Position the heater where it cannot be knocked over by people or pets.
- Do not move a heater when it is on, or still hot.
- Turn off and unplug heaters before going to bed or leaving the house.
- If the heater has signs of damage or has scorch marks, do not use it.

Electric Blankets

- Defective electric blankets can cause an electric shock, burns, or a fire.
- Check regularly for wear and tear, scorch marks, exposed wires, loose connections and damage to the flex.
- Replace electric blankets every ten years.
- Only operate electric blankets overnight if fitted with thermostatic controls.
- Store electric blankets flat or rolled up; do not fold or crease as this can damage the wires in the blanket.
- Never use hot water bottles and electric blankets together.

Bathrooms

- Sockets and switches, with the exception of a shaver supply unit, should never be provided in a bathroom, shower room or WC.
- Never run an extension lead into a bathroom.
- Lighting in bathrooms and shower rooms should conform to specific IP (ingress protection) ratings. Enclosed light fittings are safer. Lights over a bath or shower should have an IP67 rating. Lights with an IP 44 rating can be used in other parts of the bath/shower room or in a WC.
- Electric heaters should be fixed permanently in place and out of reach of splashes.
- Clean extract fans periodically to remove dust which can cause the motor to overheat.

Tumble Dryers, Washing Machines and Dishwashers

- Do not use these machines when asleep or when the house is unoccupied.
- Clean tumble dryer filters after every use to remove flammable fluff or lint.
- Avoid overfilling the dryer as this can cause a build-up of heat in the drum.
- Never stop the dryer in mid-cycle. A normal cycle will blow cold air over the clothes to cool them down towards the end of the cycle. If the cycle is stopped, clothes may be very warm and can spontaneously combust.

- Never put rags or cloths into the dryer if they have been used to soak up flammable liquids such as oil or turpentine.
- Always vent warm air from the dryer to the exterior of the building.
- Never cover the vent, and ensure the vent duct is not kinked, as this could trap warm air.
- If the equipment makes unusual noises or smells during a cycle, have it inspected.
- Register your appliance after purchase so you can be contacted if there is a product recall or safety warning.

Candles

- Always use a purpose-made holder (not a wine bottle, saucer or shelf).
- Place on a heat-resistant surface.
- Be aware that children, pets or a draught could knock over a candle.
- Never leave candles unattended.
- Keep candles away from curtains, tablecloths and upholstery, newspapers, Christmas trees, plants and decorations.
- Ensure candles are fully extinguished and have cooled down before going to bed.

- Be careful of loose clothes and hair (which may contain flammable product) when using candles.
- Have a freestanding battery-operated lantern, torches, and an ample supply of spare batteries in the event of a power outage.

Smoking

- Smokers are at a higher risk of having a fire in their home, irrespective of whether it is a thatched property or not. Careless smoking is the biggest cause of fatal fires in Ireland.
- Use a purpose-made ashtray (not a wastepaper basket, saucer, or improvised implement) which will not tip over easily.
- Empty ashtrays regularly and always before going to bed.
- Dampen ash under a tap before disposal.
- Do not leave lit cigarettes unattended. Keep matches and cigarettes in a safe place and away from children.
- Take extra care when smoking if you are tired, taking prescription medication or have been drinking alcohol.
- Follow the manufacturer's instructions when charging E-cigarettes and never leave them unattended and charging overnight.

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Careless smoking is the biggest cause of fatal fires in Ireland.”





Stored Materials

- Flammable and combustible materials, such as oil and diesel for lawn mowers, farm machinery and other equipment, paint (particularly spray paint), and aerosols, should all be stored in a way that minimises the risk to the thatched property.
- Dispose of such materials after use and do not allow them to accumulate.
- Less obvious household items that are highly flammable include, but are not confined to: dusty food stuffs, such as flour, sugar and starch; cooking oil; aerosol products such as hair spray, mousse and antiperspirants; paraffin-based skin creams and emollients; some hand sanitizers; nail polish and nail polish remover; laundry detergents; linseed oil; brake fluid, oil and antifreeze for cars; moth balls; ping pong balls; and even black shoe polish. Take care when storing or handling these materials near an open flame or a heat source.

Carry Out a Last Thing at Night Routine

Before you go to bed:

- Check all escape routes are clear of obstructions.
- Check that the correct keys are available for any doors and windows that may need unlocking.
- Make sure fires and solid fuel stoves are extinguished and place a fireguard in front of an open fire.
- Do not leave your TV, radio, or computer on standby. Only appliances designed for 24-hour use should be left plugged in at night-time, e.g. fridges, freezers, etc.
- Unplug chargers to phones, tablets, etc.
- Switch off and unplug electric blankets.
- Make sure washing machines, tumble dryers and dishwashers are not running overnight.
- Make sure all gas appliances are switched off.
- Make sure all candles and naked flames are extinguished.
- Empty ashtrays properly.
- Close all internal doors to reduce the spread of fire and smoke.



Outside the House

Outdoor Tap and Hose

- Provide an external hose that is long enough to reach all parts of the building.
- Keep it connected to a tap so that it can be used immediately to dampen the thatch and reduce the risk of ignition in the event of a chimney fire, bonfire, a fire at a neighbouring property, or a vehicle fire, all of which might emit large burning embers that could ignite the thatch.

Barbecues

- Barbecues should not be used near a thatched property.
- If a barbecue is to be used, please follow fire safety guidelines: <https://www.gov.uk/en/publication/fa85cf-be-firewise/#barbecue-safety-advice>

Outdoor Fires

- Outdoor fires, including bonfires, fire pits, burning of domestic waste, burning of garden waste, etc., should not be used.
- Speak to your neighbours about the risk to your thatched property from outdoor fires on their properties.

General

- Oil tanks should be positioned at least 1.8m (6ft) from any building while gas tanks should be at least 3m (10ft) away. Hedging, bushes, and fences should be kept at least 1m (3ft) away from fuel tanks. Please refer to *Technical Guidance Document Part J - Heat Producing Appliances 2014*
- Park vehicles at least 3m (10ft) away from any thatched building to reduce the risk of fire spreading to the building.

- Position compost heaps away from any thatched building as these can spontaneously combust in heatwaves.
- Sheds, fences, low overhanging trees and hedges should be kept away from any thatched building. These are all combustible and can be impediments to the fire service in the event of a fire.
- When decorating, avoid burning off old paint using heat guns or blow torches, either inside or outside the house.
- Take extreme care when applying torch-on felt to roofs of extensions or sheds. Have a fire extinguisher to hand and keep an eye out for any sparks or embers.
- During renovations, works that produce heat, sparks or involve open flames (known as hot works) should be avoided. If hot works are unavoidable, such work should be monitored closely both during and after. Use and storage of flammable materials should be carefully managed and fire extinguishers should be provided at all times.
- Fireworks should not be used at a thatched property.

Risks on Farms

- Petrol, diesel and other fuels, as well as chemicals and fertilisers, should be stored in secure areas away from the thatched property.
- Refuse should be disposed of safely and on a regular basis. Burning of refuse should be avoided as far as possible.
- Electrical wiring in hay barns, sheds, stores and other buildings should be inspected periodically by a qualified electrician.
- Electric fences should be kept away from thatched properties owing to the risk of arcing, which may occur when the fence touches off certain objects.
- Activities such as welding or grinding, which can generate heat and sparks, should be carried out away from thatched buildings.
- Straw and hay should be stored at least 10m (33ft) away from thatched buildings to reduce the risk of fire spread.





Make a Fire Escape Plan and Practice it Often

When a fire breaks out, it can spread quickly in any property, not least a thatched property. All occupants need to react quickly. Advance preparation can save valuable time. Rehearsing an escape plan can be the difference between life and death.

- Plan at least two ways out in case one way is blocked by fire. If the second means of escape is a window, place a chair or sturdy table below the window to assist with escape. Ensure the window opens widely enough to allow escape and that it is not fitted with restrictors.
- Keep the escape route clear night and day.

- Whether you discover the fire, or your smoke alarm warns you, stay calm and put your fire escape plan into action. Don't delay.
- Raise the alarm. Wake everyone up and get everyone out by the quickest way, assisting or collecting the young and vulnerable.
- Know where keys to doors and windows are kept.
- Know where the nearest phone is to call the fire service.
- Check doors with the back of your hand for evidence of heat before opening them. Do not open them if they are warm as that means the fire is on the other side.

- Do not look for the cause of the fire.
- If there is smoke, crawl along near to the floor where the air will be cleaner and cooler.
- If your clothes catch fire 'Stop, Drop and Roll'.
- Have a meeting point in a safe place outside, so you will know quickly if everyone is out of the house.
- Call the Fire Service on 999 or 112 and say that you have a thatched property.

- Do not re-enter the house until the fire service says it is safe to do so.
- Practice the escape plan with everyone who lives in the house.

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Rehearsing an escape plan can be the difference between life and death.”





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