

South Northamptonshire Council



Conservation Advice Note No.9

Thatch and Thatching

Sustaining a tradition

Introduction

The word thatch is an Old English word meaning 'to cover'. Its first known use was during the 14th century and over time the word has developed to mean an organic covering. Thatch is one of our oldest construction techniques and has been used in Britain for many centuries, with archaeologists finding evidence of buildings with straw roof coverings that date as far back as 500BC.

During the early Medieval period thatch was the most popular type of roofing material. This was due to its cheapness and availability as a locally sourced material and also to its lightweight nature which allowed for a simple roof structure to be utilised reducing the cost of construction.

The traditional form of thatching within South Northamptonshire is long straw thatch, which has certain distinctive features that set it apart from other materials. The qualities of the material and the manner in which it is worked contribute to the special character and appearance of many of our buildings and the areas in which they are located.

As well as being historically important and aesthetically pleasing thatch roofs can withstand high wind and heavy rains and unlike other roofing materials do not need guttering. Thatch roofs can also provide excellent sound and thermal insulation, keeping buildings warm in the winter and cool in the summer.

Locally grown thatch is a sustainable material, which has little impact on the environment throughout its life-cycle. It requires no chemicals to grow, can be harvested by hand or traditional

farm machinery and requires no mechanical processing. Thatch therefore has low embodied energy, acts as a carbon sink and at the end of its life can be composted and returned to the land.

In spite of these qualities the use of thatch has decreased since the 19th century and although it is still found on a number of properties throughout South Northamptonshire care needs to be taken to sustain the use of this material and the specialists who work with it.

This conservation advice note recognises this and is intended to provide home owners and members of the public with information about the material, its use and repair, allowing for appropriate informed decisions to be made now and in the future.



Example of a thatched building found within the district

Thatching Materials

Long Straw

Long straw is winter wheat, which has been threshed to remove the grain and is the traditional form of thatching in South Northamptonshire.

Its use however has declined in recent times as a result of the intensification of the farming industry in the late 20th century, and its desire for increased productivity and yields, resulting in wheat being bred with shorter stems to assist with efficient mechanised harvesting and reduced wind damage. Farmers have also been encouraged to apply nitrogen fertilisers to their crops to increase grain yield. These factors combined to both reduce the supply of good quality thatching straw and resulted in the premature decay of that which was available.

A consequence of this has been the introduction of non traditional thatching materials into the district and the loss of both traditional long straw roofs and those experienced in working on them.

This situation is now starting to be better understood and farmers are growing wheat especially for thatching. This is best cut when slightly green and must be processed carefully to avoid damaging the stems.

A worn long straw roof can be repaired by stripping off the top coat and overcoating with a new layer. This over coating process is known as spar coating and the covering is built up from the eaves in courses; each course overlapping the one beneath so that water is guided down the straws and off the roof at the eaves.

To prepare the material for use, the thatcher makes a bed of straw which is wetted to make it more pliable. The straw is then gathered together in bundles called 'yealms' which measure about 18 inches long by 5 inches thick, with no regard to the alignment of the stems. It is during this process that weeds and other waste are withdrawn.

The yealms are then carried onto the roof where they are fixed to a sound layer of the existing



Spar-coating onto an existing thatch coat starting from eaves and moving up to ridge.



Yealms of long straw, clearly showing the intermixture of butts and ends

thatch with spars, which minimises disturbance to the existing roof.

The eaves, verges and ridge are secured using hazel liggers and cross rods which are visible on the surface of the thatch. Because the straws lie randomly, ears and butts are both visible on the surface. This gives a distinctive shaggy look to the roof. Long straw roofs are always protected by netting and the roof is traditionally finished with a wrapover ridge flush with the main coat of the roof. It is not cut or patterned but sometimes decorated with cross spars.

The eaves are cut using a sharp knife to give a neat edge. Some thatchers also cut the thatch at the gable. In some cases, where a roof is being re-thatched over a sound base coat, a rolled gable is used to get over the difficulty of fixing the new thatch to the gable. This gives a very attractive rounded look.

The tradition of spar coating on long straw roofs means that old phases of thatching often survive below the top coat. These provide invaluable insights into the agriculture and building technology of their time. Some early thatch is often smoke blackened; a legacy of open hearth fires on the floor of an open hall.

Water Reed



Example of a recently thatched long straw roof with a traditional flush ridge with decorative cross spars.

Water reed is not a traditional thatching material to South Northamptonshire being most commonly found in lowland and coastal marshes throughout the country.

Reed is a hard wearing material which is attached to the roof using a completely different technique to long straw.

Reed is typically around 4' - 6' long and relatively thick and stiff meaning that it must be fitted to a flat surface which in most cases means that is attached to a bare roof structure. This requires the complete removal of the existing roof cover. The process also significantly alters the appearance of the roof with reed roofs tending to be less deep than long straw roofs following the line of the roof structure closely, emphasising features such as dormer windows, resulting in an extremely uniform appearance.

Reed is fixed using tarred cords or hooks and sways so that the butt ends only are visible on the surface. These are then dressed with a leggett

batting the butts to give a tight, brush-like even consistency, whilst creating sharp edges at eaves, verges and around dormers, where no cutting is needed.

The texture and appearance are significantly different from long straw and bring about a distinctive change in the appearance of the roof which is usually finished with a deep block cut pattern ridge often being extravagantly decorated, usually in the thatcher's own unique style.

Combed Wheat



Example of a water reed thatched roof with a combed wheat block cut ridge

Combed Wheat (sometimes called combed wheat reed) is basically the same material as long straw but it is laid on the roof in a manner more akin to Water Reed.

Combed wheat is winter wheat which instead of being threshed or flailed, is processed by passing it through a comber. This removes the ears of grain and leaves the stems largely undamaged, and all aligned in one direction.

This combing process is more expensive but it reduces the amount of on-site preparatory work required and it is because of this that today most thatchers prefer to work in combed wheat instead of the traditional long straw.

Once the material has been combed it can be laid on the roof like Water Reed and dressed back with a leggett to produce the same neat, close-cropped finish. This is the reason that it is

sometimes referred to as combed wheat reed.

The eaves and gables of combed wheat have to be cut to shape with a knife, which together with the close texture of the main coat, gives a much more regular, sharply defined character to the roof than the traditional long straw. Combed wheat can be over-coated like long straw and is always netted.



Example of a newly thatched combed wheat roof with flush ridge

Repairs and Maintenance

Maintenance

Routine maintenance will help to extend the life of a thatched roof and roofs should be inspected yearly to ensure that they are still in a good condition.

Attention should be given to the condition of valleys and the ridge as these are likely to display the worst affects of weathering. The condition of wire netting and the presence of climbing plants and signs of birds or vermin which may be nesting in the thatch should also be considered.

If the netting is required to be lifted, the opportunity should be taken to gently clean off any build up of moss or debris. Over hanging trees may occasionally also require attention.

In addition to routine maintenance remedial work to the roof should be expected every 10 years or so. Traditionally repairs are accepted as part of a regular maintenance scheme for all thatched

roofs and help to prolong their life.

Assessing when to repair

Many factors can affect the life span of a roof including the quality of the crop, the skill of the thatcher, the positioning of the building, the pitch of the roof and the proximity of rivers and trees. The presence and retention of moisture within thatch is key to its breakdown.

Ideally the plane of the roof should weather back slowly and evenly. The time for re-thatching will usually be appropriate when the tops of the spars that fix the top coat become apparent across the roof.

The rate of weathering may however not always be consistent and there is a need to watch out for depressions, vertical lines or slippage in the thatch. Dark stains on the underside of the eaves may indicate how far moisture has penetrated into the coats. Patches of moss and fungus can also show permanently damp areas. The most crucial thing is that repair works should be carried out before rain penetrates into the base coats.

When more substantial works are necessary owners should be careful not to accept quotes for the complete re-thatch of a roof when repairs may be more appropriate. Repairs should be carried out to match the existing top coat in both method and materials. The keeping of a logbook that shows the dates and details of thatching works is always advisable and is a good record for present and future owners.

When the condition of the roof means that rethatching is required care must be taken to ensure that only as much of the underlying thatch is removed as necessary. There are however occasions, such as fire or structural failure when the base coat unavoidably needs to be removed. In such cases and unless otherwise stated the Council will require that the roof's original character and profile be reinstated. In these cases it is likely that arrangements to record the base coats will be required.

Very rarely there may be occasions when roof timbers will need repair. It is very important that such repairs are carried out carefully using traditional methods and materials to match the existing, maintaining as much historic fabric as possible.



Overhanging trees, creeping plants and vegetation can all cause damage to thatched roofs.



Dips in the thatch, visible spars and loose netting are all signs that a roof requires attention



A full re-thatch is not always required with localised repairs sustaining the life of the roof.

Chimneys

More than 90% of fires in thatched properties are caused by faults in the flue or chimneys meaning that over 90% of thatched property fires are preventable.

Chimneys may appear in good condition above the thatch however this may not be the case below the thatch line. Defective pointing or cracks in the chimney stack within the roof can allow hot gases to escape from the flue creating hot zones which may combust and cause a thatch fire. The condition of chimney stacks, especially where they pass through the thatch, are crucial and should be kept in good repair.

Wood burning stoves produce extremely hot gases and internally lining a chimney is usually considered when they are installed. Liners however, have the disadvantage of preventing the dissipation of heat into a large fireplace. The gases are instead concentrated within the liner and may still be extremely hot as they pass through the thatch. The installation of liners should always be considered carefully and if carried out should be fully insulated in line with current Building Regulations.

The routine sweeping of all working chimneys is also recommended; twice a year if you burn wood. Care should also be taken to never burn wet or unseasoned wood as this results in a greater build-up of soot deposits in the flue.

The use of blowtorches and other hot equipment within and around the roof space must also be avoided. As should bonfires and barbecues in close proximity to a thatched property.

The roof space should also be checked for signs of vermin as these creatures may damage the wiring, resulting in an electrical fire, and consideration should also be given to the fitting smoke detectors.



Chimneys should be routinely checked and repaired including where they pass through the thatch cover.

Detailing of the roof

Dormers

Dormers are sometimes cut into the eaves to allow light into rooms inserted into the roof space of some buildings. Such dormers that are flush with and built from the same material as the masonry façade of the building are sometimes known as semi-or half dormers.

These can have several different styles of roof with that most common to thatched properties within South Northamptonshire being referred to as the eyebrow dormers. This is where the top and the sides of the dormer are thatched in one smooth sweep that rises above the eaves and joins the main pitch of the roof without any valleys creating an eyebrow-shaped at the front.

The gentle curve of this type of dormer and the swept skirts which enclose the window, are characteristics of the area and compliment the informal, 'poured-on' appearance of a long straw roof.

Taller half dormers and full dormers, where the cill of the window is in line with the eaves, project too far to be eyebrowed and are thatched separately.

Today when the occupation of the roofspace is proposed and there is no alternative to an opening in the roof slope, dormers should be kept as small and inconspicuous as possible. Care will be needed as it may require the purlins to be cut, affecting the structural stability of the roof and the loss of historic timber.



Eyebrow dormers are a characteristic of the district.



Ridges

Exposed and susceptible to the elements ridges generally require attention earlier than the underlying roof at approximately every 8-12 years.

Traditionally thatched roofs within South Northamptonshire were relatively simple in appearance, regardless of the status of the building.

The ridge is no exception to this and was traditionally constructed flush with the remainder of the roof with the criss-cross pattern created through the liggers used to hold it in place its only decoration.

The block cut pattern ridge which sits proud of the plane of the roof is commonly used on reed roofs but is not traditional in South Northamptonshire.



Traditional South Northamptonshire ridges are flush to the remainder of the roof with decorative cross spars. They are much cleaner and simpler in appearance than the non traditional block cut pattern ridge (see below).



Gables

Gables and verges need to be appropriately detailed. Barge boards are not a traditional feature within the district and detract from the appearance of the building.

Traditionally long straw thatch would have been set at the eaves using clay or, where a roof has been re-thatched over a sound base coat, a rolled gable would have been used instead to overcome the difficulty of fixing new thatch to the gable. This

gives the roof a very attractive rounded appearance.



Clay was historically used to secure the thatch at the gables.



Rolled gables, not barge boards represent an attractive feature on the district's thatched roofs.

Netting

Netting is often used to protect the thatch from damage by wind and birds. This type of damage is difficult to predict and may affect one building more than another. The traditional finish of long straw is however at particular risk and it is for this reason the whole roof area is normally netted. Water reed does not usually require netting, but any straw detailing, eg at ridges, should be netted.

Netting does however have its drawbacks. It can slow down rainwater draining from the roof, trap leaves and debris, reducing air movement and drying at the surface of the thatch resulting in the

build-up of moss and lichen. All contribute to encouraging the decay of the thatch cover.

Netting is also a consideration in relation to fire as it must be removed so that the fire can be tackled effectively. Netting must be fitted to make this process as easy and quick as possible and you may find it useful to consult your local fire brigade in relation to this.



Netting is a characteristic of long straw roofs but needs to be applied carefully.

Finding a Thatcher

The quality of the craftsmanship is one of the most important factors in determining the longevity of thatch. A thatcher's work is affected by the weather and it is not always easy to be precise about when work can begin on a property. Thatching is highly skilled work and it is always worth waiting for a good craftsman; thatch repairs may be the best solution if a thatcher is not available until a later date.

It should be noted that the thatching industry is largely self regulated and there is no legal restraints upon anyone describing themselves as a thatcher or 'master' thatcher. Some highly skilled thatchers may stand outside such organisations so contractors should be asked to supply names and addresses of properties that they have worked on, in order to assess the quality of work.

Estimates from at least two thatchers should be obtained but it should be noted that the lowest price may not necessarily reflect the best value.

Checklist

A thatcher will need to respond to requirements of a particular building but the following is a checklist of the main items that should be addressed.

Preliminaries

- Identify extent of repairs,
- Identify existing style and material.

Preparation

- Removal of old netting and ridge,
- Removal of existing top coat if necessary to achieve reliable surface and repair the base coat and eaves to produce a sound foundation,
- If exposed check the timber supporting structure,
- Check chimney for damaged masonry and loose mortar as well as defective flashings,
- Check for the presence and condition of flue liners, allow for inspection by a specialist,
- Undertake repairs where appropriate.

Top Coat

- A new top coat should have a minimum thickness of 300mm,
- Ensure consistency of pitch, density and tension, avoid concave areas,
- Each course to be fixed with hazel or willow spars,
- Application of sways/liggers to eaves and hips for long straw.

Features and Finishing

- Openings within thatched planes, can cause an inherent weakness and should be correctly weather proofed, including back gutters where necessary,
- Abutments between the thatch and any stacks to be neatly flashed with lead or mortar fillets,
- The ridge (usually a flush wrap over) should be fixed by spars,
- Protection of the new work with galvanised wire netting, with a minimum overlap between sections.
- Clearance of site.

The need for consent

Where a thatched property is a listed building approval from the Local Planning Authority must be obtained in the form of Listed Building Consent for any works which would affect the character and special interest of the building. If any work is carried out on a listed property without consent it is considered a criminal offence and the offender could be liable to prosecution.

Listed Building Consent will therefore be required for:

- The removal of material which is of archaeological or historic importance,
- A change of material between straw and water reed including the covering of one material with another,
- A change of material between long straw and combed wheat,
- Change of material between water reed and combed wheat,
- A change in thatching method,
- A change of external appearance or surface configuration, such as the formation of a new ridge treatment.

Re-thatching by stripping the upper layer and replacing it with the same material and to the same method as existing, would be classed as a repair and will not normally require Listed Building Consent.

If you are in any doubt as to whether you require consent please contact South Northamptonshire Council who will clarify any issues that you may have.

You must ensure that any Planning Permission or Listed Building Consent is obtained before work commences and that the relevant Building Regulations are followed. If any work is undertaken without the proper consent the Local Planning Authority may seek to take enforcement action against the owner and the thatcher, either to rectify the damage caused or to prosecute. Compliance with the Building Regulations does not override the need for Planning Permission or

Listed Building Consent.

When an application for alterations to a thatched roof is required, there will be a presumption in favour of preserving it and the style of thatching traditional to the district. It is therefore always advisable to contact a member of the Heritage Team for advice.

Extensions to thatched properties

When new thatched additions are under consideration there is sometimes a failure to understand that a thatched roof needs to be kept simple in form.

Overcomplicated roof designs or bulky and dominant extensions, particularly where they are set at right angles to the existing ridge can easily spoil the special character and appearance of a building. Furthermore the forming of valleys and drip points can dramatically diminish the lifespan of the thatch.

When the principal building is an historic structure there is an additional need to respect its fabric, in particular the roof structure. This can often pose difficulties for the design of any extension having two floors when designed as a perpendicular wing. In the case of a listed building an otherwise well designed extension may not be acceptable if the scheme involves the loss of a significant amount of historic material.

The following basic guidelines should be taken into account when designing extensions:

- Thatch should be pitched at 50 degrees or more and should continue the local tradition of thatching seen on the principal building,
- The formation of junctions, valleys and/or gabled dormer windows should be avoided,
- Rainwater drips from a higher roof should not shed water onto a lower thatched roof,
- Thatch should not rest on an existing flat roof structure, clear ventilation and drip space under eaves is important.



Glossary

Base Coat - original layer of thatch.

Coat - complete covering of thatch.

Course - strip of thatch laid horizontally along the roof.

Cross Spars - strips of split hazel or willow used for decorating and securing the ridge.

Eaves - the edge of a roof that projects beyond the wall.

Flashing - lead or mortar strip fitted at the junction of a chimney, wall or window to make it watertight.

Hooks - steel nails varying in length used for securing reed.

Legget - wooden tool shaped like a bat with grooved surface, used to dress or drive the thatching material into place.

Liggers - a length of roundwood usually hazel or willow, often split, laid over upper surface of thatch to hold it in place.

Ridge - the apex of the roof which completes the thatch.

Spar - a length of roundwood, usually hazel, split and bent into a U shape. Used to secure one layer of thatch to another.

Sway - a length of roundwood or steel laid across the course in the thatch. The sway must be concealed in the finished roof by the next course or the ridge. Also known as a rod.

Verge - the finished edge of the thatch overhanging the gable, also known as the brow.

Valley - a depression or angle formed by the meeting of two inclined sides of a roof.

Further Advice and Contact Details

For further advice on any issues identified in this Conservation Advice Note or any other historic conservation matter please contact:

The Heritage Team
The Council Offices, Springfield, Towcester
NN12 6AE

Telephone: 01327 322265
Email: heritage@southnorthants.gov.uk

Professional Advisors

English Heritage

www.helm.org.uk

English Heritage publish specialist technical advisory leaflets.

Society for the Preservation of Ancient Buildings (SPAB)

www.spab.co.uk

SPAB offers guidance on historic buildings and many aspects of maintenance and repair. They publish technical pamphlets and hold various training days and courses.

Institute of Historic Building Conservation (IHBC)

www.ihbc.org.uk

The IHBC is a national body for professionals concerned with old buildings and their preservation, and it offers guidance on appropriate materials and methods of repair. Their website hosts a discussion forum on which people may post conservation related questions.

Useful Website

Building Conservation Directory

www.buildingconservation.com

Ancient Monuments Society

www.ancientmonumentsociety.org.uk

Council for British Archaeology

www.britarch.ac.uk

Victorian Society

www.victorian-society.org.uk

Twentieth Century Society

www.c20society.org.uk

Georgian Group

www.georgiangroup.org.uk

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Please note that the information contained within this Guidance Note is correct at the time of publication. South Northamptonshire Council cannot be held liable for any changes that may have occurred since that time.