

## FURTHER POINTS TO REMEMBER

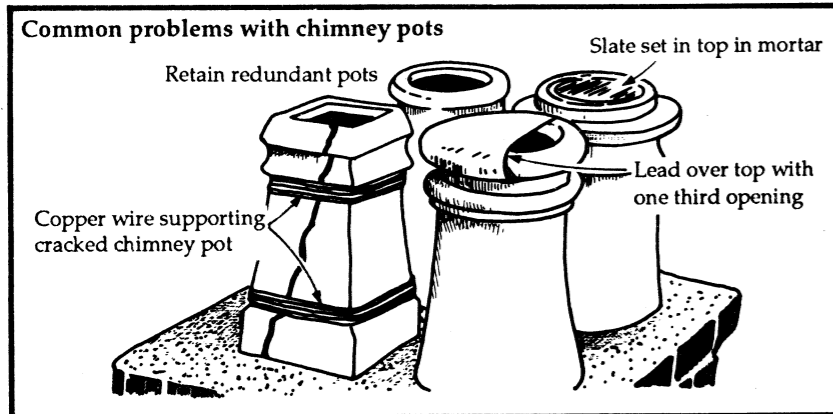
**Battens:** it is not normal practice to re-use battens. In some cases where they are of oak and pegs have been used, it may be desirable to re-use them. In buildings prior to the 1880's there may be no ridge board in the roof so the battens will be helping to brace the roof. In these cases the battens may have to be replaced on an individual basis in order to maintain the strength of the roof.

**Repairs to the roof structure:** matching materials and methods of construction must be used, without removing the timber. Splicing on or bolting on of new timber is a recognized repair technique and whole additional rafters may be inserted to consolidate the structure. When repairing, alter the roof as little as possible, except where original structural integrity has to be restored because of poorly executed later work. Repairs and alterations should be as simple as possible and remember that even when old roofs look irregular, they have been standing safely for many years and will continue to do so if treated with care.

**Wood treatment:** treatment against insect infestation and rot is relatively simple and specialist firms are readily available. Dry rot is not often found in roofs but when it is, it is probably as a result of infestation in a lower floor. The original site of the outbreak must be tracked down and dealt with thoroughly. Wet rot will commonly be found where water penetration has been happening for a long period. The cause, often flashings, failed valley gutters or slipped tiles must be repaired and made weathertight. All rotten wood must be cut out and replaced with treated timber of the same type.

**Roof felt:** laying roof felt over the structure but under the battens is standard practice as it provides a further barrier to wind driven snow and water penetration. However, the use of felt may not be appropriate on barns and agricultural buildings. Contact your Local Authority for advice.

**Ventilating the roof space:** traditionally roofs were ventilated, unless thatched, which helped to maintain the structural timbers free from rot and infestation. With modern felt and insulation, the roof space can become subject to condensation, leading to problems with timbers. It is therefore essential to keep the roof ventilated and this may be done in a number of ways e.g. installing permanent ventilators to attic windows or placing discreet ventilators in the soffits or overhanging eaves. Where there are original ventilators, these can be brought back into use.

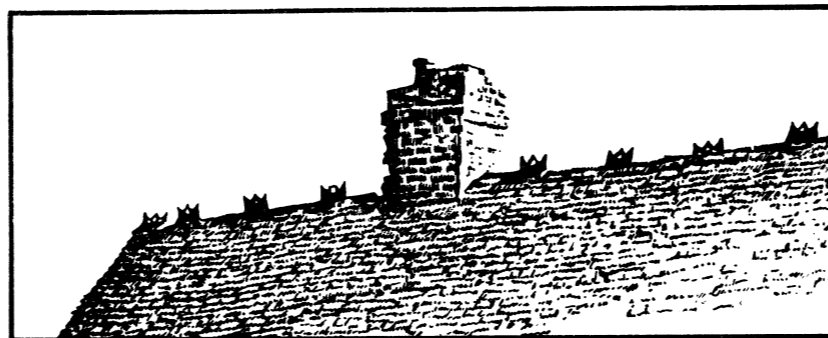


**Chimney stacks and pots:** inspecting chimneys when roofs are being repaired can save money. They frequently require repointing and occasionally the upper courses may have to be rebuilt. Chimney stacks should not be reduced in height or have any ornamentation removed.

Chimneys are an important feature of listed buildings and they should, where practicable, be reinstated in working order. Where there were pots these should be reinstated. Often the flashings around the stacks have been poorly repaired with mortar and unless otherwise agreed, these should be removed and new flashings formed in sheet lead.

**Replacement of roof materials:** the original roofing materials must be re-used and any damaged tiles or slates repaired with matching materials. Where it proves impossible to obtain a good match with the replacement tiles or slates, there are two possible courses of action: either mix in the replacement tiles or slates at random with the original so the difference cannot be noticed, or replace the original on publicly visible slopes and use the replacements on the hidden slopes. This approach will be needed when dealing with clay pantiles which can be very difficult to match.

**Decorative features:** there is a wide range of decorative features found on historic roofs ranging from ornate ridge crestings through to elaborate patterning on the roof slopes. These features should always be retained and re-instated if necessary.



**Rainwater goods:** the use of plastic for repairs to traditional goods will be resisted. Where extensive repairs are necessary, cast aluminium may be an acceptable substitute. Lead rainwater goods and decorative hopper heads and brackets should be retained and repaired.



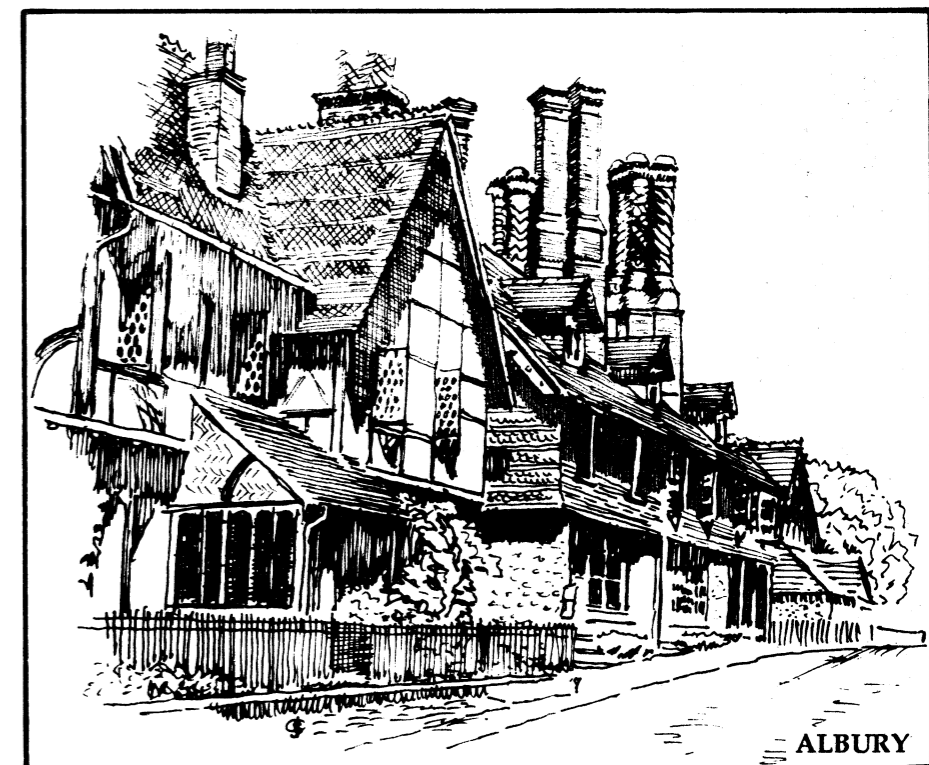
## FURTHER ADVICE

Most repairs to roof coverings are straightforward if the simple guidelines in this leaflet are followed. When you are obtaining estimates check that they include the points covered. Before you obtain estimates you should contact your Local Planning Authority, who should draw your attention to any special requirements for instructing your roofer. They may also be able to bring to your attention any Historic Building Grants available to assist in those additional costs which arise with historic roofs and can give information on the other leaflets in this series.



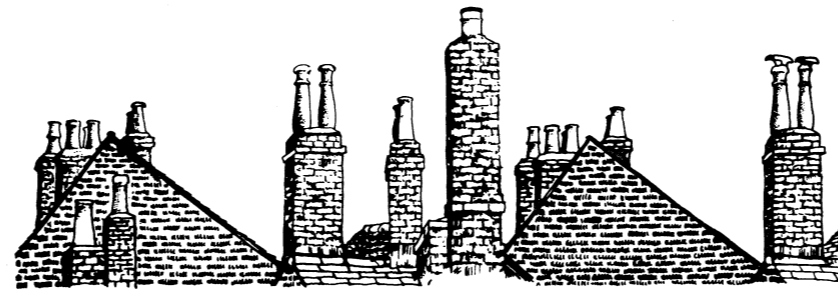
# Advisory Leaflet 5

## ROOF REPAIRS TO HISTORIC BUILDINGS



Roofs are an important feature of buildings both historically and aesthetically. The roof structure is usually the best method of dating an early timber framed house and the steep pitches of tiled roofs are a very pleasing feature on many of the County's buildings, especially agricultural ones.

This leaflet aims to provide guidelines on the repair of an historic roof. It has been jointly prepared by Surrey County Council and the eleven District Councils to provide advice, without prejudice, for the owners of, and those who work with historic buildings.



### IDENTIFYING YOUR ROOF

Each type of roof material was laid to a particular pitch and the roof structure was constructed to carry the weight of the roofing material. Therefore you cannot change the roofing material without having regard to the pitch and the strength of the roof structure. However, it is not uncommon to find roofs originally covered in one material now covered with materials from later periods. The following table may help in identifying the likely history of roofs now covered in a mixture of materials:

From medieval times up until the 1700's:		
Common Materials	Pitch (degrees)	Weight of covering
Plain clay tiles	steep - 45°	heavy
Horsham Slabs	medium - 30-35°	very heavy
Thatch (unusual in Surrey)	very steep - 50°	light

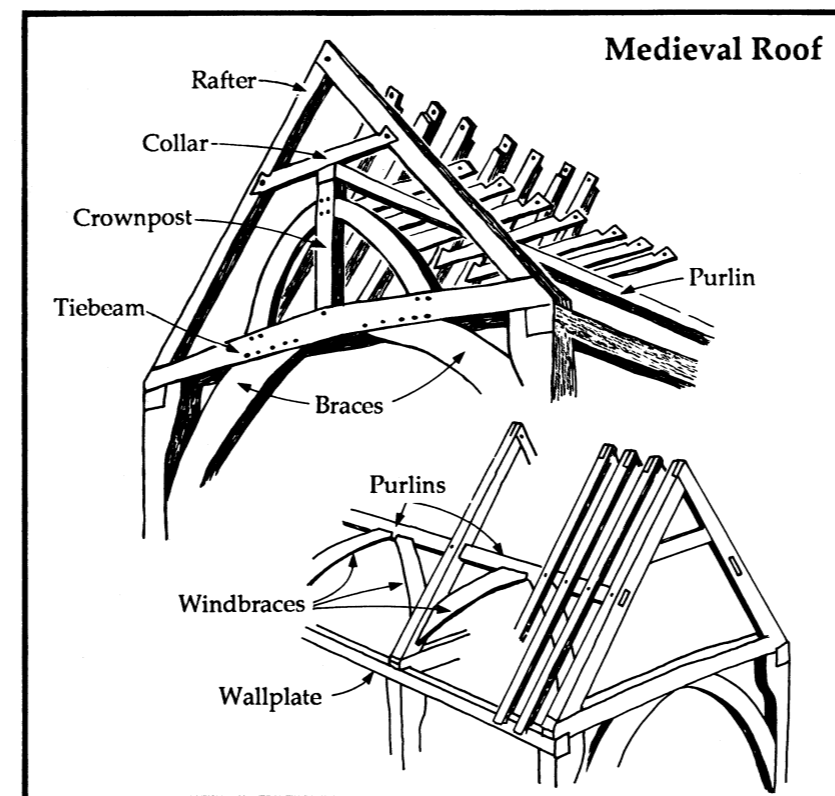
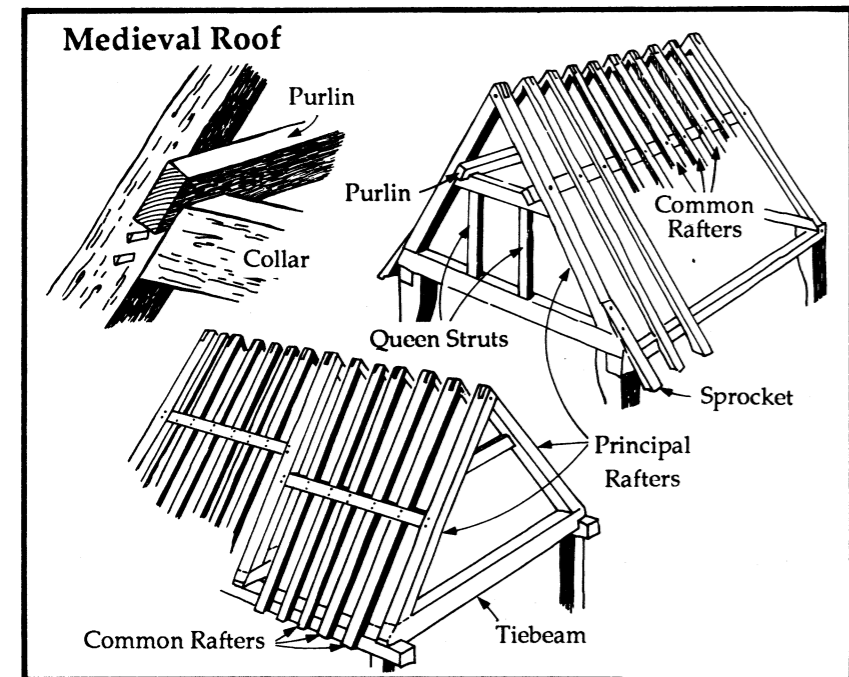
  

Post 1700's :		
Common materials	Pitch (degrees)	Weight of covering
Plain clay tiles	medium - 35°	heavy
Pantiles	medium - 35°	heavy
Natural slate	low - 25°	medium
Machine made tiles	steep - 40°	medium/heavy

For flat roofs and those of shallow pitch, lead sheeting was traditionally used from the 1600's and is still in common use.

### SIMPLE RULES OF THUMB FOR ALL ROOF REPAIRS

- 1 Employ a suitably qualified surveyor or contractor, preferably one with experience of historic buildings.
- 2 The roof covering should match the original materials. Re-used materials may be cheaper and usually blend in better than brand new ones.
- 3 Repairs to the roof should replicate traditional construction; remember, traditionally roof spaces were ventilated.
- 4 Always avoid modern treatments that act as bonding agents to the roof covering.
- 5 When repairing the roof, use the opportunity to repair or even replace the chimney stacks and pots.

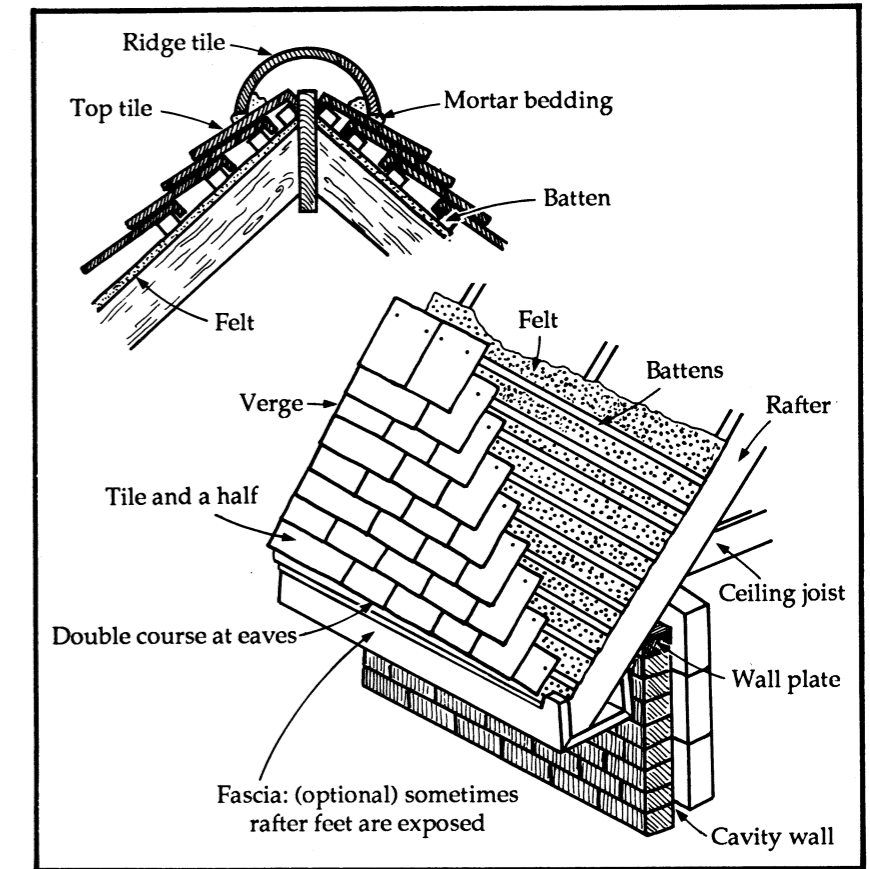


### DO I NEED CONSENT TO REPAIR MY ROOF?

If you are repairing the roof covering using the same materials then you do not require Listed Building Consent. However, if the repair involves partial demolition or replacement of the roof structure this may require Listed Building Consent. Any alteration in roof covering e.g. from slate to tile or corrugated iron to slate will require a Listed Building Consent. If in doubt contact your Local Authority for advice.

### WHEN DO I REPAIR?

All forms of slates and tiles are fixed either to wooden battens laid horizontally over the rafters of the roof or to wooden boarding. Over the last 200 years many tiles and all slates were fixed with iron nails. The iron nails eventually rust through, allowing tiles and slates to slip and fall; a condition known as "nail sickness". Virtually all slate roofs a century or more old are vulnerable to this condition and they may need attention.



Remember, the roof is the first line of defence against water penetration and any slipped tiles or slates should be attended to immediately. Where re-roofing is required the following principles should be followed:

- 1 Strip off original covering and store carefully for re-use, unless thatched, when it is best to re-coat.
- 2 Any repairs to the roof structure should preserve as much of the original fabric as possible. Cutting out rotten timber and splicing in new is a well tried method but adding new treated timber to strengthen is also acceptable. Repair rather than replacement is the rule.
- 3 Roofing felt should be loosely laid over the rafters so that it sags and thus any water penetration will run down away from the nail holes in the felt. Roofing felt should not be used on thatched roofs.
- 4 Ensure the roof is well ventilated, unless it is thatch, when the fire risk is such that ventilation should be kept to a minimum. Insulation should not be allowed to block the eaves and trap moisture.
- 5 Inspect and repair the chimney stacks as necessary and replace the flashings in suitably coded lead sheet.
- 6 New fixings for the roof should be non-ferrous and shortfalls in the roof covering must be made up with matching materials.
- 7 Decorative features such as ridge crests, vents, gutter supports etc. must be retained and re-used.
- 8 Rainwater goods should be repaired in matching materials, very often cast iron, to the same profile as previously existed.