

Church Roof

(including gutters and gulleys etc)



Introduction

Brought down to the most basic terms the purpose of the Church building fabric is to "keep the weather out".

Nowhere is this more true than for the roof. The roof is subject to the worst our climate can bring against it.

Not only must it keep out the rain but it must also sustain the weight of a heavy fall of snow and cope with the expansion and contraction experienced between winter and summer.

In order to serve the building well the roof must be carefully maintained in order to retain its weatherproof properties.

Roofs are usually the most vulnerable part of a church building. They can be complex structures involving concealed gutters, parapets and complicated lead junctions.

Often sections of the roof can be invisible from ground level and require ladders or scaffolding for proper inspection. This very inaccessibility requires greater diligence in detecting problems before they become extensive.

"Out of sight out of mind" is a dangerous philosophy for Church buildings. Leaving the roof without attention until a problem appears is an expensive hobby!

Professional Advice

Detecting problems with your roof is not usually outside the skills of vigilant Churchwardens. Interpreting the nature, extent and solution to the problem often is.

At the first sign of a defect it is advisable to contact your Inspecting Architect/Building Surveyor. If the problem is straightforward he/she will be able to advise you what steps to take. If the problem is more extensive you will need to appoint them to deal with the problem on your behalf.

The Diocese has accepted your Inspecting Architect/Building Surveyor only because he/she has demonstrated an understanding of your type of building and because he/she carries professional indemnity insurance.

The role of your Architect/Building Surveyor is to investigate the problem; prepare specifications and drawings for the necessary repairs; invite tenders from reliable contractors and to periodically inspect the builders work to ensure that is in accordance with the drawings and specification.

Remember a roof is a complex structure. Taking the advice of a helpful roofer can simply store up problems for the future. Your Architect/Building Surveyor has a broader understanding of how the roof structure interrelates with other parts of the fabric and the impact that changes in one will have on the others.

Knowing your roof

This Guidance Note does not provide a solution to all your roofing problems. It is intended to point you in the right direction to find a solution. It is important however that you understand the basics of what you already have.

Roofs generally fall in to one of two categories:

Water-shedding Roofs are normally laid to steeper pitches to ensure that rain water runs off to the gutters. Typically, they will be finished in natural slate, stone or tiles of clay or concrete. Although the slates and tiles themselves are waterproof, the roof is not. Water-shedding roofs are susceptible to wind-driven rain penetrating the gaps between the individual slates or tiles.

On older roofs this was resisted by mortar applied behind the slates, though this tends to break away with age. Newer or recovered roofs now have a sheet layer, beneath the slates or tiles, designed to carry such wind-driven water back down to the gutters. Slate roofs have life expectancies greater than 100 years, but they can be expected to require re-nailing every 50 to 60 years.

Waterproof roofs are usually laid to low pitches, often misnamed as "flat" roofs. Materials used range from lead, stainless steel and copper to asphalt to roofing felt and roofing membranes. Well-maintained metal roofs have life expectancies comparable with slate while felt is a short life material offering 15 to 20 years at best and often significantly less.

Looking for the warning signs

A conscientious observer can note many roof defects before they become a threat to the building without leaving ground level.

Some Warning Signs (not an exhaustive list)

- Discolouration appearing in the decoration at the top of the wall. This can indicate water penetration from a leaking gutter. Some C19th buildings have parapet gutters or cast iron gutters that sit on top of the wall. When these leak water penetrates the structure rather than simply running down the face of the wall.
- Dirty streaks appearing down the face of the wall. These may be found internally or externally and generally denote a leaking gutter joint or some similar defect.
- Dampness on the outside face of the wall, sometimes associated with localised moss growth, may indicate a similar defect.
- Slipped and broken slates and tiles. This can indicate storm damage or corrosion in the fixing nails.
- Vegetation growth. Silt build up in gutters or on flat roofs creates an ideal growing medium for weeds and even, on occasion, small trees!

Reasonable maintenance: roofs

In the damp climate of Cumbria, a small leak from a poorly maintained roof or gutter can be all that is needed to feed an outbreak of dry-rot and create huge maintenance costs which could easily have been avoided.

A few simple rules about roofs

- Clean gutters regularly. At least twice a year and more often if your building is surrounded by deciduous trees.
- Inspect the roof regularly.
- Deal with storm damage promptly.
- Do not walk on brittle roof coverings.
- Plan ahead for major roofing works. Eventually every roof will require renewal. A "sinking fund" is better than leaving the problem for someone else to deal with.
- Ask you Architect / Building Surveyor's advice.

Good advice is always cost effective

Reasonable maintenance: rainwater goods

"Rainwater goods" is the general description to describe the means of disposing of rainwater from all types of roofs. The term covers gutters, drain pipes, hopper heads and a range of other fittings.

Failure to maintain properly rainwater goods is probably the greatest cause of dry rot outbreaks in Church buildings. Yet simple maintenance is within the remit of most Churches.

Most older Church buildings were constructed with cast iron or lead rainwater goods. The choice was not made simply because plastic was not available. Cast metal, iron or aluminium, will if properly maintained last the life of the building.

Contrary to popular belief cast iron only corrodes and splits if incorrectly installed or maintained. Cast materials are more resistant to mechanical damage and are usually more in keeping with the visual appearance of the building.

Plastic is a short-lived material that can become brittle with age. Its use on existing buildings, especially those with a Grade Listing, is rarely supported.

Renewal or repair of lead or other metal lined gutters should only be undertaken by skilled tradesmen and with appropriate professional advice.

A few simple rules about rainwater goods

- Clean gutters regularly. At least twice a year and more often if your building is surrounded by deciduous trees.
- Do not "rod out" brittle lead or other soft metal pipe-work, especially when this is embedded in the structure.
- Inspect the gutters regularly.
- Deal with leaking joints promptly.
- Repaint, where appropriate, on a regular cycle. Especially at the back of the drainpipes where it cannot be seen. If necessary dismantle the pipework to paint it properly, it will be cheaper in the long term.
- Ask your Architect/Building Surveyor's advice.

Good advice generally pays for itself

Reasonable maintenance: below ground

Above ground rainwater goods are only as effective at removing rainwater as the below ground drainage to which they connect.

Defective drainage can create excessive ground water that can directly affect the condition of the building structure. Below ground drainage encompasses the following:

- Rainwater gulleys and gratings
- Manholes and inspection chambers
- Pipework
- Soakaways
- Septic tanks
- Land drains

Amendments:

Any changes to below ground drainage are subject to Building Regulation Control and should not be undertaken without professional advice and the approval of the Local Authority as well as Faculty Consent.

A few simple rules about below ground:

- Clean gulleys regularly. At least twice a year and more often if they tend to become blocked with silt or other debris.
- Replace missing and broken grates as these prevent larger objects becoming jammed in the pipes.
- Lift manhole covers and inspect the manholes annually to ensure they are running free. N.B. Some manholes are quite deep. As such these should be checked by appropriately qualified contractors.
- It may be desirable to have all drains jetted each quinquennium.
- If you encounter blockages, you should ask your Architect/Building Surveyor's advice. Camera surveys may become necessary to establish the extent of defects before a programme of remedial works can be established.