



# Design Guide 9

## Roofs & Roofing Materials

### 9.1 ROOFS AND ROOFING MATERIALS

The roofs of West Oxfordshire's traditional buildings display a number of highly distinctive characteristics.

Roof pitches (whether of duopitch or monopitch/lean-to type) tend to be fairly steep: generally 45 degrees or more (particularly on pre-C19 houses and cottages); and rarely less than 40 degrees, even on later houses.



*Fig. 1 Locally characteristic steeply pitched roof*

Verges and eaves tend to be simply detailed. Verges are generally flush and rarely overhang, and are generally plain and devoid of barge-boards. Eaves tend to have only a modest overhang. Coped or tabled verges are occasionally found on higher status detached houses of the C18 and C19 (including farmhouses). Likewise, raised parapets are sometimes found, typically on gentrified town houses of the C18 and C19 (most notably in the larger market towns, such as Witney and Chipping Norton). Traditionally, rainwater goods were of cast iron and painted black.

### 9.2 TRADITIONAL ROOFING MATERIALS

Across West Oxfordshire, two traditional roofing materials dominate: natural limestone stone slate and Welsh (blue) slate. While the latter appears on C19 and C20 buildings across the country as a whole, the former is locally distinctive, and plays a defining role in the built character of the District. Thatch forms a third traditional roofing material in the District, found mainly in the Thames Vale.

Stone slates were sourced from a number of quarries in the District; historically, however, the eponymous Stonesfield Slates have been especially highly regarded for their quality and evenness.



*Fig. 2 Natural stone slates laid in diminishing courses*

Rather than being split with chisels, stone slates were formed by spreading the stones on the ground and allowing them to split naturally by frost action. The resultant slates were laid on roofs in diminishing courses, with the smallest slates at the ridge. This roofing material is especially characteristic of local vernacular houses, cottages and agricultural buildings of the C17 and C18, and remains a conspicuous and precious feature of

both Listed and un-Listed buildings throughout the District (often being highlighted in List entries). Stone slates, as well as being significant for their architectural and historical interest, are also, by virtue of their method of creation, significant in terms of the District's cultural heritage. For all these reasons, natural stone slates should be retained or replaced on a like-for-like basis wherever possible (either sourced from a salvage yard or from one of the quarries still producing natural roofing slates – though in the case of the latter, care must be taken to ensure a good match in terms of texture and colour, as these vary between quarries).

In the case of Listed Buildings proposals to replace natural stone slates with an alternative material (including artificial stone slates) will generally not be supported, on the basis that such a change is likely to be harmful both to the character and fabric of the Listed Building.

This also applies to a partial re-roofing where, for example, the intention is for two roof slopes to be stripped of their natural stone slates in order that a sufficient quantity of original slates might be salvaged to re-roof one slope in naturals (the other being roofed in artificial stone slates). This latter change would still entail harm to the character and fabric of the Listed Building (even if carried out to a discreet roof slope) and would potentially represent one step in a cumulative loss over time.

Welsh blue slate was widely used in the C19 and the first half of the C20 in particular, and is also a conspicuous feature in parts of the District, owing to the large amount of building that took place at this time. As well as being a primary roofing material on some houses and cottages it also appears, for example, on extensions to period buildings otherwise roofed in stone slate, and on outbuildings (including farm buildings) of the period.

Traditional blue slate remains available, both from reclamation yards and a limited number of still operational slate mines in Wales. The material is also imported from other countries, including Spain, China and Brazil. With any blue slate, be it new or reclaimed, it is important that great care is taken when it comes to selection.

Blue slate, even from different parts of the same quarry, may vary considerably in its colour and quality. Colour selection is especially important where the new slates must marry with existing slates in the same or adjoining roof slopes. In terms of quality, slates should be checked for inclusions – especially metallic inclusions liable to rust or discolour over time – and for signs of shaling or flaking.



*Fig. 3 Traditional natural blue slate*

Besides stone slate and blue slate, terracotta roof tiles are sometimes found on buildings (including outbuildings) belonging to the C19 and C20; though when these are encountered at all, it tends to be in the south of the District (the Thames Vale) where clay forms a significant component of the underlying geology.

Also occasionally found are cedar shakes or shingles: timber tiles which weather down to a silvery sheen, and are generally best suited to low-key garden- or outbuildings, for example.

### 9.3 THATCH

Thatch forms a highly important and locally characteristic roof type throughout West Oxfordshire, and is most conspicuous in the south of the District (the Thames Vale – see *also*: Design Guide 4: Local Character) where significant numbers of period properties are roofed in thatch.

The greater prevalence of thatch in this part of the District partly reflects changes in the underlying geology, which here is dominated by clays – in contrast to the wolds further north, where limestone dominates and stone slates are the prevailing local roofing material.

Thatch is generally found on relatively humble vernacular properties – most notably cottages – and is less often a feature of high status properties and large houses.

#### Long Straw

The traditional, historical thatch for the area is known as ‘Long Straw’ thatch, and was employed locally for centuries. Long Straw entails the use of old-fashioned long-stemmed varieties of wheat. This was first threshed, then made into ‘yealms’ (tight, compact bundles level at both ends), before being fastened to the roof with staple-like hazel spars to give a thick, multi-layered coat.

Long Straw thatch is distinctive, with long lengths of straw visible on the surface, giving the thatched coat the general appearance of having been poured onto the roof. It is characterised by soft, sweeping shapes and a tussled appearance. Long Straw roofs typically feature ‘ligger work’ at the

eaves and verge, which is both decorative and used to firm up a shaggy or loose coat at these points. Although this thatching method is all but obsolete across Oxfordshire and neighbouring counties, old coats of Long Straw still remain preserved beneath later coats of thatch on many period buildings in the area. A good quality, well laid Long Straw thatch roof should last 25-30 years, with a new ridge being needed at about the 12-15 year mark.

#### Combed Wheat Reed

Since the 1960s, the predominant thatching type across Oxfordshire has been Combed Wheat Reed. In contrast to Long Straw thatch, Combed Wheat Reed is dressed into place with only the ‘butts’ (the ends of the reed bundles) visible on the surface, then fixed with hazel spars driven into the existing thatch (which must first be stripped back to give a sound base coat).



*Fig. 4 Thatched house in Bampton*

The local style in West Oxfordshire is for a flush-fitting wrapover ridge, with hazel spars and liggers only employed if the roof is being dressed up to look like Long Straw. Combed Wheat Reed has almost entirely replaced its Long Straw predecessor.

A good quality, well laid Combed Wheat Reed roof should also last 25–30 years, with a new ridge being needed at about the 12–15 year mark.

### 9.4 MODERN ROOFING MATERIALS

A wide range of modern roofing materials is available. Some of these – most notably artificial stone slates – are designed to replicate traditional local materials. Artificial stone slates are predominantly made of concrete, and consequently are much cheaper than their natural counterparts. When well-chosen and used in diminishing courses, they can be an effective alternative to natural stone slates, being suited to some traditional new builds, and some extensions to existing traditional buildings. They will not generally be appropriate as replacements for natural stone slates on period buildings, particularly where a building is Listed.

A number of products replicating blue slate also exist. These are available in a range of materials (including plastic) and vary greatly in terms of their appearance and suitability.

Other more recent roofing materials do not seek to replicate traditional materials, though may be sympathetic in terms of their colour and/or texture with palettes of existing traditional materials. Concrete plain tiles are available in a wide range of colours, finishes and sizes, and can make a good choice not only for new builds but also for some extensions to existing traditional buildings.

In terms of metal roofing, lead has traditionally been used and continues to be used (including for flat or awkwardly shaped roofs where tiling would be impractical). Today, a number of proprietary materials for use in similar circumstances (but cheaper and of limited or no scrap value) is also readily available.



Fig. 5 Standing seam roof on recent house in Woodstock

Other metals, including copper, aluminium and zinc, are also found. These typically come in roll or sheet form, and are laid with standing seams. They are particularly well suited to a modern aesthetic, or again where an awkwardly shaped form needs roofing. Colours and reflectivity can vary greatly (including over time), so care must be taken with the selection of such materials for prominent roof slopes. With metal or standing seam roofs, the detailing of eaves, cornices, guttering and roof junctions is particularly important, as the resolution of such details will have a significant bearing on the success or otherwise of the design.

### 9.5 WINDOWS IN ROOFS

There are two main ways of bringing natural light into a roof space: dormer windows and roof-lights. With roofs, as with walls, the ratio of solid to opening should be carefully considered. Openings should not be too expansive, numerous or close together. Roof slopes are easily cluttered, and their form and appearance undermined, by too many or mismatched openings, and an accumulation of, for example, aerials, flues, vents or solar panels.



Fig. 6 Traditional dormer window

In general, dormer windows and roof-lights should be positioned no higher than halfway up the roof slope, and ideally a little below halfway up (though the exact position will generally depend on the position of the purlins within). In the case of some types of roof, including those belonging to some barns and Listed Buildings, it may not be appropriate to have any openings at all in the roof.

Dormer windows are traditionally proportionately smaller than the windows in the elevations below. They are usually of gabled form, but occasionally have hipped roofs. The cheeks and gable (if gabled) are of roughcast render. The windows are formed by timber posts acting both as framing for the dormer and jambs for the window; and traditionally have flush-fitting, side-hung timber two-light casements.

Roof-lights come in a huge range of shapes, sizes and opening types. They are most commonly made of aluminium or wood, and can sit flush with, or proud of, the roof slope. Flush-fitting roof-lights in dark painted or powder-coated finishes are generally more appropriate for period buildings,



Fig. 7 Artificial stone slate roof with flush roof-light

and almost always more appropriate for Listed Buildings (where these are deemed acceptable) as they appear more discreet and do not interrupt the silhouette of the roof.

See *also*: Design Guide 10: Windows and doors

### 9.6 CHIMNEYS

Chimneys were traditionally constructed in stone or brick (rubble or dressed stone on vernacular buildings, and ashlar stone on some higher status buildings). Chimneys tend to be located on the ridge, generally at the ridge end; though occasionally they may occupy a position further down a roof slope. While many period properties initially had stone chimneys which were subsequently replaced with brick, many early stone-built properties originally had brick chimneys (one of the reasons being the relative ease with which hods of bricks could be taken onto the roof, compared with larger and irregularly shaped stones).

Traditional chimneys are a prominent and distinctive feature of the roofs and roof-scapes



Fig. 8 Traditional brick chimneys in Woodstock

of the District, and original chimneys should generally be repaired or rebuilt on a like-for-like basis – particularly if the building is Listed. In some cases it may be appropriate to raise or to reduce the height of a chimney, or to rebuild a chimney using different materials (for example, where a traditional house has a poor quality recent chimney); however, such is the importance of chimneys, both to the physiognomy of individual houses and to the appearance of wider roof-scapes, that they should generally not be lost altogether – even where functionally redundant.

### 9.7 SOLAR PANELS

Solar panels, whether of photovoltaic or evacuated tube type, are increasingly becoming a feature of roofs, particularly in new-build contexts, and are also easily retrofitted to existing properties. When considering fitting solar panels to an existing property, three things in particular should be taken into account: i) viability (in terms of potential benefits given the size and orientation of the roof slopes), ii) visual impact, and iii) what Planning Consents, if any, may be required.

Additionally, it will be important to ascertain the structural implications of the additional weight of the solar panels on the roof.

In terms of visual impact, both the immediate property context and the wider settlement and landscape contexts should be considered. If the property is traditional or Listed, solar panels can be visually harmful if prominently sited. Particularly in the case of Listed Buildings, solar panels should ideally occupy discreet roof slopes only (in roof valleys the panels may not be visible at all from the ground). In general, the cluttering of roofs with an accumulation of features – of which solar panels may be one element – should be avoided.



Fig. 9 Conspicuous and concealed solar panels

If prominently sited, solar panels may be visually harmful in wider views – for example within or into Conservation Areas or the AONB – and may be deemed unacceptable for this reason. In sensitive contexts it may be possible instead to locate solar panels on an outbuilding or as a free-standing array in the grounds of the property.

Any change or addition to a roof – including new roofing materials, windows, chimneys, solar panels, aerials or satellite dishes – may require Planning Permission. It is important to check with the Planning Department what planning consents, if any, will be needed. If the building is Listed, material changes of this type will almost always require Listed Building Consent.

See *also*: Design Guide 12: Sustainable design; Design Guide 16: Greener traditional buildings.