

replaced over time. It may become thin due to corrosion and wear. Splits and cracks can develop due to stresses in the material which are caused by expansion and contraction of the material as ambient temperatures rise and fall.

### Terracotta and faience

If the hard fireskin or glazing of terracotta and faience is inherently faulty, or has been damaged (for example by aggressive cleaning using acid), this will allow water to penetrate the fabric of the finial and will lead to deterioration. Water can also gain access through cracks in mortar holding the finial in place. Rusting iron or steel cramps used to hold finials in place can lead to cracking and loosening of the finial. Unless there are tell-tale stains or spalling, such damage may not be apparent from the ground and may only come to light when its effects are far advanced. Regular close inspection with the use of binoculars if access is difficult is recommended to overcome this.



Cast iron finials can be fractured leading to the partial loss of decorative elements

### Iron

Iron finials are generally durable and hard-wearing but, when paint breaks down, they also become more vulnerable to corrosion. Fixings attaching ornamental detailing to finials can corrode, leading to the loss of individual elements. Water seeping into joints or water traps can also accelerate this. Cast iron is a brittle material, and some projections are occasionally lost due to fracturing of the iron.



A timber finial in need of maintenance

### Maintenance and repair

**Timber:** Wooden finials should be painted at least every four years with a good quality exterior paint to maintain a good level of protection. Annual inspections, especially of the lead flashing around finials, are recommended.

**Stone:** Masonry finials should be inspected annually to ensure that both stone and mortar are all sound. Such checks are particularly important given the potential for serious

injury should the masonry break and fall. Decaying mortar should be replaced using an appropriate lime mortar.

**Lead:** Lead will need to be replaced periodically as it will thin over time due to corrosion and wear. Lead can be purchased in different thicknesses (“codes”), and an appropriately skilled lead-worker can advise on the most suitable type. Where cracks and tears appear, it may be necessary to create an appropriately detailed joint at this point to prevent the stresses in the material that have caused the crack.

### Replacement

**Stone:** Where a finial needs to be replaced, the details of the original should be matched by measuring an un-eroded example, or by referring to reliable documentation. Replacement stone should match the original in size, shape, colour, texture, qualities of durability, and surface finish; any tooling should be carefully carried out to match. Ideally, stone should come from the original quarry. If this is not possible, a geologically matching, compatible stone should be obtained. Cast or reconstituted stone is inappropriate as it will perform differently from natural stone. Where metal cramps have corroded, these should either be stripped down and painted where they are still sound, or replaced with ones made from non-ferrous metal or stainless steel.

**Terracotta and faience:** Surface dirt can be gently cleaned using water and a rinsable neutral pH liquid soap. Harsh or abrasive cleaning agents should be avoided. Dirt under the glaze cannot be removed. Rusted fixings should be dealt with by carefully removing the terracotta units, and, where possible, completely de-rusting and repainting the fixings. Where corrosion is severe, it will be necessary to replace the fixings in stainless steel or non-ferrous metal. Broken terracotta units may be repaired by dowelling and bonding with

epoxy. Where replacement elements are required these should be obtainable from one of the few manufacturers still in operation. Replacements should match the existing in quality, size, colour and finish. Glass reinforced cement (GRC) and glass reinforced plastic (GRP, also known as fibreglass) should not be used as an alternative.

**Cast and wrought iron:** Metalwork should be inspected annually to check for signs of corrosion or deterioration, and should be repainted at least every 5 years. Badly damaged and missing sections should always be replaced on a like-for-like basis using the same material, manufacturing and assembly techniques.

- Matching cast iron: elements can sometimes be obtained from foundries specialising in traditional casting. They tend to hold a wide range of traditional patterns in stock. Cast aluminium, fibreglass, plastic and steel are not appropriate substitutes.
- In dealing with wrought iron finials seek the advice of an experienced blacksmith. As wrought iron is no longer produced in the UK, they may have appropriate wrought iron in stock to carry out small repairs to wrought iron finials. Traditional working techniques and detailing should be used. Modern welding should be avoided wherever possible.
- Fixings should be selected with care. Galvanised fixings can rapidly corrode and should not be used. Non-ferrous fixings are generally recommended.

### Coatings

#### Surface preparation

Where the existing paint is in poor condition, it will be necessary to remove it entirely before repainting. However, if the building is listed, or of special historical interest, the removal of original paint layers will need careful consideration. Original coatings may sometimes merit further paint analysis, and this can help to determine

earlier decorative schemes. Existing paint can be an effective base for fresh coats. All surfaces should be sound, clean, dry and sanded by hand (mechanical sanders are not recommended) to form a key before applying paint, though it is important to ensure compatibility between that paint and any new coats (the paint manufacturer’s advice should be sought on this aspect).

#### Traditional lead-based paints

With appropriate approval, it is possible to use traditional lead-based paint on Category ‘A’ listed properties. This form of paint is effective for both timber and iron. Red lead, which does not require formal approval for use, is less toxic and provides an effective and durable base coat or primer for ironwork. Its compatibility with succeeding coats of paint should be checked with the paint manufacturer.

#### Stone, terracotta and faience

Painting and the application of other surface treatments is not recommended.

#### Timber

Modern linseed oil and micro-porous paints are effective. Epoxy, or other two-part paint systems, are not recommended.

#### Iron

If a complete repainting is required, current best practice recommends two coats of a zinc-based primer, one coat of micaceous iron oxide (MIO), followed by two coats of gloss paint. Slightly different colours should be used for each undercoat to help distinguish one coat from another.

### Useful Contacts / Further Reading

Related Historic Scotland INFORMs (available free from Historic Scotland)  
Maintaining iron gates and railings  
Masonry Decay  
Lime and cement  
Repainting rubble stonework  
Maintaining iron gates and railings  
Interior paint  
Maintaining sash and case windows

Scotland’s Listed Buildings: A Guide to Owners and Occupiers  
Visit <http://www.historic-scotland.gov.uk/index/publications/ownerspublications.htm>

Historic Scotland Technical Conservation Research and Education Group  
Conservation Bureau & Technical Enquiry Service,  
Longmore House, Salisbury Place, Edinburgh EH9 1SH.  
Tel 0131 668 8668  
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Historic Scotland Investment and Projects Team  
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The House 5/08 Produced from sustainable material

# Finials and terminals





## Introduction

Finials and terminals are ornamental elements usually placed at the top of a gable, dormer window, or roof-ridge. They are also found on glasshouses, porches and verandas. They serve a functional role and provide a design feature which increases the protection of the gables and turrets. This INFORM outlines the main materials used for finials and terminals, and gives guidance on their maintenance and repair.



A stone terminal on a gable end



A cast iron finial



A timber finial above an entrance porch



A terracotta finial

## History and design

The general use of terminals and finials became more widespread during the 19th Century. While some finials were featured in late medieval work (often with heraldic emblems), use remained limited until the “rural gothick” style of the 19th Century emerged.

Victorian roofs came to be treated as architectural features in their own right - they were often highly decorated and finials became an integral part of the building’s design. Timber, iron and stone are the most common material for these decorative features, though copper, lead, terracotta and faience (glazed terracotta) were also used.



Terracotta finials were often complemented by decorative cresting



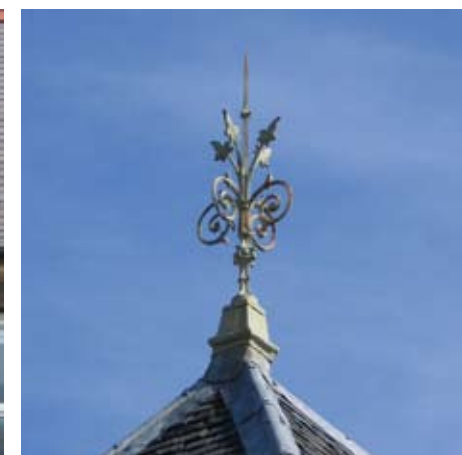
Cast iron finials were frequently complemented by cast iron railings cresting and rainwater goods

Timber finials and terminals were often combined with timber barge-boards on gables.

While iron finials (usually cast iron, but occasionally wrought iron) tended to be finely detailed, due to the nature of the material, timber, terracotta, faience and stone finials were often of plainer and heavier design. Design and pattern books throughout this period, following the Great Exhibition of 1851, provided inspiration to many builders, joiners, masons and manufacturers. Cast iron in particular came to be mass-produced on an unprecedented scale. Most Scottish cast iron manufacturers produced catalogues with an extensive variety of finial and terminal designs for selection by architects and builders.



Image courtesy of the National Museums of Scotland – Scottish Life Archive



## Problems

Due to their exposed location, finials and terminals are inevitably vulnerable to decay and corrosion, particularly if they are not regularly maintained. The timber mounting often rots, unnoticed beneath the lead flashing. Iron and timber finials were originally well painted to protect them but, due to their relative inaccessibility, regular repainting and maintenance is frequently overlooked.

### Timber

When protective painted surface coatings break down, timber is left exposed and this makes it prone to rot and decay. It is therefore essential to maintain paintwork in good condition.

### Stone

See also *INFORM: Masonry Decay*. Stone finials commonly terminate gable ends and were traditionally built into the gable stonework using a lime mortar. While stone is a durable material, the action of water, wind, atmospheric pollution and human intervention (such as the application of silicone or linseed oil to ‘waterproof’ the stone) can lead to decay and fracturing. Over

time, the lime mortar holding a finial in place may begin to break down, causing the finial to become unstable, and posing a threat to the safety of pedestrians at street level below as a result. Metal cramps anchoring a finial in place may also corrode, causing fracturing of the stone as rust expands.



A lead concealed finial

### Lead

Timber finials were occasionally covered in lead sheet to protect them and to form an architectural feature. Lead is a durable material but will eventually need to be

