External Paintwork
Introduction
The Old and New Towns of Edinburgh World Heritage Site is a unique area that contains a huge variety of buildings. These represent many different architectural styles and building materials from Edinburgh’s medieval past to the present day. The city centre is particularly rich in Jacobean and Georgian architecture.

The purpose of this booklet is to give guidance to owners, property managers and other professionals who are concerned with the external redecoration and maintenance of property within the World Heritage Site. The topics covered are:

- External walls
- Woodwork, doors and windows
- Down pipes, gutters and other rain water goods
- Railings, balconies and other ironwork
- Common stairs

For each area, this guide will cover preparation, the types of paints that should be used, application advice and recommendations on suitable colours. Further advice is listed at the end of this publication.

External Walls

Old Town
The Old Town contains a rich variety of buildings with different styles and external treatments and it is impossible to generalise. Up until the 18th century, buildings or ‘lands’ were made out of local rubble stone. This was frequently given a lime-harl finish and a limewash to protect the stone from weathering, and traces of this can still be found in older buildings. As transport and commerce developed, people started to use dressed stone from relatively distant quarries such as Craigleith. These were used on the facades of buildings whilst rubble stone continued to be used on the sides and rears. As you wanted your neighbours to know that you were using fashionable (and expensive) dressed stone, it was left unpainted!

Since the 19th century, cement harling was often used in place of traditional lime harling; unfortunately this system is very hard and does not allow the external walls to breathe. This can lead to dampness building up and is most obvious where old lime harling has been ill-advisedly patched with modern cement.

Where possible, modern cement render should be removed and replaced with traditional lime harling. This can then be decorated (and further protected) with limewash which will allow external walls to breathe. Limewash can also be used to brighten up dark closes and passages, as it is better than masonry paint at reflecting light.

Preparation

Where modern masonry paints have already been used, remove any loose or flaking paint by scraping or wire brushing. Any mould or fungus growth must be removed using a proprietary anti-mould treatment according to the manufacturer’s instructions. Check all gutters and down pipes for signs of cracks or leaks which will encourage dampness, staining and fresh mould growth. High pressure water jets can be very useful for cleaning and preparation but need careful handling to avoid damaging stonework or flooding the inside of the building. Normally a pressure water wash is only allowed up to 200psi; any higher and consent is required. Make sure that the wall has dried out completely before repainting starts.

Repainting

For Modern Construction
There are three main types of masonry paint available today. Water-borne ones use modern acrylic emulsions and are easy to apply by brush, roller or spray. Solvent-borne ones use a synthetic rubber resin and last well, but release a lot of VOCs when they dry. A third group are called ‘silicate’ paints and although not traditionally used in this country, have been used in Europe for over a century with good results. All masonry paints should dry to give a matt finish; this not only looks better but also allows the walls to breathe better than a hard glossy finish.

For Traditional Construction
Limewash and lime-harling are specialised products and although less simple to use than modern masonry paint, give a most attractive appearance. You should get specialised advice before using these materials.

1 e.g. Pliolite® resin paints
2 VOCs – Volatile Organic Solvents, which contribute to atmospheric pollution.
3 e.g. the Scottish Lime Centre, 01383 872 722, www.scotlime.org
The only exception for painting external walls in the New Town is that the basement area wall facing the building may be painted a light colour of limewash to improve the light reflection into the basement. Sidewalls or the wall of basement itself must not be painted. The ingos of doors and windows should also not be painted. Commercial premises and shops have a long tradition of having their facades painted to draw attention to themselves and to advertise what they sold. This tradition still continues today, but where it does happen, it is important that the harmony and unity of the whole façade, including such aspects as lettering and signage, is maintained.

New Town

The New Town on the other hand is built largely from Craigleith sandstone and derives much of its splendour from the natural appearance of the stone. As a general rule, New Town houses should never be painted. Where this has occurred previously, then owners are strongly encouraged to carefully remove any paint by an approved method to reveal the original stone. There are several proprietary paint stripping systems available on the market for removing paint from stone such as steam-cleaning, or alternatively a poultice system may be used to remove multiple layers at one application. Sample areas of paint should first be removed to determine the most appropriate method for each situation. Directions for applying the stripper and cleaning and neutralising the area afterwards must be carefully followed. This needs listed building consent and the City of Edinburgh Council has supplementary planning guidance on paint removal.

Colours

When the Old Town was originally built, the limewash or lime harling would have been either a natural off-white shade or coloured with natural or earth pigments that were easily and cheaply available. These were usually yellow ochre, but red ochre and green earths would occasionally be used to provide a variety of colours. Strong bright colours are not usually appropriate.

Other areas within the World Heritage Site include the imposing Victorian terraces and crescents of the Western New Town around St Mary’s Cathedral, and other unique settings such as The Dean Village, where 500 year-old buildings rub shoulders with the late Victorian development of Well Court. It is difficult to give advice on such a variety of different external surfaces, but the general principle is never to paint dressed stone surfaces and to use traditional materials like limewash to decorate harled surfaces.

It is necessary to obtain Listed Building Consent from the City of Edinburgh Council before doing this - see "further sources of information" at the end of this guide.
Woodwork, doors and windows

Wood is a natural material and its quality and performance can vary enormously. Generally, all wood used externally will be attacked by ultra-violet rays from sunlight and this will breakdown the surface layer and kill the surface layer of the wood. To prevent this, the wood is treated with an oil, varnished or painted. Unfortunately the ultra-violet rays will still penetrate most clear treatments so the best way to protect wood is to paint it, as was generally done from the early 17th century onwards.

The other main property of wood is that it takes in and loses moisture, and so expands and contracts regularly. This places a strain on any coating, as it must move and flex with the wood it is covering. If the moisture becomes too high, rot and decay will destroy the wood internally. For all these reasons, a full and proper preparation of all wood surfaces is critical before repainting.

\[\text{Some external varnishes nowadays do contain a clear ultra-violet absorbing material.}\]

**Repainting**

There are many different types of coatings available for applying to wood. These include:

- **Oil based gloss paints**
  These consist of a primer, an undercoat and a gloss top coat and use white spirits as a brush cleaner. All bare or new wood must be knotted, primed and filled before applying one coat of undercoat and one coat of gloss. You normally need to allow overnight drying between coats. It can be a good idea to give window cills and other flat areas an extra coat of gloss to give added protection against any pools of water. It is also useful to have successive coats of paint slightly different colours to help see that no areas (or coats) are missed.

- **Water-borne gloss paints**
  These are similar to the oil based paints above but use water as a brush cleaner and can have better flexibility over time. They also do not yellow and although they are not so glossy initially, they do not lose their gloss like oil paints. There are several different types so follow the manufacturer’s instructions carefully.

**Wood stains**

These can be either oil based or water borne and either semi-transparent or opaque depending on how much they hide the wood grain. They generally do not give such a thick coat as the paints and thus are less likely to crack if the wood flexes. They normally have a low gloss finish. Many stains also claim to be ‘Microporous’. This means that they allow water vapour to pass through them without breaking the skin, which can allow any unseasoned wood to dry out more easily.

**Inspection**

All painted wood should be inspected annually for any signs of breakdown and decay, and will need repainting about once every 3-5 years. South or West facing exposures may need repainting more frequently.

**Preparation**

Cut back any decayed wood to sound wood and replace with a section of new timber that has been treated with a suitable timber preservative. If there is only a small cavity, use a suitable exterior wood filler.

Old degraded or dead wood may have turned grey. This will not give a sound surface for repainting and must be removed by scraping, sanding or wire brushing; particularly bad areas may need to be planed back to a fresh sound surface.

Remove all loose, flaking or unsound paint by scraping, sanding, wire brushing or use a hot air gun with caution and clean back to a sound firm edge of the old paint film. Particular care must be taken when treating surfaces that may contain paint applied pre 1960 as this may include paints containing white lead.

Wash down all remaining areas with a dilute solution of sugar soap, then rinse well and allow the surface to dry.

Don’t forget to check the state of the putty on the windows and mastic around the window frames. They should be replaced before painting if they are beginning to crack or come loose. If you are replacing putty, prime any bare wood on the window frame before you apply the putty. This will stop the oil in the putty being absorbed into the wood, leading to the putty drying out and cracking.

**Particular care must be taken when using hot air guns, as careless use can lead to catastrophic building fire such as occurred at Uppark in 1989: use of a “Hot Work Permit” system is always advisable.**

**For further information and advice, please contact the British Coatings Federation 01372 360 660, www.coatings.org.uk**
Varnishes
These also can be either oil or water based. Those for exterior use are generally labelled as “Yacht”, “Spar” or “Front Door” varnish and may say that they contain UV (Ultra-violet) absorbers. Varnish will not last as long outside as paint and so will need more frequent maintenance, unless used in areas protected from direct sunlight.

Timber oils
These are used on naturally oily woods such as teak to help replace their oils. They must be applied to bare wood to be effective. They can be rather impractical and hard to maintain in exposed locations such as New Town terraces as they are attacked by sunlight, and are also slightly soft and will retain dirt. However they are frequently seen in more protected locations such as courtyards and closes in the Old Town.

How glossy? Oil gloss paints are a blend of a hard glossy resin with an oil that gives flexibility and durability; the more hard resin, the shinier the gloss finish, but the more brittle the coat. Less resin and more oil gives a more flexible coat but lower gloss and slower drying. It may be worth while, particularly on windows, finding a more flexible and long lasting finish, even at the cost of losing some of the gloss.

Lead Paints
When the World Heritage Site was being built and painted, most exterior paints contained white lead as the main pigment, mixed with linseed oils. This gave a very flexible paint which dried to a low sheen finish with an off-white colour. However white lead paints are harmful to health if they are taken into the body either by inhaling or ingesting their dust. Since the 1960s, white lead has been replaced by other pigments which are not harmful and give a brilliant white colour. Paints containing white lead can now only be used on Category A listed buildings.

Colours
Windows
Nearly all windows are now painted white, making them stand out from the surrounding building, but this was not always the case. Examination of old windows and frames, particularly in the Old Town, frequently show that the original colour was a darker shade designed to make the frames ‘disappear’ and be less obvious. Other original frames can show examples of imitation wood graining, where the wood was painted to make it look grander and of better quality (and more expensive) hardwoods.

Even when the windows were painted white, the nature of the oil paints was to make the actual colour look ‘off-white’ rather than today’s ‘brilliant white’. Whatever colour is chosen, it is important that the harmony and unity of the whole façade is maintained. The City of Edinburgh Council recommend that all windows are painted ‘white’ although an ‘off-white’ such as BS 00 E 55 or BS 22 B 15 would be acceptable, and give a more pleasing colour than the modern harsh ‘brilliant white’. Cream should be avoided.

Doors
These were usually painted either white/off-white or a dark strong colour or else grained to make them look like expensive hardwoods. Pale, primary or pastel colours are not appropriate and should be avoided. Whilst a full gloss finish is normal, lower sheen finishes can also be acceptable and look well with the correct brass door furniture.

If a dark colour is chosen it will get quite warm in summer especially if it is South or West facing. It is important that any preparation and filling of the wood is carried out carefully and correctly; using cheap plaster filler on wood will lead to the paint cracking and flaking in the heat.

Preparation
Examine them carefully for any cracks or loose joints – watch for tell-tale marks on walls after rain. These must be repaired before any repainting is done.

These items are made from cast iron, which can rust. Any areas of rust should be wire brushed back to a clean bright metal surface and then primed with two coats of a suitable metal primer (see ‘railings’ below).

Down pipes, gutters and other rain water goods
It is very important that these are well maintained as leaks from them are a frequent source of water ingress to buildings and cause expensive and destructive outbreaks of dry rot.
Repainting
The insides of gutters were traditionally painted with two coats of bitumen or tar as this is extremely waterproof and is still the best material for this use.

Down pipes and the underside of gutters are frequently painted a stone or grey colour in a gloss finish to blend into the stone. One colour that is particularly successful is called ‘Jim’s mix’, which is a mixture of equal parts of BS 08 B25 and BS 12 B21.

Where the wall is being painted with a masonry paint, the down pipes can also be painted in the same material to help camouflage them. As an alternative to black gloss finish, there are other excellent hard-wearing paints which are suitable, such as dark grey micaceous iron oxide paint which gives a discrete matt finish.

Some older down pipes may have been previously painted with a black glossy bitumen finish. This can bleed through a paler coloured oil paint applied on top of it, giving dirty and unsightly brown streaks. To check if this is likely to happen, rub the black surface vigorously with a rag soaked in white spirits to see if the black paint will soften. If you do get streaks, then the black must be sealed with a bitumen sealer before applying an oil gloss paint, or a water based masonry paint can be used; this should not discolour.

Balconies, Railings and other metal ornamentation
It is important that these are well maintained as they provide the embellishment of the building. Being made of cast or wrought iron, they also need careful maintenance to protect them from rust.

Preparation
Any rust or loose paint should be wire brushed back to a clean bright surface then primed with two coats of a suitable metal primer; merely painting over rust will not stop the metal continuing to rust.

Repainting
Any bare metal needs to be primed with a suitable metal primer. Red lead primer was the traditional primer but can be difficult to get hold of nowadays. Other metal primers contain Zinc Phosphate, often reinforced with micaceous iron oxide. Avoid water-based primers, “universal” primers (they tend to do nothing very well) or one-coat-wonder paints. Once the primer has dried, apply one coat of oil based undercoat and one coat of oil based gloss. This will give a hard wearing finish that will last for several years – as long as the preparation was done carefully.

Colours
The tendency nowadays is to paint all these objects black gloss as dark colours make them appear slenderer and less solid. However recent research has shown that they were originally painted other colours such as dark grey or dark green (invisible green). One reason for this may have been that black pigments tended to slow down the drying of traditional oil paints making them impractical for use outside. The story that they were painted black in mourning for dear Prince Albert is probably apocryphal. Whilst some areas in the New Town have reverted to original colours, the City of Edinburgh Council Planning Department recommends that all ironwork is painted black gloss and you will need Listed Building Consent and Planning Permission from them before you can change their colour from black.
Common Stairs
These are a common feature of Edinburgh buildings and are included in the guide as they are a public space. The stair wall is split by a dado line between a lower gloss painted area and the upper matt painted area. This upper area would have originally been painted with distemper⁹, but are nowadays almost always painted with matt emulsion paint. The dado line itself is sometimes marked by an ornamental beading, but often is just a painted line on the wall. It would traditionally be about shoulder height, or around five feet, above the stairs. The lower section was always glossy to give protection and durability.

⁹ Distempers were the fore-runners of modern emulsion paints used from the 18th Century.

Preparation
As with any preparation, the walls and ceiling should be scraped down to remove any loose or flaking paint. If there has been a build-up of distempers over the years, you must remove these as they will not give a sound base for repainting with modern emulsion paints. Large areas of flaking and staining are probably the sign of a leak somewhere and unless this is investigated and cured, then the problem will only return. Any cracks should be dug out and filled before priming with a suitable plaster primer, along with any bare patches.

Painting
Paint ceilings and upper walls with matt emulsion paint. The lower section of the wall was traditionally painted with oil gloss or eggshell paint to give a hard wearing and easily cleaned surface. A modern alternative would be to use acrylic eggshell emulsion paint which gives a quick-drying hard wearing surface but without the smell and VOCs of oil paint. As accidental damage will always occur in common stairs, it is a good idea to keep any unused paint for touching-up damaged patches if the worst does happen. Don’t forget to repaint the stair window, rub down and re-varnish the handrail and paint the balusters whilst the rest of the stair is being decorated.

Colours
Getting maximum light into a common stair is usually the main priority, together with choosing a colour with which everyone else on the stair can live. White is a good colour for the ceiling and any cornice with off-white or cream for the upper walls, whilst the lower walls can look very good in a "sandstone" colour. The stone skirting at the side of the steps and the dado line should be painted in a dark "slate grey" to match the dark colour of the stone steps.

‘Environmentally friendly’ paint?
Debate rages about the environmental impact of the many different types of paint. Oil based paints contain large volumes of solvents which generally are petrochemicals and can cause atmospheric pollution; however they can use renewable binders such as linseed or soya bean oils. Water-borne paints may seem better, as they use water as a solvent; but they use synthetic petrochemical binders. Even so-called ‘eco-friendly’ paints may have hidden costs or disadvantages.

If any simple guidance can be given, it is to use externally, paints or coatings such as limewash that allow older buildings “to breathe” - to give up or take in moisture gradually - and internally to use low VOC water-borne paints rather than high VOC oil-based paints.

‘Historic’ Paint Ranges
There are many so-called ‘historic’ paint ranges available. Whilst they are a welcome addition to the choice available, it is important to keep what they offer in context. By and large, they do not offer historic or traditional paints. Many of the materials used in old paints were full of harmful substances such as arsenic or mercury and would not be allowed to be used today, or are simply no longer available in their historic form.

What they do offer however are reproductions of the type of colours that were popular during particular historical periods, using modern pigments in modern, convenient and easy-to-use paints such as water-borne acrylics. For most users, these paints are more than suitable for use in historic buildings, such as those within the World Heritage Site, and the range of colours can provide useful inspiration and guidance.
Further Information

Edinburgh World Heritage
www.ewht.org.uk

City of Edinburgh Council
Planning Dept
www.edinburgh.gov.uk

Historic Scotland
www.historic-scotland.gov.uk

The Society for the Protection of Ancient Building
www.spab.org.uk

Scottish Lime Centre
www.scotlime.org

Traditional Paint Forum
www.Traditionalpaintforum.org.uk

Institute of Conservation
www.ukic.org.uk

British Coatings Federation
www.coatings.org.uk

Scottish Decorators Federation
www.scottishdecorators.co.uk

The Georgian Group
www.georgiangroup.org.uk

The Victorian Society
www.victorian-society.org.uk

The Twentieth Century Society
www.c20society.org.uk
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