bailey
streetscene

OPERATION & MAINTENANCE

Bailey Streetscene

Operation & Maintenance Manual

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Introduction

Bailey Streetscene products can be supplied with a number of different material options, each with extensive processes, to suit every environment. This guide is to ensure the preservation of the products supplied by Bailey Streetscene, by providing current information regarding the operation and maintenance requirements.

Bailey Streetscene is committed to providing a service of quality that takes into consideration the effects of the environment during its manufacture and life plus the health and safety of the Customers.

Health & Safety Information

Most of the products supplied by Bailey Streetscene have no specific operating instructions once they have been installed. However, there is a need for certain Health and Safety notes to be considered at all times during their use and ongoing maintenance. These being:

When routine maintenance is being undertaken there is a requirement for the customer to observe the required Health & Safety information for the materials or products being used. Bailey Streetscene identify that - it is the customer's responsibility to ensure that full care, responsibility, correct operation, use and training are adhered to at all times.

Bailey Streetscene cannot accept any responsibility for any damage or injury to persons or property as a result of not working in a safe and proper manner.

Bailey Streetscene should be contacted in the first instance for any concerns relating to product failure, product quality or ongoing maintenance.

Cleaning, Maintenance and Repair

This section gives a generic overview of the inspection and cleaning regimes, solutions, methods and techniques which will preserve the aesthetic finish of products.

Inspection & Cleaning

To maximise life expectancy, the products should be visually inspected on a regular basis for any signs of damage, vandalism, breakdown of surface finish, build-up of salt, dirt or atmospheric residue, and loose fixings.

During these inspections, should any concerns be noted, then the Customer's attention is brought to the following pages whereby suitable maintenance and repair methods are described for the various materials used.

In the event of serious damage to any main component, then Bailey Streetscene should be contacted immediately for detailed technical advice.

In addition to the visual inspection, a regular cleaning regime is also required. The required frequency of visual inspection and cleaning will be dependent on the environment in which the product is situated:

- In rural and urban environments the products should be visually inspected monthly, and cleaned every 3 months.

- In harsh industrial or coastal environments where the products may come into contact with concentrated atmospheric pollutants (chemical, marine) the visual inspection frequency should be increased to weekly and the cleaning frequency increased to monthly (or as required).

Note – this document is not designed to be extensive in the exacting requirements of every case. If you consider your cleaning or repair circumstances to be outside of the scope of this document, then please contact Bailey Streetscene and we will be happy to help you.

All cleaning and maintenance should be recorded, detailing the method of cleaning, what products have been used, and what repair work has been undertaken. In the case of a warranty claim against Bailey Streetscene, this information will be requested.

Galvanised Coating

Galvanising is the process of applying a protective zinc coating to steel or iron, to prevent rusting. The most common method is hot-dip galvanising, in which the parts are submerged in a bath of molten zinc at a temperature of 450 degrees celsius. On immersion in the galvanising bath the steel surface is completely covered by the molten zinc, which reacts with the steel to form a series of zinc-iron alloy layers, producing a uniform coating.

Galvanised steel is widely used in applications where corrosion resistance is needed without the expensive cost of stainless steel and can be identified by the crystallised pattern on the surface (often called a 'spangle'). Galvanising is probably the most environmentally friendly process available to prevent corrosion.

The molten zinc in the galvanising bath covers corners, seals edges, seams and rivets, and penetrates recesses to give complete protection to areas which are potential corrosion spots with other coating systems. The galvanised coating is slightly thicker at corners and narrow edges, giving greatly increased protection compared to organic coatings which thin out in these critical areas. Complex shapes and open vessels may be galvanised inside and out in one operation.

The period of immersion in the galvanising bath varies from a few minutes for relatively light articles, to significantly longer for massive structural members. Upon extraction from the galvanising bath the item is then quenched into water or air cooled.

At the time of the process taking place the appearance will be one of shiny silver, however, this will not last and over a period of several weeks this will dull off to a grey colour. This is the natural finish of the galvanised surface.

The products may have surface irregularities due to the galvanising process however they will not compromise the protective coating.

Newly galvanised products should be handled, transported and stored with care to maintain the condition of the coating.

The cleaning of any galvanised products should be limited to low pressure water, a soft bristled brush and warm soapy water. The use of wire brushes and abrasive cleaning agents may compromise the protective surface of the product.

Galvanising has the ability to "self-heal" any minor nicks or scratches. However, there will be occasions whereby the coating has been damaged to base steel at a size that will not allow for self healing. Where the surface is scratched or damaged through to base steel, a check should be made to establish if rusting has occurred. Where rusting is present, then the area should be wire brushed / sanded to bring back to a bright steel surface.

Powder Coating

Powder coating is a dry coating, which is applied as a free-flowing, dry powder. The main difference between a conventional liquid paint and a powder coating is that the powder coating does not require a solvent to keep the binder and filler parts in a liquid suspension form. The coating is applied electrostatically and is then cured under heat to allow it to flow and form a "skin." The powder may be a thermoplastic or a thermoset polymer. It is used to create a hard finish that is tougher than conventional paint.

Many powder coated products that are exposed to the elements, may over time begin to show; a loss of gloss, chalking and sometimes a slight colour change. However, a simple regular clean will minimise the effects of weathering and will remove dirt, grime and other build-up, which is detrimental to all powder coatings.

Powder coating can last many years, but its life expectancy depends of the site location, atmospheric conditions and a cleaning regime.

The cleaning of powder coated surfaces should be undertaken using either:

- Warm mild soapy water with a soft bristle brush or sponge and rinsed after with clean water.
- A proprietary car wash and wax system and rinsed after with clean water.

Drying the products with a cloth can improve the appearance and please make sure all excess residue is removed.

At no time during the cleaning process is it advisable for any abrasive cleaners, solvents, or other chemicals, to be used.

In areas with high corrosive levels, such as industrial or marine, a normal cleaning frequency should be every 3 to 6 months.

Where small repairs to the powder coat surface are required, then the following should be adhered to as a minimum:

For light scratches or chips where the base material is exposed then a suitable zinc-rich primer should be carefully applied to the defect, followed by a topcoat finish of a matching acrylic based paint or touch up.

Where scratches or chips have not exposed the base material a simple topcoat finish may be applied.

Wet Painting

Wet painting involves the application of a wet paint to a product. There are many layers applied to the product to ensure a long life and substantial appearance. The first layer is often a rust-proof primer coat, followed by one or several layers of coating, depending on the required level of protection. Wet paint can last many years, but its life expectancy depends on the site location, atmospheric conditions and a cleaning regime.

The cleaning of wet painted surfaces should be undertaken using either:

- Warm mild soapy water with a soft bristle brush or sponge and rinsed after with clean water.
- A proprietary car wash and wax system and rinsed after with clean water.
- A simple rinse with clean water from a low pressure source.

The recommended cleaning frequency is at the start of the manual, under General Cleaning, Maintenance & Repair.

At no time during the cleaning process is it advisable for any abrasive cleaners, solvents, or other chemicals, to be used.

If there are small repairs required to the painted surface then the following should be adhered to as a minimum:

For light scratches or chips where the base material is exposed then a suitable filler should be carefully applied to the defect, followed by a topcoat finish of a matching acrylic based paint or touch up.

If required, the damaged area can be filled to bring it back up to the same level as the remaining painted surface. A proprietary car filler system would be suitable for this operation and can easily be sanded back to the finish and level needed.

For larger areas of damage or vandalism, the areas should be sanded by the minimum amount to feather in the broken edges. As per the above, the area can be filled if required and a primer and then topcoat either brushed or sprayed onto the area.

Stainless Steel

Stainless steels are selected in applications where their inherent corrosion resistance, strength and aesthetic appeal are required. Surface contamination and the formation of deposits must be prevented. These deposits may be minute particles of iron or rust from other sources and not removed until after the stainless steel items have been installed.

Industrial and even naturally occurring atmospheric conditions can cause deposits that can be equally as corrosive. A working environment which offers more aggressive conditions, e.g. hot and humid, such as swimming pools, increases the speed of discolouration and therefore requires maintenance on a more frequent basis.

All grades and finishes of stainless steel may in fact stain, discolour or attain an adhering layer of grime in normal service. To achieve maximum corrosion resistance, the surface of the stainless steel must be kept clean. Providing the correct grade is specified, any contamination from handling, manufacturing and installation is removed, and cleaning schedules are carried out regularly, good performance and long life will be achieved. The two general grades of stainless steel used in Bailey Streetscene products are grade 304 & grade 316.

Grade 304

304 grade stainless steel is the most common form of stainless steel used around the world. It contains between 16 and 24 percent chromium and up to 35 percent nickel—as well as small amounts of carbon and manganese. The most common form of 304 stainless steel is 18-8, or 18/8, stainless steel, which contains 18 percent chromium and 8 percent nickel.

304 grade has a high resistance to rust and withstands corrosion from most oxidising acids. However, it is susceptible to corrosion from chloride solutions. It is suited to rural and urban locations where there is less risk of chloride contamination.

Grade 316

316 grade stainless steel is the second-most common form of stainless steel. It has similar properties to 304 stainless steel except it has an increased corrosion resistance, particularly against chlorides. It is therefore suited to all external areas, especially coastal regions where there is a high level of sodium chloride in the air.

Stainless Steel Maintenance

Stainless steel is easy to clean. Washing with soap or a mild detergent and water, followed by a clear water rinse, is usually adequate for domestic and architectural products. An enhanced aesthetic appearance will be achieved if the cleaned surface is wiped dry.

On brushed (satin) finishes, nylon abrasive blocks may be used to remove minor surface imperfections, ground in dirt and scratches. These blocks are flexible and are impregnated with grit. They must always be used in the same direction as the original polishing marks.

Where stainless steel has become extremely dirty, with signs of surface discolouration, (perhaps following a period of neglect or misuse) alternative methods of cleaning will be required.

Stainless steel should be cleaned regularly to maintain its appearance. Every 6 months for both grades, in most settings, will ensure the products are clean and 'pitting' (a corrosive level that can impact the integrity of the internal structure) does not occur. If the stainless steel is in an area that has a high level of sodium chloride in the air, it should be cleaned at a minimum of every 3 months.

Aluminium

Aluminium is a lightweight and durable material. Aluminium can be powder coated in a range of RAL colours or it can have an anodised finish.

Anodised Finish

Anodising aluminium is a highly controlled oxidation process, creating a finish that is durable and corrosion-resistant. It is composed entirely of aluminium oxide. This finish is not applied to the surface like paint, but is fully integrated with the underlying aluminium substrate, so it will not chip or peel.

Durability: Anodising is a chemical reactive finish that has a complete bonding with the underlying aluminium.

Maintenance: Rinsing or washing with mild soap and water will usually restore the anodised finish to its original appearance.

Colour: Anodising aluminium allows it to retain its metallic appearance, whilst still offering resistance to chipping and peeling.

Health: The anodised finish is chemically stable, will not decompose and is nontoxic. Because the process is a reinforcement of a naturally occurring process, it is non-hazardous and produces no harmful by-products.

Corten Steel

Thanks to the process of maturation/oxidation that characterises it, it is considered a "live" material, which may vary over time, in shades and hues, depending on the shape of the object, the position in which it is installed and according to the cycles of weathering which the object undergoes.

Warning: The average period where the natural cycle of maturation of Corten “stabilizes”, giving the material a dark brown shade typical of oxidized corten, is about 12/18 months in the presence of suitable weather conditions. During this stage of maturation, the Corten may leak oxide (“washout”), which may stain surfaces where the products are located. For Corten, this is considered a natural and physiological behavior of the material.

As indicated above, the siting of Corten products on valuable and/or porous surfaces (e.g. marble, granite, etc..) must be very carefully evaluated prior to product selection.

Please also consider coastal locations and the interaction with salt air, which can lead to the formation of oxides on the surface,s that result in the appearance/colour looking different to normal. This does not affect the excellent mechanical strength of the material.

Timber

Timber seats and slats can be supplied in a wide variety species, both softwood and hardwood, dependent on budget and availability. Our standard timber offers are supplied in either; Douglas Fir, Iroko, Sapele or Cumaru. All our timber products are either untreated or coated with a light Danish Oil or Sadolin Burma Teak

Basic maintenance will be needed to preserve the timbers appearance and life.

- A visual check should be completed quarterly, whereby splinters or sharp edges are lightly sanded to remove them.

- If timbers are left untreated, the finish will fade to a pewter grey appearance, which is the natural process of weathering of all timbers and has no detrimental effect on the performance of the timbers. If the client wants to maintain the lustre of the timber, this will involve an quarterly maintenance process which will involve sanding and recoating the timbers with Danish Oil or Sadolin Burma Teak depending on product supplied.

Due to the natural properties of timber, it may move, check or split. This is an ordinary aspect of timber products. Bailey Streetscene cannot be held responsible for any changes in the timbers and the appearance of the timber will change over time due to environmental factors and natural wear.

Timber slats can be supplied in a range of hard & softwoods and can be FSC Certified upon request. Any FSC timber that is supplied through Bailey Streetscene’s external suppliers, will be provided with a full Chain of Custody. This ensures that it originates from legal and sustainable sources.

To ensure that timber does not sweat and become discoloured, all wrapping must be removed within 72 hours of delivery.

These are the standard timbers that Bailey Streetscene use during product manufacture.

Douglas Fir

Wood type: Softwood

Origin: Western North America

Colour and appearance: Can vary in colour based upon age and location of tree. Usually a light brown colour with a hint of red and/or yellow, with darker growth rings.

Grain and texture: Grain is generally straight. Medium to coarse texture, with moderate natural luster.

Rot resistance: Douglas-Fir heartwood is rated to be moderately durable in regard to decay, but is susceptible to insect attack.

Iroko

Wood Type: Hardwood

Origin: Tropical Africa

Colour and appearance: Usually a yellow to golden or medium brown, with colour tending to lighten over time, due to weathering.

Grain and texture: Iroko has a medium to coarse texture, with open pores and an interlocked grain.

Rot resistance: Iroko is very durable, and is resistant to both rot and insect attack.

Sapele

Wood type: Hardwood

Origin: Tropical Africa

Colour and appearance: A golden to dark reddish brown. Colour tends to lighten over time, due to weathering.

Grain and texture: Grain is interlocked. Fine uniform texture and good natural luster.

Rot resistance: Timbers range from moderately durable to very durable in regard to decay resistance. Moderate insect/borer resistance.

Cumaru

Wood type: Hardwood

Origin: South America and Central America

Color and appearance: Timbers tend to be a medium to dark brown, sometimes with a reddish or purplish hue; some pieces may have streaks of yellowish or greenish brown.

Grain and texture: Grain is interlocked, with a medium texture and a waxy feel.

Rot Resistance: Cumaru has excellent durability and weathering properties. The wood is rated as very durable regarding decay resistance, though it may be susceptible to some insect attacks.

Concrete

Pre-cast concrete products require very little or no maintenance however, regular inspections of the product should be carried out, in addition to regular cleaning, to slow down natural deterioration.

Precast concrete is a porous material and will be susceptible to staining, even when sealed. Contact with paint, oil based products, acids of all types, salts and any other material likely to stain should be avoided.

Concrete products may also become dirty over time. Concrete can be cleaned with a mild detergent, warm water and a thin bristle brush, being careful not to scrub the surface and disturb the polished finish. After cleaning the product should be thoroughly rinsed with clean water.

Before cleaning the product, drench the surrounding area, if stone or concrete, to prevent the dirty water staining the surface.

No acids or strong cleaning solutions should be used on concrete products as this can lead to further damage.

Concrete products can be chipped and worn down from use, especially at corners and edges. If chips do occur it is important to re-seal the area where the chip has occurred.

Salt and deicers used to remove snow during winter should not come into contact with any concrete products as this can damage the concrete surface and cause spalling.

Concrete Finish Options

Dressed Finish

A dressed finish is the standard finish available on all concrete products. Dressed is a smooth surface achieved by hand rubbing to produce a flat matt surface.

Polished Finish

A polished finish is a process which exposes a smooth finish to the concrete on the top face of the unit and exposes the aggregate underneath the surface (sides are dressed finish only). It can be used to show the different colours of aggregate within the concrete to great aesthetic effect.

Textured Finish Options

Acid Etch Finish

An acid etch finish describes varying levels of texture applier by washing the units with varying concentrations of acidic solution. This can be from a light acid etch (similar to an ashlar sandstone . limestone finish) through to a heavier acid etch (similar to a picked / stippled finish).

Exposed Aggregate Finish

An exposed aggregate finish uses various techniques to expose the aggregate to produce an interesting and colourful textured finish. Particularly useful to produce decorative solutions to slip hazards or anti vagrant criteria.

Granite

Granite products require very little to no maintenance however regular inspections of the product should be carried out to ensure regular cleaning.

Products may become dirty over time. Granite can be cleaned with a mild detergent, warm water and a thin bristle brush, being careful not to scrub the surface and disturb the polished finish. After cleaning the product should be thoroughly rinsed with clean water.

Before cleaning the product, drench the surrounding area, if stone or concrete, to prevent the dirty water staining the surface.

No acids or strong cleaning solutions should be used on the products.

Plastic

Polyurethane

Polyurethane products are manufactured from a proprietary polyurethane, Terrathane®, which is lightweight and virtually indestructible, requiring very little to no maintenance. It has a higher abrasion, corrosion and impact resistance and has a longer lifespan than most other materials.

Terrathane® is a flexible material that can be designed to almost no resistance if required or fitted with a steel core where anti-ram is needed for street bollards.

Polyurethane products are pigmented throughout its core, in a range of BS / RAL colours.

Recycled Plastic

As the name implies, Recycled Plastics are manufactured from used plastics, this is typically referred to as upcycling rather than recycling. This material is robust, light, durable and flexible due to its adaptable composition. Recycled plastics are manufactured from mixed post-consumer waste and are coloured throughout the process, usually in black or Brown.

Recycled plastics will be unavoidably affected by UV light which may cause slight discolouration.

Recycled plastics will become dirty over time and will benefit from a periodic clean down. The required frequency of cleaning will be dependent on the environment in which the product is situated.

Products should be checked on a regular basis and cleaned every 3 months, for coastal areas the inspections should be more frequent and cleaning should be as required. Cleaning of recycled plastics should be undertaken with a mild detergent in warm water. After cleaning the products should be thoroughly rinsed with clean running water.

Plastic Sheeting

PET and PETG are lightweight and extremely versatile forms of plastic. The material has a high resistance to chemicals and thermal insulation. Impact and weather resistant. Plastic sheeting is used as a glass replacement for shelters and canopies. Sheets are clear as standard, can be in coloured, opaque or smoked grey.

GRP

Glass Reinforced Plastic (GRP) is fibreglass, it is strong, hardwearing, durable, frost-proof and light weight. Not to be confused with fibre-clay. GRP is stronger than steel, unlike stainless steel, it is resistant to salt air, chemicals (including most acids) and UV light. GRP is an economical and lightweight alternative to steel. GRP requires less maintenance with a simple rub down with a soft cloth and warm water.