

# OPERATION & MAINTENANCE MANUAL



## POST & RAILS



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## Introduction

Speedy Street Solutions pedestrian guardrails and balustrade systems are manufactured using designs that have been refined through years of development and real-world installation. These proven systems provide reliable safety and boundary solutions suitable for a wide range of **public spaces, commercial premises, transport environments, and residential developments**.

Our railings and balustrades are produced using a **variety of base materials**, with carefully selected sections and material grades to ensure the products are **fit for purpose, structurally sound, and capable of delivering long-term performance** in outdoor environments.

To help maximise the lifespan of the product and reduce the need for costly refurbishment, this guide has been produced to outline **recommended maintenance procedures and important handling considerations**. Following these guidelines will help ensure the railing or balustrade system continues to perform safely and effectively throughout its service life.

Speedy Street Solutions is committed to delivering **high-quality products while considering environmental responsibility and user safety throughout the product lifecycle**.

During the design, manufacture, processing, and finishing of these systems, the following recognised standards have been considered:

- **BS EN ISO 1461** – Hot dip galvanised coatings on fabricated iron and steel articles
- **BS EN ISO 13920** – Welding tolerances for shapes, dimensions, and lengths in welded constructions

By adhering to recognised manufacturing standards and recommended maintenance procedures, Speedy Street Solutions railing and balustrade systems are designed to provide **durability, structural integrity, and long-term reliability** in a wide range of environments.



## Health & Safety Information

Speedy Street Solutions railing and balustrade systems do not require specific operating procedures once they have been installed correctly. However, certain **health and safety considerations** should always be followed during the use, inspection, and maintenance of these systems.

When undertaking **routine maintenance or repair work**, it is essential that all relevant health and safety guidance relating to the **tools, materials, and maintenance products being used** is observed. It is the responsibility of the customer, site operator, or maintenance contractor to ensure that:

- The product is **used only for its intended purpose**
- Work is carried out with **appropriate care and safety precautions**
- Personnel responsible for maintenance are **properly trained and competent**

Speedy Street Solutions cannot accept responsibility for **damage to property or injury to individuals** resulting from the incorrect use, misuse, or unsafe maintenance of the product.

If there are any **concerns regarding product performance, structural integrity, product quality, or maintenance requirements**, Speedy Street Solutions should be **contacted in the first instance** so that appropriate technical advice and guidance can be provided.



## Materials & Processes

Speedy Street Solutions railing and balustrade systems are designed to meet a wide range of **project specifications, site conditions, and customer requirements**. Depending on the product design, different materials and manufacturing processes may be used to ensure the system provides **strength, durability, and long-term performance**.

### Materials

The following materials may be used in the manufacture of railing and balustrade systems:

- **Mild steel** – Grade S235
- **Stainless steel** – Grade 304 or Grade 316
- **Cast or ductile iron**
- **Polyurethane (PU)** components where required
- **Timber** – various hardwood and softwood options (FSC® certified timber available on request)
- **Extruded aluminium**
- **Fixings** – Grade 8.8 or 10.9 high-strength steel, or stainless steel where appropriate
- **Ground anchors** – sleeve anchors or resin anchors depending on installation requirements

Material selection will vary depending on the **design, location, and structural requirements** of the installation.

### Processes Used

During the manufacture of railing and balustrade systems, a number of fabrication and finishing processes may be used, including:

- **Bending, forming, fabrication, and welding** of structural components
- **Moulding processes** for polyurethane components
- **Casting processes** for iron components
- **Zinc galvanising** to provide corrosion protection for steel elements
- **Polishing of stainless steel** to achieve a clean and durable finish
- **Wet painting** where specified for decorative or protective finishes
- **Polyester powder coating** to create a robust and weather-resistant surface
- **Machining and staining of timber** for timber components or decorative elements

These processes are selected to ensure Speedy Street Solutions railing and balustrade systems provide **long service life, structural integrity, and reliable performance in external environments**.



# Cleaning, Maintenance & Repair

**Inspection, Cleaning & Maintenance:** This section provides a general overview of the **inspection and cleaning procedures** recommended to maintain the appearance and longevity of **Speedy Street Solutions railing and balustrade systems**.

## Inspection & Cleaning

To maximise product lifespan, installations should be **visually inspected on a regular basis**. Inspections should check for:

- Signs of damage or impact
- Vandalism or tampering
- Deterioration or breakdown of protective surface finishes
- Build-up of dirt, salt, or atmospheric residue

If any issues are identified during inspection, appropriate maintenance or repair methods should be carried out based on the **specific materials used within the system**.

If **significant damage occurs to any main structural component**, Speedy Street Solutions should be contacted immediately for technical advice before any repairs are attempted.

In addition to routine inspections, a **regular cleaning programme** should also be implemented to maintain the appearance and performance of the system.

## Recommended Inspection & Cleaning Frequency:

The frequency of inspection and cleaning will depend on the **environmental conditions** in which the railing or balustrade is installed.

### Rural and Urban Environments (C1 – C3)

- Visual inspection: **Monthly**
- Cleaning: **Every 3 months**

### Harsh Industrial or Coastal Environments (C4, C5-I, C5-M)

Where installations may be exposed to **higher levels of atmospheric pollutants such as chemicals, industrial emissions, or marine salt**:

- Visual inspection: **Weekly**
- Cleaning: **Monthly**, or more frequently if required

This guidance is intended to provide **general recommendations** and may not cover every possible scenario. If your maintenance or cleaning requirements fall outside the scope of this guide, please contact **Speedy Street Solutions** for further advice and support.

## Maintenance Records

All **inspection, cleaning, and maintenance activities** should be properly documented. Records should include:

- Date of inspection or maintenance
- Cleaning methods used
- Products or chemicals applied



- Details of any repairs undertaken

Maintaining accurate records helps ensure ongoing product performance and may also be required in the event of a **warranty claim**.

## Galvanised Coating

The galvanised coating applied to Speedy Street Solutions railing and balustrade systems is processed in accordance with the requirements of **BS EN ISO 1461 – Hot Dip Galvanised Coatings on Fabricated Iron and Steel Articles**.

Galvanising is a **hot dip process** in which molten zinc reacts chemically with the steel substrate to form a protective coating. Immediately after the process, the finish typically appears **bright and silver in colour**. Over time, this naturally weathers to a **dull grey patina**, which is the normal and expected appearance of galvanised steel.

Due to the nature of the galvanising process, **minor surface irregularities may occasionally occur** on finished components. Where possible, these may be lightly finished; however, this is not always undertaken if doing so could compromise the protective zinc coating. As a result, some **visual variations may remain**, including on products that are subsequently powder coated. These do **not affect the durability or performance** of the galvanised finish.

## Cleaning Galvanised Surfaces

Exposed galvanised surfaces should be cleaned using one of the following methods:

1. **Low-pressure water wash**, such as a standard hosepipe
2. **Warm soapy water with a soft brush** to remove surface dirt and deposits

After cleaning, the surface should be **thoroughly rinsed with clean water**.

The following should **not be used** when cleaning galvanised surfaces:

- Wire brushes
- Abrasive scourers
- Abrasive cleaning products

These materials can damage the protective zinc coating and may lead to **premature corrosion**.

## Repairing Damaged Galvanised Surfaces

Galvanised coatings have the ability to **self-heal minor scratches and abrasions** due to the sacrificial protection provided by the zinc layer. However, in cases where damage exposes the **base steel**, repairs may be required.

Several proprietary zinc-rich repair coatings are available for this purpose. Suitable options include **zinc-rich repair paints applied by brush or aerosol spray**, designed specifically for galvanised steel repair.

Recommended repair procedure:

1. Inspect the damaged area to determine whether **rusting has occurred**.
2. If rust is present, **clean the area using wire brushing or light sanding** until bright steel is exposed.
3. Apply a **zinc-rich repair coating** according to the manufacturer's instructions.
4. Ensure the applied coating builds up to an appropriate thickness to provide adequate corrosion protection.



The **recommended coating thickness for repaired areas is typically a minimum of 100 microns** to ensure effective long-term protection.

### Powder Coating

Powder coating is a finishing process in which **polyester powder is applied to the metal substrate using an electrostatic spray gun**. The coated component is then **oven cured**, forming a durable and protective outer layer that provides both corrosion resistance and an attractive finish.

Powder coated finishes are designed to provide **long-term durability**, although their lifespan will depend on factors such as **installation location, environmental exposure, atmospheric pollutants, and the regularity of cleaning and maintenance**. The recommended cleaning frequency is outlined earlier in this guide.

### Cleaning Methods

Powder coated surfaces should be cleaned using one of the following methods:

1. **Warm, mild soapy water** applied with a soft cloth, sponge, or natural bristle brush, followed by rinsing with clean water.
2. A **proprietary car wash and wax system**, followed by rinsing with clean water.

During cleaning, **abrasive cleaners, solvents, or harsh chemicals must not be used**, as they can damage the powder coated finish.

To maintain the appearance of the coating, an **annual application of automotive wax** may be used if desired. While this is not essential, it can help enhance the finish and provide additional surface protection.

### Graffiti Removal

If graffiti appears on a powder coated surface, **solvent-based cleaners should not be used**, as they may damage the coating.

Instead, removal should be attempted using:

- A **car body polishing compound (such as a T-cut type product)**, or
- A **specialist graffiti removal cleaner**

Before applying any cleaning product, it should be **tested on a small, inconspicuous area** to ensure it does not damage the surface.

### Minor Repairs

For **small scratches or chips**, the following repair procedure is recommended:

- Where the **base metal is exposed**, carefully apply a **zinc-rich primer** to the affected area.
- Once the primer has cured, apply a **matching acrylic-based topcoat or touch-up paint** recommended or supplied by Speedy Street Solutions.

Where the **substrate surface is exposed but the base metal is not**, the same repair method should be followed **without applying the zinc-rich primer**.



## Major Damage

Where there are **larger areas of coating damage, vandalism, or coating breakdown**, customers should contact **Speedy Street Solutions** for technical advice on suitable repair or refurbishment solutions.

## Wet Painting

Wet painting is a finishing process where **liquid paint is applied directly to the base substrate**, creating a durable and protective outer layer once cured. This coating provides both **visual appeal and protection against environmental exposure**.

Wet painted finishes can last many years; however, their lifespan will depend on factors such as **installation location, atmospheric conditions, environmental pollutants, and the regularity of cleaning and maintenance**. The recommended cleaning frequency is outlined earlier in this guide.

## Cleaning Methods

Wet painted surfaces should be cleaned using one of the following methods:

1. **Warm, mild soapy water** applied with a soft cloth, sponge, or natural bristle brush, followed by rinsing with clean water.
2. A **proprietary car wash and wax system**, followed by rinsing with clean water.
3. A **low-pressure water wash**, such as a standard hosepipe.

During the cleaning process, **abrasive cleaners, solvents, or harsh chemicals must not be used**, as these may damage the painted finish.

## Minor Repairs

For **small scratches or chips** where the base material is exposed, the following repair procedure should be followed:

- Apply a **suitable primer** to the affected area.
- Once the primer has cured, apply a **matching acrylic-based topcoat or touch-up paint** recommended or supplied by Speedy Street Solutions.

If required, the damaged area may be **filled to restore the original surface level**. A proprietary automotive-style filler can be used for this purpose and sanded smooth before repainting.

## Larger Repairs

For **larger areas of damage or vandalism**, the following approach is recommended:

1. **Lightly sand the damaged area** to remove loose paint and feather the surrounding edges.
2. **Apply filler if required** to restore the original surface profile.
3. Apply a **suitable primer and topcoat**, either by brush or spray, to achieve a consistent finish.

Information relating to the **original paint system specification** can be obtained by contacting Speedy Street Solutions.

Standard specification painted products typically utilise an **industrial HMG paint system**, while **waterside or marine specification products** are commonly finished using a **Sherwin-Williams protective coating system** designed for more demanding environments.



## Stainless Steel

Stainless steel is commonly used in railing and balustrade systems due to its **corrosion resistance, strength, and attractive appearance**. However, while stainless steel offers excellent durability, it is important to recognise that it is **“stain less” rather than “stain never.”**

Surface contamination and the formation of deposits should be avoided wherever possible. These deposits may consist of **small iron particles, rust contamination from surrounding materials, or environmental pollutants**, which can settle on the surface after installation. Industrial environments, coastal air, and even naturally occurring atmospheric conditions can introduce corrosive particles that may affect the finish if not regularly cleaned.

More aggressive environments, such as **hot and humid areas (for example swimming pools or similar conditions)**, can accelerate discolouration and therefore require **more frequent maintenance and cleaning**.

All grades and finishes of stainless steel may **stain, discolour, or accumulate grime during normal service**. To ensure maximum corrosion resistance and maintain appearance, the surface must be kept clean. When the correct grade is specified and contamination from handling, manufacturing, or installation is removed, regular cleaning will ensure **excellent long-term performance**.

## Stainless Steel Grades

Speedy Street Solutions products may incorporate two common stainless steel grades:

### Grade 316 (1.4401)

This grade contains higher levels of chromium and nickel than Grade 304 and includes molybdenum. This improves corrosion resistance and makes it **less susceptible to surface pitting and staining**. It is therefore well suited to **external installations and marine environments**, where sodium chloride levels in the air are higher.

### Grade 304 (1.4301)

Grade 304 is generally suitable for **rural and urban environments** where there is less exposure to salt contamination or aggressive atmospheric conditions.

## Recommended Cleaning Frequency

A common recommendation for stainless steel maintenance is simple: **clean the metal whenever it becomes dirty to restore its original appearance**. For most external applications this typically ranges between **one and four cleanings per year**, depending on environmental conditions.

Location	Grade 304 (1.4301)	Grade 316 (1.4401)
Internal	As required to maintain appearance	As required to maintain appearance
Suburban or Rural	Every 6–12 months (depending on location and design)	Every 6–12 months
Industrial or Urban	Every 3–6 months	Every 6–12 months
Coastal or Marine	Not recommended	Every 3–6 months

## General Cleaning Method

Stainless steel surfaces are generally easy to maintain. In most situations the following method will be sufficient:

- Wash with **warm water and mild soap or detergent**
- Rinse thoroughly with **clean water**
- **Dry the surface** to improve the final appearance and reduce water marks



For **brushed or satin finishes**, nylon abrasive cleaning pads can be used to remove light surface marks or embedded dirt. These pads contain fine grit and must always be used **in the same direction as the original polishing marks** to maintain the appearance of the finish.

### Cleaning Heavily Soiled Stainless Steel

Where stainless steel surfaces have become heavily contaminated or discoloured, more thorough cleaning methods may be required.

Problem	Cleaning Agent	Comments
Routine cleaning	Mild soap or detergent and water	Apply with sponge, rinse with clean water, wipe dry if required
Fingerprints	Soap, warm water, or organic solvent (e.g. acetone or alcohol)	Rinse with clean water and wipe dry
Stubborn stains or discolouration	Mild non-abrasive cleaning creams	Rinse thoroughly and wipe dry
Oil or grease marks	Organic solvents (e.g. acetone or alcohol)	Follow with soap and water, then wipe dry
Localised rust	Proprietary rust removal gels, 10% phosphoric acid, or oxalic acid solution	Apply with swab, allow to stand ~15 minutes, rinse thoroughly. For phosphoric acid, rinse first with ammonia solution. Follow all safety precautions
Mortar or cement splashes	10% phosphoric acid solution (warm)	Rinse first with ammonia solution, then clean water and dry
Heavily neglected surfaces	Fine abrasive automotive polishing compound	May restore dull finishes; entire surface may need treatment to avoid patchiness
Paint or graffiti	Appropriate alkaline or solvent paint remover	Apply with soft nylon or bristle brush and follow manufacturer's instructions

The cleaning products listed above are generally suitable for stainless steel surfaces; however, **no endorsement of specific brands is implied**, and equivalent products from other manufacturers may also be appropriate.

If the methods described above do not achieve satisfactory results, stainless steel surfaces may also be **professionally passivated or mechanically polished by specialist contractors** to restore their appearance and protective properties.

For further technical information on stainless steel performance and maintenance in external environments, guidance can be obtained from specialist stainless steel industry resources.

### Polyurethane (PU)

Posts and rails are typically **pigmented throughout during manufacture** and are available in a range of **BS or RAL colours**, although black is the most common finish.

These components usually receive a **wet-sprayed primer undercoat followed by a two-pack acrylic topcoat**, similar to the finishing process used for cast iron products. As a result, the **cleaning and maintenance procedures for wet painted surfaces** should be followed to ensure the coating remains in good condition.

Regular cleaning and periodic inspection will help maintain both the **appearance and durability** of PU components over time.



## Timber Components

Timber handrails are commonly manufactured from **Iroko**, a durable tropical hardwood, and are typically treated with a **protective wood stain during manufacture**.

To maximise the lifespan of timber components and preserve their appearance, **basic routine maintenance is recommended**.

## Recommended Maintenance

### 1. Annual Visual Inspection

A visual check should be carried out at least once per year. During this inspection:

- Any **splinters or sharp edges** should be lightly sanded to smooth the surface.
- Any **loose fixings or fittings** should be tightened.

### 2. Annual Wood Treatment

Timber surfaces should be treated annually with a **proprietary wood stain or protective treatment** to help preserve the wood and maintain its appearance. Products such as **Sikkens Cetol** are commonly used for Iroko timber.

### 3. Replacement of Worn Components

If a handrail deteriorates to the point where its appearance or condition cannot be maintained, it should be **replaced with a like-for-like component**.

When replacing timber elements, there may be a **visible colour difference between new and existing wood**, which occurs due to the natural weathering of timber over time.

## Natural Characteristics of Timber

Timber is a natural material and may **move, surface check, or develop small splits** during its service life. These characteristics are typical of timber products and are generally expected in the outdoor environments where they are commonly used.

Speedy Street Solutions cannot accept responsibility for **natural movement or changes in timber**, as these are inherent properties of the material and occur as a result of environmental exposure.



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