straightcurve®

PRODUCT CARE GUIDE

2026

Simply Better

straightcurve.com.au

LONG-LASTING, YOUR PRODUCT CARE GUIDE...

The Right Ways to Treat Weathering & Galvanised Steel

In our Longevity Guide, we discuss the unique properties of Weathering Steel that make it durable and appealing for outdoor use. This has led to extraordinary uses around the world where it is celebrated for both its characteristic enduring qualities and for its beautiful weathered appearance.

We like the upfront simplicity of referring to our products as Weathering Steel, which also means that whether you use our products or someone else's, the tips below to extend lifespan will hold true.

Further, although the below is written with Weathering Steel in mind, the same environmental threats (salt, moisture, acidity, poor drainage) also affect Galvanised Steel. Many of the care tips and understandings below apply equally to both, especially those relating to improving drainage, protecting buried steel, and being mindful of what sits against your product.

MAKING THE POINT...

The Key Understanding

The naturally forming protective patina on Weathering Steel is the make-or-break factor here. It forms through repeated cycles of wetting and drying in the presence of oxygen; this rhythm is what builds the stable layer that protects the steel beneath.

Knowing where it happens, how it happens, and what to do when it doesn't are valuable insights we'd like you to know straight up.

IN THE OPEN AIR...

Where and How it Happens

Simply put, a patina gradually forms when the steel surface is exposed to air and repeatedly cycles between wet and dry conditions. In this environment, a stable 'rust' layer can continually regenerate, which slows the corrosion of the steel beneath.

PLEASE DO NOT...

...continually wet down the steel to hurry along the process; periods of dry time early on are the secret to success. So limit your enthusiasm to twice a day. Patina formation can be more difficult in humid/damp climates, although human intervention, such as excessive watering regimes on a new lawn, is more likely to threaten healthy patina development. Instead of instant gratification, let's work with slow appreciation. It's worth the wait!

Early on, patina development may appear patchy. Hot-rolling steel creates an oxidised layer that must first be removed. Additionally, residual oil from manufacturing can introduce variability.

It's OK... to sponge the surface with diluted soapy water in the early stages to help remove any residual oil and prevent water beading. Acetone can be used to remove sticky residue from stickers or tape, but rinse thoroughly with water afterwards.

But please do not... apply chemicals to hasten patina formation. Salt, vinegar, acids, and hydrogen peroxide will accelerate rusting but prevent patina formation. You risk damaging the steel and making it vulnerable to further corrosion. There are "rust solution" products that work with the steel's natural oxidation rather than attacking it aggressively; these are OK to use. Follow the manufacturer's instructions.

IN THE GROUND...

Where It Doesn't Happen

Weathering Steel behaves differently in the ground where no patina development can occur, so it will continue to rust slowly there. This rust forms sheets that thicken the steel's flat surface and ideally remain undisturbed to maintain structural integrity. Be aware that steel thickens to 7x its thickness when it corrodes, so any fattening can represent the tiniest amount of actual steel impacted. No need to panic.

It's a good idea... to top up soil or fill to the original level if it drops and exposes previously buried steel. For above-ground panels, applying bitumen paint to the below-ground face before installation gives this vulnerable zone extra protection from the start (more on this in the sections that follow).

Water pooling is always an enemy of any steel. It is something to avoid by whatever strategy suits the situation, and where soil density is high (i.e. clay), drainage improvement is recommended.

Ideally... encourage sufficient drainage against the steel with fill such as pebbles, rocks, and/or coarse sand behind it, as a foundation.

THE MOST COMMON CAUSE OF PREMATURE WEAR...

The Soil Line and Why It Matters

This one deserves its own section because it's the single most common cause of premature wear we see in the field, and the fix is almost free.

At the point where your buried steel meets open air, the soil line, you have two very different environments meeting on the same piece of metal. Below the line, the steel is damp and has limited oxygen. Above the line, it's cycling between wet and dry in the open air. That combination creates a concentrated band of corrosion right at the interface. In moderately aggressive conditions typical around Australia, material loss at the soil line can run at roughly 100 to 300 micrometres per year. It's not catastrophic, but it does steadily work away at that narrow band.

Here's where it becomes a real issue. When soil settles or washes away, the original soil line gets exposed and a new one forms lower down. Now you have two bands of concentrated wear instead of one. Over years of settling and topping up, you can end up with several of these weakened zones stacked along the same length of steel.

The fix is straightforward: keep soil and fill levels topped up to their original level. Check after heavy rain, after the first growing season, and whenever you notice settling. It takes a few minutes, costs nothing, and it's the single most effective thing you can do to protect your investment over the long term.

WHAT SITS AGAINST IT...

Compost, Wood Chips, and Mulch

This is one of the most important sections in this guide because organic materials such as compost, wood chips, and bark mulch are widely used in gardens and are often placed directly against the steel without a second thought.

Direct, prolonged contact between organic materials and your steel creates conditions that actively work against the protective patina. They hold moisture against the surface, produce acids as they decompose, restrict airflow, and generate microbial activity. Each of those factors accelerates corrosion, and together they prevent the stable patina from forming.

In practical terms, the area of steel in contact with packed organic material can deteriorate significantly faster than the rest of the surface. You might notice the exposed sections developing a healthy, even patina, while the section buried in mulch is corroding unevenly. The damage tends to be localised and unpredictable, which is why it catches people off guard.

The good news is this is very manageable with a few thoughtful steps:

Keep organic materials away from direct contact with the steel wherever possible. Use inorganic fill (pebbles, gravel, scoria, or coarse sand) as a buffer directly against the steel. You can then dress your garden with mulch or compost beyond that buffer zone. Even a small gap makes a meaningful difference.

If a buffer isn't practical, keep organic material loose rather than packed tight against the surface. The less dense the contact, the better the air circulation and the less moisture is trapped.

Apply bitumen paint to the inside face of the panel before installation, particularly the portion that will be below ground or in contact with fill. This creates a protective barrier between the steel and whatever is in contact with it. This is one of the highest-impact steps you can take, especially if you know organic material will be nearby.

Top up and maintain. If mulch or soil levels settle and expose previously buried steel, top them up. If organic material has become compacted and waterlogged against the steel, loosen or replace it.

SALT IN THE AIR...

Coastal and Marine Environments

If you live near the coast, your steel is working in a more demanding environment. Airborne salt and chloride accelerate corrosion and can interfere with the formation of a stable patina. The closer you are to the water, the more attention your installation needs.

We're not going to advise that you move home. Steel edging, planters and retaining can and do perform in coastal gardens. But they need extra care, and it helps to think about protection in two distinct stages: before installation, and once the patina has developed.

Before installation: bitumen paint on hidden surfaces. Apply bitumen paint to any surface that will be buried or in contact with fill. This is a thick, opaque, waterproofing coat that bonds directly to the steel and creates a barrier between the metal and the soil, salt, or fill that sits against it. Once the steel is installed, these faces become inaccessible, so this is a one-time opportunity. In coastal areas it's particularly important.

After the patina develops: a sealer on visible surfaces. Once the patina has formed on exposed surfaces (typically around 6 to 12 months after installation), a penetrating sealer can be applied to visible faces to slow further corrosion and help preserve the weathered look. Penetrol, available from Bunnings, is the most accessible option and works well when reapplied annually in harsher environments. Other options customers may consider include White Knight Rust Guard Clear Topcoat and lanolin spray; each comes with its own trade-offs around appearance, longevity, and reapplication frequency. None is perfect, but with annual application you can achieve a substantial delay in surface degradation.

Maximise drainage. Good drainage is important everywhere, but in coastal environments it's critical. Use inorganic fill against the steel, ensure water can't pool, and consider perforated drainage pipes if conditions are heavy.

Be especially mindful of contact with organic material. The combination of coastal salt exposure and organic material against the steel is the most demanding condition for the product. If you're near the coast, the buffer guidance in the section above is particularly important.

Inspect periodically. Coastal installations benefit from periodic visual inspections. If you spot areas where the patina appears unstable or corrosion is unusually active, a sealer application can help stabilise the area before it progresses.

WHAT LIES BENEATH...

Soil Conditions

Australian soils vary enormously. Many are acidic, many are alkaline, and quite a few are naturally saline. In moderate conditions, buried steel corrodes slowly as expected. But in more extreme soil conditions (highly acidic, highly alkaline, or saline), corrosion is accelerated.

The best defence is good drainage and thoughtful fill choices. Using inorganic fill (pebbles, gravel, coarse sand) directly against the steel rather than backfilling with native soil reduces the steel's exposure to local soil conditions. Bitumen paint on below-ground surfaces provides an additional layer of protection.

If you're unsure about your soil, a simple pH test can give you a useful indication. Garden centres and hardware stores sell inexpensive soil-testing kits. If your soil is strongly acidic or strongly alkaline, the additional protective measures in this guide become even more worthwhile.

A FEW SPECIFIC SETUPS...

Concrete, Pools, and Above-Ground Panels

A few specific scenarios are worth a quick mention.

On concrete, trapped moisture between the steel and slab is the main risk. Use packers to raise the steel above the surface, and consider bitumen paint on the contact face. Better still, set the steel back from the concrete with good drainage beneath.

Near pools, chlorinated and salt-based chemicals can be aggressive enough to prevent a stable patina from forming. Set your steel well back from the splash zone.

With our above-ground range, you have a one-time opportunity before installation to paint the inside face of the panels with bitumen paint. This is particularly worthwhile in wet or tropical climates and on more acidic soils. Once installed and filled, that face becomes inaccessible, so it's worth taking the time while you can.

YOUR STEEL, YOUR ENVIRONMENT...

Bringing it All Together

Every garden is different, and the care your steel needs depends on your specific conditions. If you're inland with well-drained soil and inorganic fill against the steel, you may not need to do much beyond the basics. If you're coastal, working with organic fill, or in challenging soil, the extra steps in this guide are well worth the effort.

The common thread is simple: help the steel do what it's designed to do. Above ground, that means providing it with the air and wet-dry cycles it needs to develop a strong patina. Below ground and at contact surfaces, it means good drainage, protective coatings, and keeping the most aggressive materials at a distance. And at the soil line, it means keeping levels topped up so that previously buried sections stay buried.

Take the steps that apply to your situation, and your steel will reward you with years of service and that beautiful, weathered character it's known for.

"Nature does not hurry, yet everything is accomplished." Lao Tzu

straightcurve®

Australian Distribution Partner:
Straightcurve Australia Pty Ltd
1300 943 667
assistance@straightcurve.com.au

Distributor:

www.straightcurve.com