



CHASSIS

Galvanizing the backbone of mobility – to prevent corrosion and ensure years of durability.

wcorbett.co.uk

Chassis overview

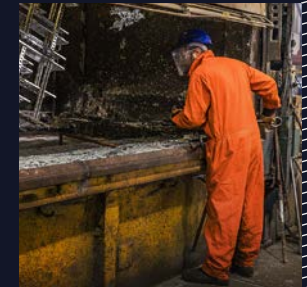
A chassis is the backbone of any vehicle providing a structural foundation for all other components – from trailers and caravans to cars and motorbikes. Typically made from high-strength steel, the chassis is a rigid base where key components are attached. It supports weight and absorbs stress during motion. The chassis is where safety starts.

A typical chassis includes:

- **Four-sided steel frame:** a rigid rectangular or square frame made from structural steel, providing core stability for the vehicle.
- **Axles and wheels:** These connect the wheels to the chassis, enabling mobility and distributing load evenly.
- **Connecting points:** These allow for the secure attachment of stabilisers, suspension, drawbars, and towing mechanisms – all vital for functionality and roadworthiness.

Steel remains the dominant material for chassis construction thanks to its durability and adaptability. But exposure to moisture, road salts, fluctuating temperatures, etc. makes untreated steel highly vulnerable to corrosion and, ultimately, failure.

That's where galvanizing makes a difference.



Why choose galvanized steel?

Galvanizing offers a range of benefits that make it the preferred choice for protecting steel in various applications.

These advantages include:

Unmatched durability

Galvanized steel is incredibly durable, with the zinc coating providing exceptional resistance to wear and tear. It can withstand harsh environments, including marine settings, where saltwater can accelerate corrosion.

Self-healing properties

One of the unique features of galvanized steel is its ability to self-heal minor damage. If the zinc coating is scratched or chipped, the surrounding zinc will corrode in preference to the steel, effectively sealing the exposed area and preventing rust from forming.

Aesthetic appeal

Galvanized steel has a distinctive, bright finish that is often used in architectural and design applications. The coating can also be painted or powder-coated to match specific colour schemes or for additional protection.

Versatility in applications

Galvanized steel is used in a wide range of industries, from construction and automotive to agriculture and telecommunications. Its versatility makes it suitable for outdoor and indoor applications where corrosion resistance is a priority.

Quick turnaround

The galvanizing process is relatively fast compared to other protective coatings. This means shorter lead times and project completion deadlines, particularly beneficial for large-scale projects.

Adherence to standards

At Corbetts the Galvanizers, our galvanizing process adheres to the highest industry standards, ensuring consistent quality and performance. We follow strict guidelines to deliver galvanized steel that meets or exceeds our clients' expectations.



Galvanizing is the protection that lasts. Galvanizing coats the steel in zinc, forming a resilient barrier that protects against rust, corrosion, and mechanical damage. The result of galvanizing is an extended lifespan of the chassis, ensuring the reliable performance across changing climates and road conditions.

The market in today's numbers

Galvanizing is especially valuable for manufacturer such as Brian James Trailers, who emphasise long-term resilience and safety in their designs. In a market navigating shifting demands and fluctuating production volumes – vehicle output dropped by 11.8% in 2024 – galvanizing helps futureproof steel components.

The superior protection for:

- Trailer chassis
- Caravan chassis
- Car chassis
- Drawbars
- Rear end frames

Whether destined for a commercial trailer or private vehicle, galvanized chassis require less upkeep and offer extended service life – delivering measurable savings for manufacturers and end-users alike.

Let's explore how it compare to other protection methods...

3.6%



CHASSIS MANUFACTURING

Despite a decline at a CAGR of 3.6% over the last five years, the UK motor vehicle manufacturing industry is forecast to reach £53.4 billion in 2025.

GALVANIZING SERVICES

The UK galvanizing sector has shown resilience, with 0.2% growth reported in the most recent year.



0.2%



Galvanizing vs. Powder Coating

Application and coverage: Powder coating is another alternative to galvanizing, known for its aesthetic finish and resistance to chipping and scratching. However, powder coating does not provide the same comprehensive protection as galvanizing. Powder coatings can be prone to damage from UV exposure and require an immaculate surface to adhere properly. Any imperfections in the coating can expose the steel to corrosion. In contrast, galvanizing ensures complete coverage, including edges and corners, providing a uniform protective layer that is not as dependent on surface conditions.

Corrosion resistance: While powder coating offers some corrosion resistance, it does not match the protection provided by galvanizing. Once damaged, powder-coated steel can corrode rapidly as the underlying steel is exposed. On the other hand, galvanized steel is protected even if the coating is damaged due to the sacrificial nature of zinc, which corrodes in place of the steel.

Maintenance and lifespan: Like painting, powder coating requires periodic maintenance and touch-ups to maintain its protective qualities. Over time, exposure to the elements can lead to fading and degradation of the protective layer. Galvanized steel, by comparison, requires minimal maintenance and offers a longer lifespan, making it a more durable and low-maintenance option.

Galvanizing vs. Electroplating

Coating thickness and durability: Electroplating involves applying a thin layer of protective metal, such as zinc, onto the steel surface using an electric current. While this process can provide some corrosion protection, the coating is typically much thinner than galvanized steel. The thinner coating makes electroplated steel more vulnerable to damage and less effective in harsh environments. With its thicker zinc layer, galvanizing offers superior durability and a longer-lasting protective barrier.

Adhesion and coverage: Electroplating is generally less effective at covering complex shapes and edges, where the coating may be thinner and less protective. Galvanizing, by contrast, ensures consistent coverage across the entire surface, including hard-to-reach areas, edges, and corners. This thorough coverage is crucial in preventing corrosion in vulnerable spots.

Cost-effectiveness: While electroplating can be suitable for small components and specific applications, it is often more expensive on a per-unit basis when compared to galvanizing, especially for larger structures. The superior durability and lower maintenance requirements of galvanized steel further enhance its cost-effectiveness in the long run.

Conclusion: Galvanizing is the Ultimate Choice for Steel Protection

Compared to other steel protection methods, galvanizing consistently emerges as the superior choice in terms of durability, comprehensive coverage, and cost-effectiveness. While painting, powder coating, and electroplating each have their place in specific applications, they often fall short in providing the long-term protection and maintenance-free lifespan that galvanizing offers.

The metallurgical bond formed during the galvanizing process offers a robust defence against corrosion even in the most challenging environments. This makes galvanizing not only a practical choice, but also a smart investment.

By choosing galvanized steel, you are opting for a solution that minimises maintenance, maximises durability, and delivers lasting protection – an essential consideration for any project where the integrity of steel is critical. Whether safeguarding infrastructure, machinery, or any other steel product, galvanizing provides peace of mind by letting you know your steel is built to last.

At Corbetts, we are committed to delivering the highest quality galvanizing services, ensuring that your steel products receive the protection they need to perform at their best.

If you want to learn more about how galvanizing compares to other protective methods or if you have specific project requirements, our team is here to help. Contact us today to find out how galvanizing can enhance the longevity and value of your steel.

When talking about moving vehicles... galvanizing is not just important, it's essential.

Steel is widely used in the manufacturing of chassis due to its strength and versatility and aesthetic shiny finish. However, when exposed to the environment, particularly moisture, steel is prone to corrosion. Rust is not just an aesthetic problem; it can weaken steel structures, leading to costly repairs or even catastrophic failures. Don't just build strong. Build to last.

Galvanizing is essential for the following reasons:



LONG-TERM PROTECTION

The zinc coating provides a long-lasting protective barrier that shields the steel from moisture, oxygen, and other corrosive elements. This significantly extends the life of the steel, reducing the need for frequent maintenance or replacement.



COST-EFFECTIVE PROCESS

Although galvanizing adds an upfront cost to steel production, it is a cost-effective solution in the long run. The extended lifespan and reduced maintenance costs more than offset the initial expense, making galvanizing a smart investment.



ENVIRONMENTAL BENEFITS

Galvanizing is a sustainable choice. The zinc coating is fully recyclable, and its long-lasting protection reduces the need for frequent steel replacement, conserving resources and reducing waste.



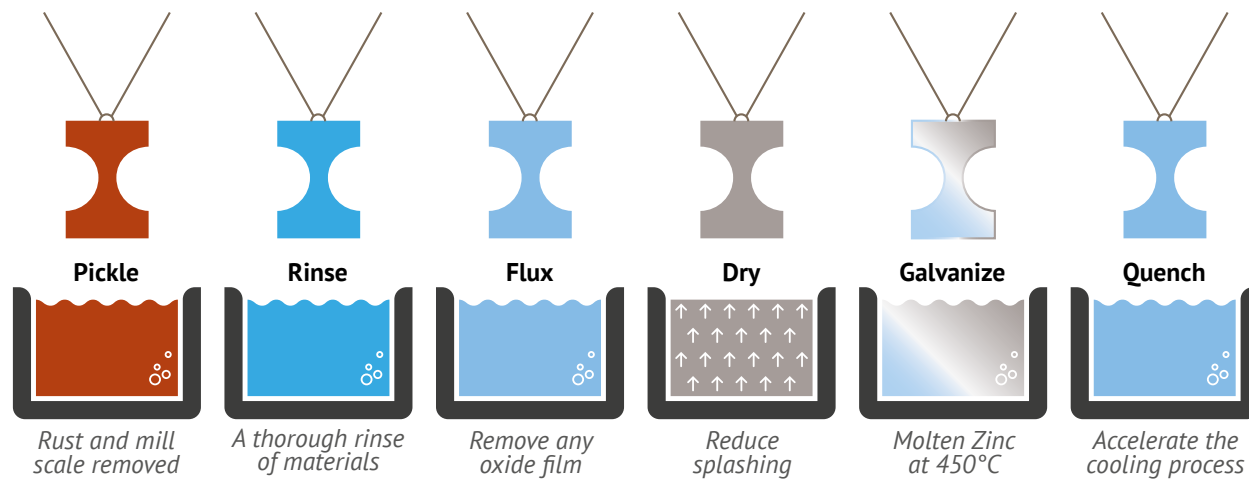
COMPREHENSIVE COVERAGE

Galvanizing coats the entire surface of the steel, including corners, edges, and difficult-to-reach areas that other coatings might miss. This ensures comprehensive protection against corrosion, even in the most exposed parts of the structure.

Industry challenges

	The challenge	The Corbetts solution
SUPPLY CHAIN VOLATILITY	Global disruptions continue to affect raw material supply and manufacturing schedules.	We plan ahead, securing long term contract with suppliers, and running a 24hrs shift to ensure the supply chain is protected.
RISING COSTS	Increased energy steel prices are impacting margins across the sector.	No one can really escape the increase in prices, but with Corbetts there aren't any hidden costs. We are transparent and will notify you in advance if there are any shifts in costs that may impact you as a customer.
TIGHTER REGULATIONS	It is important to rely on manufacturers that stay ahead of evolving environmental and safety compliance requirements.	At Corbetts, we are not reactive to changes; we are proactive. We are constantly exploring how to better ourselves and achieve further accreditations than we already have.

The process



#1

Surface Preparation

The steel is cleaned to remove any dirt, oil, rust, or other contaminants that could interfere with the galvanizing process. This is often achieved through a combination of degreasing, pickling in acid, and fluxing.

#2

Galvanizing

Once the steel is prepared, it is dipped into a bath of molten zinc, typically heated to around 450°C. The zinc reacts with the steel to form a series of zinc-iron alloy layers, topped by a layer of pure zinc.

#3

Cooling

After removing the steel from the bath, it is cooled, usually by quenching it in water. When cool, the zinc coating solidifies, forming a tough, adhesive layer that is highly resistant to corrosion.

#4

Inspection

This ensures that the coating is uniform, the covering is consistent, and the thickness is correct. This guarantees that the steel is fully protected before being loaded for delivery.

Why work with Corbetts?

To fully appreciate the importance and effectiveness of galvanizing, it's valuable to consider some key statistics and facts that highlight this process's transformative impact on steel products.

Galvanizing is not just a protective measure; it's a powerful tool that can significantly extend the life of steel, reduce maintenance costs, and contribute to sustainable practices across various industries.

The benefits of working with a full-service galvanizer



DOUBLE DIPPING COVERING 8 METRES

Double dipping at eight metres allows for the galvanizing of longer steel structures, ensuring complete and even corrosion protection, uniform coating, and enhanced durability. It's ideal for large projects requiring extended steel components.



ISO 9001, 14001 & 45001 ACCREDITED

Our accreditations ensure we deliver consistent quality, are environmentally responsible, and strongly focus on health and safety, delivering products, sustainable practices, and a safer work environment for every project we do.



SWIFT TURNAROUND MINIMUM OF 48 HOURS

Our turnaround service ensures fast, reliable delivery, minimising project delays and maximising efficiency. Customers benefit from reduced downtime, quicker completion, and the confidence that urgent needs are met with speed and precision.



COLLECT & DELIVER SCHEDULED TIMES

Our steel collection and delivery service offers customers convenience, saving time and resources. It ensures smooth logistics, reduces transportation hassle, and streamlines project workflows, providing a reliable, efficient solution.

The output

We are continually expanding our skills, capabilities, and processes to ensure we can accommodate our customers' needs.

The automobile industry and the chassis manufacturers play a key role in many areas of the day-to-day life. It is extremely demanding and the safety of millions rely on it. Galvanized still is not a choice to make, but THE choice to make. If you are not galvanizing, you are gambling.

Trailer chassis, Caravan chassis, Car chassis, Drawbars, Rear end frames





GALVANIZING | The cost-effective way to protect your steel



t 01952 412777
e sales@corbettsthegalvanizers.co.uk
w wcorbett.co.uk

Corbetts The Galvanizers, Halesfield 1, Telford, Shropshire TF7 4QQ.



Cert No. 1122