

Case study

Allegion New Zealand
revives an industry with a
finishing touch



Continuously innovating and keeping up with latest market trends, Allegion (New Zealand) Limited expands its local manufacturing capability by investing in a leading-edge automated electroplating plant for special finishing its door hardware. This helps ensure faster turnaround, quality control, environmental stewardship, and the ability to create market-differentiating bespoke products to meet an architectural vision.

Stepping up to the plate

Electroplating began mainly as an art in the 1800s and only developed for commercial purposes in the 1940s. In New Zealand, the electroplating industry grew in the 1970s, but has since dwindled to only a handful of electroplating businesses nationally.

“With the decline of electroplating services in New Zealand over the last 20 years, we are resurrecting a dying industry,” says Finishing Supervisor Jared Balle.

We anticipate continued popularity in hardware finishes driven by architectural trends and customer demands. This is where Allegion’s in-house electroplating comes in, enabling us to secure an integral part of our supply chain, generate value and expertise for our business. With our own plant, we have control over our quality, cost, lead times, prioritisation, and options for new product development.

“Equally important, ownership of the finishing process allows us to minimise any waste associated with electroplating as a responsible steward of our environment,” stresses Balle.

Electroplated finishes add a premium appearance that gives the impression that the plated part is solid and of the same material as the finish.

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All that glitters is not gold. Forged brass, when electroplated in stain chrome, can give the appearance that it's made of that finish.

He also notes that, "Although electroplating has high barriers to entry, our commitment turns this to our advantage."

Electroplated finishes add a premium appearance that gives the impression that the plated part is solid and of the same material as the finish. Allegion's electroplating has automated high-throughput process that creates both consistency and highly durable finishing options.

Substrates for success

Excellent finishes start with quality parts made of the right substrate. Balle notes that brass is particularly versatile and malleable, easy to machine and polish, and accepts several finishes extremely well. "Stainless steel and zinc die-cast also make good substrates for electroplating. Corners and geometry dictate the ability to polish to a high standard."

He emphasises that aluminium and conductive plastics cannot be electroplated in our plant.

It is essential for raw materials to be prepared correctly. After forging or machining, they must be properly prepared for the finishing process to achieve a high-quality result.

"Polishing is a physical pretreatment process that removes artifacts such as forge lines and surface defects. It also imparts the final reflective or dulled sateen appearance of the finish. Chemical cleaning processes are employed directly before plating. These steps are fundamental for the success of the finish, impacting plating adhesion and consistency," explains Balle.

Filling our plate

Electroplating is the process of coating an object with a thin layer of metal using an electric current. Plating is used to increase its useful lifespan by improving its resistance to abrasion from mechanical wear and corrosion, whilst enhancing aesthetics.

As an example, our Legge narrow stile plate furniture is locally manufactured with the raw drawn bar loaded into a CNC mill to be precision machined, then hand polished or sateened to remove imperfections before electroplating to increase corrosion resistance and applying the desired finish.

For electroplating, the narrow stile plate is mounted onto an electroplating jig then loaded onto a flight bar and a finish is programmed into the control box. Parameters are adjusted to ensure correct plating thickness and consistency prior to the run. Automated gantry cranes transfer parts through the process, with the output of the run a Legge narrow stile plate bearing the desired finish. It is then inspected for quality and either accepted or rejected for rework.



Allegion New Zealand's leading edge automated electroplating plant.

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Layers of protection

Electroplating requires the use of hazardous chemicals. Safely managing these chemicals, along with the risks from working with electricity and mechanical equipment, are vital for preventing accidents and health problems. Allegion adopts industry-leading practices for the safe use of chemicals used for electroplating, including process management and storage of these chemicals.

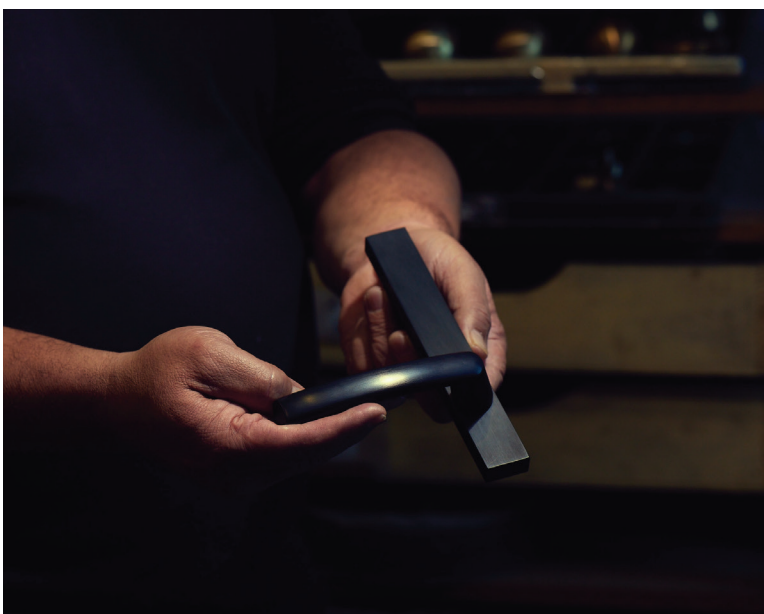
“A major consideration of the investment in electroplating has been ensuring engineered controls are used to mitigate potential hazards involved in electroplating.”

To meet resource consent conditions with Auckland Council, Allegion engaged an independent engineering consultant to conduct an Assessment of Environmental Effects (AEE), and assist with the preparation of an emergency response plan and waste management plan.

Balle further stresses that, “Part of our stewardship is working to ensure that our wastewater is clean and clear stream, with the right pH range and temperature, as well as low metals concentrations and solid content. In doing so, we are protecting the environment around us.”

Allegion’s highly advanced electroplating plant is designed with higher ergonomics and operability to also help ensure the health and safety of operators.

To manage risks, Balle says, “Having a fully automated plant ensures minimal operator exposure to chemicals, while increasing productivity. It is safer for staff, better for the environment, and is cost-efficient as it is a precise, consistent, and repeatable process.”



New Zealand designed and assembled Legge 5300 Series with a Cisa lever in satin black chrome finish.

Finishing off the job

With the addition of an electroplating plant in New Zealand, we provide specialised metal finishing to complement our innovation, design, and add another feather to our local manufacturing cap.

Among our collection of finishes is the Legge Luxe portfolio of door furniture, with a total of seven luxurious finishes, across a range of levers and plate designs, designed for architecturally inspired homes and commercial projects.

Our range of finishes currently include Antique Bronze, Chrome, Oil Rubbed Bronze, Polished Brass, Satin Black Chrome, Satin Brass, and Satin Chrome.

Our team continuously assesses style trends. Renovating or building a new home requires planning for every detail, with door hardware ideally complementing other fixtures within the home, including bathroom, kitchen, and lighting accessories. The finish on door hardware is the final touch that turns a functional piece of hardware into an attractive design element.

With Allegion, you are assured that your door hardware specifications finish on a high note.

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Allegion special finishes:

Antique Bronze offers an aged and traditional look with its rich brown hues and golden undertones. This warm welcoming finish matures over time to develop patina, giving the surface a natural aged feel.

Chrome's mirror-like nature offers a cool sparkling finish that never dulls over time suitable for a contemporary or retro setting.

Oil Rubbed Bronze is perfect for rustic, down-to-earth living spaces, providing a dark brushed look with hints of underlying brass tones beneath.

Polished Brass has a warm and reflective golden sheen that's a confident choice for a classic, vintage appeal.

Satin Black Chrome is a sophisticated finish that is striking and versatile, bridging traditional and modern styles. It provides a stunning contrast against light coloured surfaces.

Satin Brass is bold without being over the top with its smooth matt finish for an understated style. Unlacquered, it will mature over time to give a natural aged appearance.

Satin Chrome has a subtle lustre that's both edgy and alluring, evoking a timeless contemporary look often used in commercial applications.

About Allegion

Allegion (NYSE: ALLE) is a global pioneer in seamless access, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion secures people and assets with a range of solutions for homes, businesses, schools and institutions. Allegion had \$2.7 billion in revenue in 2020, and its security products are sold around the world.

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