Pre-Treatment & Coating Process Explainer

Why the finish on your component starts before the paint

Most buyers evaluate a coated component by how it looks on delivery. The finish that actually determines how long it lasts happens before any colour is applied, in the pre-treatment stage. Here's how our process works, and why it's structured this way.

Stage 1: Pre-Treatment (Zinc Phosphating)

Before any component is coated, it passes through our nine-tank zinc phosphating line, with an additional rinse tank, handling components up to 2m × 1.5m × 1m. Zinc phosphating prepares the metal surface at a chemical level so that the coating applied afterward bonds properly and resists corrosion over time — rather than just sitting on top of the surface.

Skipping or shortcutting this stage is one of the most common ways a coated component fails early in the field, even if it looked fine when it left the factory. It's also one of the easiest things for a fabricator to cut corners on, since the effect isn't visible until months later.

Stage 2: Powder Coating

Once pre-treated, components move to our conveyorised batch powder coating line. Powder coating is applied electrostatically and cured under heat, producing a durable, even finish in the colour you specify — matched to your requirement rather than chosen from a limited stock palette.

Why This Sequence Matters

• Pre-treatment and coating happen in the same integrated operation — components don't leave for a separate finishing vendor and come back.

• Because both stages are under one roof, there's a single point of accountability for finish quality, rather than a handoff between a fabricator and an outsourced coater.

• The nine-tank line and conveyorised coating line are sized to work together, so components move through the full finishing process without delays between stages.

What to Specify When You Request Finishing

• Colour (RAL code if available — see our RAL Colour Reference Guide)

• Gloss level (matte, satin, or gloss)

• Any environment the component will be exposed to (indoor, outdoor, humid, corrosive) so we can flag anything relevant

Don't see a term you're looking for? Send us your drawing or specification and we're happy to walk through it with you before you submit a formal RFQ.

Disclaimer: *Silver Technomech is not responsible for losses, damages, production errors, or delays resulting from inaccurate, incomplete, or outdated client-supplied drawings, specifications, or information. Clients are responsible for verifying and approving all details before production. This disclaimer is subject to applicable law.*