In 1972, Greenheck took the lead as the first commercial and industrial fan manufacturer to introduce electrostatic powder coatings. Today, Greenheck continues to lead by being the first to offer a superior zinc-rich powder basecoat and powder coating finish.

This zinc-rich basecoat technology is used extensively outside the HVAC industry to protect bridge beams, automotive components and other heavy-gauge steel products. Now, this advanced technology is exclusively available on Greenheck welded steel products.

Greenheck’s coating process starts with a minimum of five wash stages to treat all components prior to painting. Cleaner parts result in better coating adhesion and durability. We then use an advanced two coat powder application method that includes a basecoat of zinc-rich powder and a topcoat of Greenheck’s Permatector™ or Hi-Pro Polyester. The combination of these two topcoats over our new zinc-rich basecoat results in the two new coatings Perma-Z and Hi-Pro-Z. These oven cured coatings provide superior corrosion resistance along with a tough, uniform finish to combat the most extreme conditions.

To help determine what process and coating may be right for your specific environment, refer to the performance tested guide provided on page three.

**The Zinc Advantage**

The zinc-rich basecoat actively and passively protects the base steel if the coating becomes damaged and the steel is exposed to air and water.

The zinc-rich basecoat has a lower electrochemical potential than the base steel. As a result, the steel is actively held in a neutral state when exposed to a corrosive environment—the driving force of corrosion is halted. A protective layer forms over the damaged surface as a by-product of the chemical reaction and passively protects the exposed steel from further corrosion due to air and water.
When selecting a powder coating finish for heavy-gauge welded steel fans, critical information such as environment, moisture, exposure, abrasives, and chemicals should be considered.

Powder coatings are the best choice for most extreme applications. Major advantages over most vendor-applied liquid coatings include:

- Superior finish with uniform coverage and thickness.
- A better coating provides better protection.
- The process is environmentally friendly.
- Unequaled value.

Coatings | Color | Coating Specifications
--- | --- | ---
Permatector™ | Concrete Grey RAL-7023 | Thickness: 2.0 - 3.0 mils Polyester urethane powder coating
Hi-Pro Polyester | Concrete Grey RAL-7023 | Thickness: 2.0 - 3.0 mils High performance polyester urethane powder coating
Perma-Z | Concrete Grey RAL-7023 | Thickness: 4.0 - 6.0 mils Permatector™ topcoat with zinc-rich, epoxy basecoat
Hi-Pro-Z | Concrete Grey RAL-7023 | Thickness: 4.0 - 6.0 mils Hi-Pro Polyester topcoat with zinc-rich, epoxy basecoat

Note: Perma-Z and Hi-Pro-Z are not available on aluminum.

Salt Spray ASTM B117 is a comparative test that indicates the corrosion resistance of powder paint coatings. Pencil Hardness and Cross-Hatch Adhesion tests determine the durability of a coating to withstand scratches, nicks and chips. Chemical Resistance Ratings provide information on how each coating option will hold-up in certain chemical environments. Greenheck's two coat powder paint system provides unparalleled corrosion protection in the most extreme conditions. Our paint system offers three and four times the corrosion resistance of other coatings commonly available within the fan industry.

<table>
<thead>
<tr>
<th>Environments</th>
<th>CLEAN AIR</th>
<th>COASTAL</th>
<th>CHEMICAL</th>
<th>EXTREME WEATHER</th>
<th>ABRASIVE PARTICLES</th>
<th>SUN-UV</th>
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</thead>
</table>

Test Data

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Bleach</th>
<th>Sulfuric Acid (10%)</th>
<th>HCl (10%)</th>
<th>MEK</th>
<th>Chlorine (0.1%)</th>
<th>NaOH (20%)</th>
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</thead>
<tbody>
<tr>
<td>Permatector™</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>—</td>
</tr>
<tr>
<td>Hi-Pro Polyester</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>—</td>
</tr>
<tr>
<td>Perma-Z</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Hi-Pro-Z</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Chemical Resistance Ratings**

- 0 - No effect
- 1 - Slight change in gloss or color
- 2 - Surface etching, severe staining, but film integrity remains
- 3 - Significant pitting, cratering, swelling, or erosion with obvious surface deterioration

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No effect</td>
</tr>
<tr>
<td>1</td>
<td>Slight change in gloss or color</td>
</tr>
<tr>
<td>2</td>
<td>Surface etching, severe staining, but film integrity remains</td>
</tr>
<tr>
<td>3</td>
<td>Significant pitting, cratering, swelling, or erosion with obvious surface deterioration</td>
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</tbody>
</table>
Go Green
For decades, Greenheck has focused on the environmental side of the building industry—developing reliable, energy-efficient products and systems to promote occupants’ health and comfort. As one of the first manufacturers of air movement and control equipment to join the U.S. Green Building Council, our desire for sustainable buildings has extended to our state-of-the-art, two coat powder paint system. Our coating system includes pretreatment of the multi-stage washer waste prior to release to the municipal water treatment facilities, a 100% powder paint reclaim system, and infrared curing booster ovens with energy savings approaching 50% when compared to typical convection ovens.

We help engineers, architects, contractors, and owners succeed in their green initiatives, on any project. Going green? Go Greenheck - visit our Web site or contact your area representative.

Our Commitment
As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Specific Greenheck product warranties are located on greenheck.com within the product area tabs and in the Library under Warranties.