The E-Coat Bath Blend

The electrocoat bath is made up of water and water-soluble components that have very little environmental impact. Almost all of the coating is used, leaving minimal waste and ensuring a very economical process.

How Electrocoat Technology Works

Pretreated substrates are immersed into an electrically charged paint bath. The charged coating particles are electrically drawn to the substrate, depositing a tightly packed, insulated layer that reaches every recess of the surface. The process ends automatically, with coating thickness regulated by the amount of voltage applied. At the end of the line, the substrate is baked, creating a tough coating that offers more thorough protection than spray-applied coatings.

The properties of the finished, coated substrate are dependent upon the polarity applied to both the substrate and the coating:

**Cathodic Electrocoat**
- Formulated for maximum corrosion resistance and exterior durability

**Anodic Electrocoat**
- Economical systems with a wide range of colors for interior or moderate exterior decorative applications

Setting the Standard for Innovation and Performance

When you need innovation, performance and service to support your electrocoat operation, PPG delivers. Since pioneering anodic electrocoat in 1963, PPG has been at the forefront of every advancement in the use of this technology, creating a standard of performance recognized the world over.

That means PPG can provide a broad, sophisticated range of high-quality products, all backed by highly knowledgeable and experienced technical and support personnel.

Photos courtesy of Oshkosh Finishing Services

oshkoshfinishingservices.com
Electrocoat for Every Market

PPG offers acrylic and epoxy e-coats for use with both anodic and cathodic technologies, each offering specific properties that suit them to the needs of a variety of markets.

A Sample Electrocoat Line: Index System

1. The power supply and filtration for the entire electrocoat line is managed at the control station.
2. Parts are moved through the electrocoat bath process via a racking system. Other systems use a monorail.
3. Typical system tanks might include: pretreatment, rinse, e-coat, rinse and a final rinse of water purified by reverse osmosis or deionization.
4. Once the process is complete, the parts are loaded into an oven where the e-coat is cured. Parts are ready to go once they leave the oven.
The PPG Electrocoat Advantage

Electrocoating is a versatile, problem-solving coatings technology for a wide range of applications. PPG’s decades of experience help you make the most of your investment.

Exceptional Finish Quality
E-coating produces uniform film builds that are free of sags, runs and voids. Clear and clear-tinted coatings add luster and performance to a variety of substrates.

Product and Process Efficiency
E-coating enables material utilization efficiencies of greater than 98% with no overspray. Almost all of the coating is recycled and reused.

High Productivity
With e-coating, a vast number and variety of parts can be finished at high speeds with little direct labor, providing outstanding throughput.

Environmentally Friendly
Technologies are available in low-VOC, HAPs-free and heavy metal-free formulations.

Electrocoat vs. Liquid and Powder
Thinking of making the switch? Electrocoat outperforms liquid and powder coatings in several key areas.

<table>
<thead>
<tr>
<th></th>
<th>Liquid</th>
<th>Powder</th>
<th>E-Coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Efficiency</td>
<td>Limited</td>
<td>Good</td>
<td>High</td>
</tr>
<tr>
<td>Manual Labor</td>
<td>High</td>
<td>High</td>
<td>Limited</td>
</tr>
<tr>
<td>Automation</td>
<td>Good</td>
<td>Good</td>
<td>Best</td>
</tr>
<tr>
<td># of Parts Processed</td>
<td>Limited</td>
<td>Limited</td>
<td>Best</td>
</tr>
<tr>
<td>Environmental Impact</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Ease of Color Change</td>
<td>Best</td>
<td>Good</td>
<td>Limited</td>
</tr>
<tr>
<td>Throwpower</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Equipment Investment</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>
World-Class Support & Training

PPG offers a level of technical support and training that few e-coat manufacturers can match.

SECURE LAUNCH EXCELLENCE™ Process: From Concept to Commercialization

PPG enables e-coaters to move new products to market as quickly as possible through the proprietary Secure Launch Excellence process. Building on PPG’s vast institutional knowledge of color and coatings, the process joins designers, production engineers and other stakeholders with PPG stylists, color experts and manufacturing specialists to accelerate the development of new colors and coatings formulations. This highly regimented and proven methodology also provides insight into environmental sustainability, global raw materials access, color modeling and product prototyping. The Secure Launch Excellence process can fast-track the development of commercial coatings and transition them seamlessly into any global manufacturing operation.

INDX™ Knowledge Hub

The IndX Knowledge Hub is an online repository of technical data, color resources and other information that applies to all technologies supported by PPG Industrial Coatings. For e-coat customers, this includes access to services that are tied directly to your equipment and coatings such as tank monitoring and results from comparative analytical testing performed by PPG technical services personnel.

PPG KNOWLEDGE COLLEGE™ Training

For those seeking additional training, PPG also offers Knowledge College courses. Held at PPG R&D facilities, these two-day seminars include classes in coatings basics, equipment usage, problem-solving and hands-on, lab-based presentations by PPG technical experts.
A Global Partner

PPG Industries has manufacturing facilities and equity affiliates in more than 60 countries around the globe. This means our products, knowledge and technical expertise can be delivered to virtually any location on the planet.

If you are new to e-coat, PPG can recommend system implementation strategies and equipment manufacturers that best fit your needs. Once operational, PPG can provide on-site training, address compliance issues and assist with fine-tuning of equipment and troubleshooting. PPG’s world-class technical support also encompasses pre-production application testing, routine production process evaluations, cost-reduction consultation and formal documentation of problems and their resolutions.

For more information about PPG e-coat systems, call 888.774.2001 or visit online at www.ppgindustrialcoatings.com.