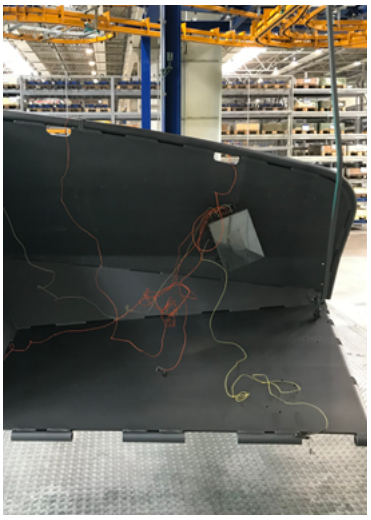
Case Study

PPG Profiles: Reducing bottlenecks and energy use with PPG's ultra-durable, low-cure coating

Segments
Heavy-Duty Equipment (HDE),
Agricultural and Construction Machinery
General Industrial

PPG Product
ENVIROCRON® UltraX™
ultra-durable, low-cure polyester

Coating Technology
Powder



Ultra-Durable Powder Coating with Faster Finishing

Agricultural and construction manufacturers rely on high-performance coatings to protect their equipment and brand reputation, ensuring machinery remains in excellent working condition while maintaining long-lasting color and gloss.

Protecting the complex parts of heavy-duty equipment from UV damage, corrosion and wear and tear is more important than ever.

For one leading agricultural and construction equipment manufacturer, long-curing times required of ultradurable, standard bake powder coatings were problematic.

The plant's powder coating line was creating a bottleneck in the overall machinery production process, requiring the factory to add shifts and weekend work to keep up with demand. This drove up overtime costs and placed heavier workloads on employees.

The PPG Solution

To tackle these challenges, the company sought a new powder coating with a significantly shorter curing time that offered the same level of quality and resistance to fading and damage. Additionally, the paint had to provide a uniform, even coat on all components, regardless of varying thicknesses and type of metal.

The company specified new PPG *Envirocron UltraX* powder coatings, an ultra-durable, low-cure polyester powder coating that produces a high-quality finish with excellent UV fastness.

In this industry, the driver's cab in an agricultural or construction machine is typically an aluminum substrate, while the crane boom and chassis are made with steel. With a wide processing window, *Envirocron UltraX* is conducive to high process stability for thin- and thick walled components, retaining important product features for all metal gauges.

In all cases, *Envirocron UltraX* delivers fade-resistant, even finish and is formulated without CMR substances. While many low-temperature systems create performance losses, *Envirocron UltraX* delivers the same performance features as standard ultra-durable powders with a very good storage stability.

For this end user, the low-bake system improved their powder coating processes by reducing oven curing times by 25% and cooling times by up to 20%.

The company was able to eliminate a work shift, and fewer employees are needed for weekend work. In addition, the *Envirocron UltraX* powder coating also lowered heating costs per coated m^2, making it possible to reduce stoving temperature at a lower workload and reduce energy consumption.

To learn more about PPG *Envirocron UltraX* and the entire range of PPG industrial coatings and paints visit **ppg.com/industrialcoatings**

Process Improvements

Reduced oven curing times by 25%
Decreased cooling times by up to 20%
Eliminated one complete work shift
Reduced weekend crew requirements
Good storage stability
Lowered heating costs per coated m^2

Environmental Benefits

Reduced energy consumption and CO_2 emissions
Lower stoving temperatures required (150°C to 180°C range)
Formulated without CMR substances
Powder can be reclaimed and resprayed
Requires only compressed air for cleanup—no hazardous waste produced