



**UV/EB Curing.**  
**Fast. Tough.**  
**Easy on the environment.**



**ecological**  
Solutions from PPG™

# UV/EB Curing.

**Fast. Tough.**

**Easy on the environment.**

## Fast curing means increased productivity.

UV/EB is an ideal choice for many high-speed production operations. In fact, sheets of wood, plastic or flat metal substrates can be processed at speeds of up to 1,000 feet



per minute. In a matter of seconds, UV/EB curable coatings form a thermoset polymer structure that offers high strength, strong adhesion, superior chemical resistance and excellent mar and abrasion resistance. Plus high speed, low temperature curing means products can be handled immediately for further processing or shipping.



## Tough, but easy to use.

UV/EB-cured coatings offer outstanding durability, abrasion resistance and adhesion and their low cure temperatures allow you to use them on substrates like plastics, paper products



and wood that conventional thermal curing would damage. These coatings are user-friendly, exhibit excellent pot life and will not dry on coating equipment, which makes for easier clean-up and maintenance. Moreover, UV/EB curing minimizes the use of conventional fuels, saving energy and money.



## Exceptionally efficient.

Another great advantage of EV/EB curing is its exceptional efficiency. UV/EB cured coatings are 100% solids, so their reactive “solvents” completely convert from a liquid to a solid form during the curing process. This enables users to commonly achieve coating transfer rates approaching 100%. And overspray is amenable to reclamation and reuse.



## Environmentally friendly.

UV/EB curing is environmentally friendly. The curing process uses less energy than conventional cured products, positively affecting the carbon footprint. In many cases, coatings can be formulated to be 100% reactive, so the “solvents” actually become part of the film, producing no solvent or CO<sub>2</sub> greenhouse gas emissions. Formaldehyde is not produced during the curing process. Plus, the high flash points of the coatings mean they represent a minimal fire hazard.

## What is UV/EB curing – and what can it do for me?

UV (ultraviolet) and EB (electron beam) are two advanced technologies used for curing today's high performance polymer coatings. Each mechanically duplicates the radiant energy of sunlight to effect the curing process, converting a liquid coating into a solid, cured film.

UV cure uses photons generated by high-intensity UV light sources, concentrates them using reflectors and directs the energy at the coated substrate.



EB cure uses a special device, similar to a TV or picture tube, to generate accelerated electrons and direct them at the coated substrate.

Both forms of energy interact directly with the components of the coating, as a catalyst, to form a unique, high performance polymer bond that offers a variety of advantages over conventionally cured coatings. A few of the benefits include:


- Improved productivity – faster line speeds and cure times
- Essentially 100% reactive – meets regulatory guidelines for low VOC's and HAP's content
- Reduced finishing costs
- Mar and scratch resistance
- Toughness and abrasion resistance
- Chemical resistance
- User-friendliness – non-drying
- Low temperature curing on heat-sensitive substrates
- Environmental friendliness
- Minimal fire hazard



## PPG: Leading the way to UV/EB cure technology

PPG's Coatings and Resins Group is widely recognized as the world leader in the technology and production of automotive and industrial coatings. We operate more than 60 production, technology, development, packing and customer satellite facilities in 14 states and 10 countries – all to ensure that you get exactly the coatings you need with the service and technical support to back them up.

PPG's coatings leadership is also evident in both products and the service we provide to support the applicators. We operate a complete UV/EB applications and curing laboratory at our Oak Creek, WI plant – which is one of the largest coatings production plants in the world. This enables us to develop new products and to duplicate customer production lines – without disrupting actual production – whenever necessary.



PPG also operates a UV/EB curing and applications facility in Greensboro, NC. We have a full application room with roll coating and spraying capabilities to serve the wood flooring, millwork and cabinetry industries along with others located in the area.

PPG operates a development laboratory in Milford, OH, for the development of coatings for packaging application including 2- and 3-piece cans, aerosol and general line cans, and PHOTOCRON™ coatings for plastic tubes and paper/paperboard.

PPG is a global reaching company, manufacturing and developing products throughout the world. We currently have manufacturing and technical development for wood and consumer products in Tainjin, China. We also manufacture and develop UV products in Korea.

At our global Research and Development facility outside of Pittsburgh, PA, (Allison Park) PPG employs a staff of chemists dedicated to coatings research involving UV/EB products.

In Europe, PPG manufactures UV/EB coatings at our Saultain, France, facility and provides technical support from our facility in Marly, France. We have made a global commitment to the UV/EB market to support the increasing demand for these high performance, low cost, environmentally friendly products.