

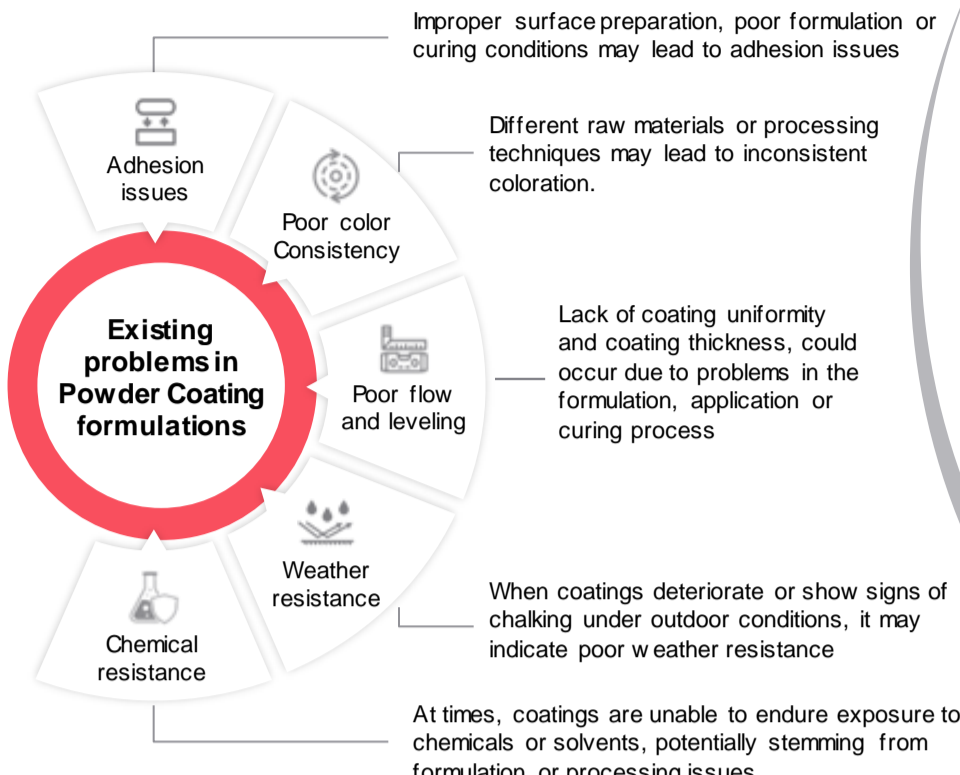
FutureBridge

FUTUREPROOFING SUSTAINABILITY

Advancing Powder Coating Technologies

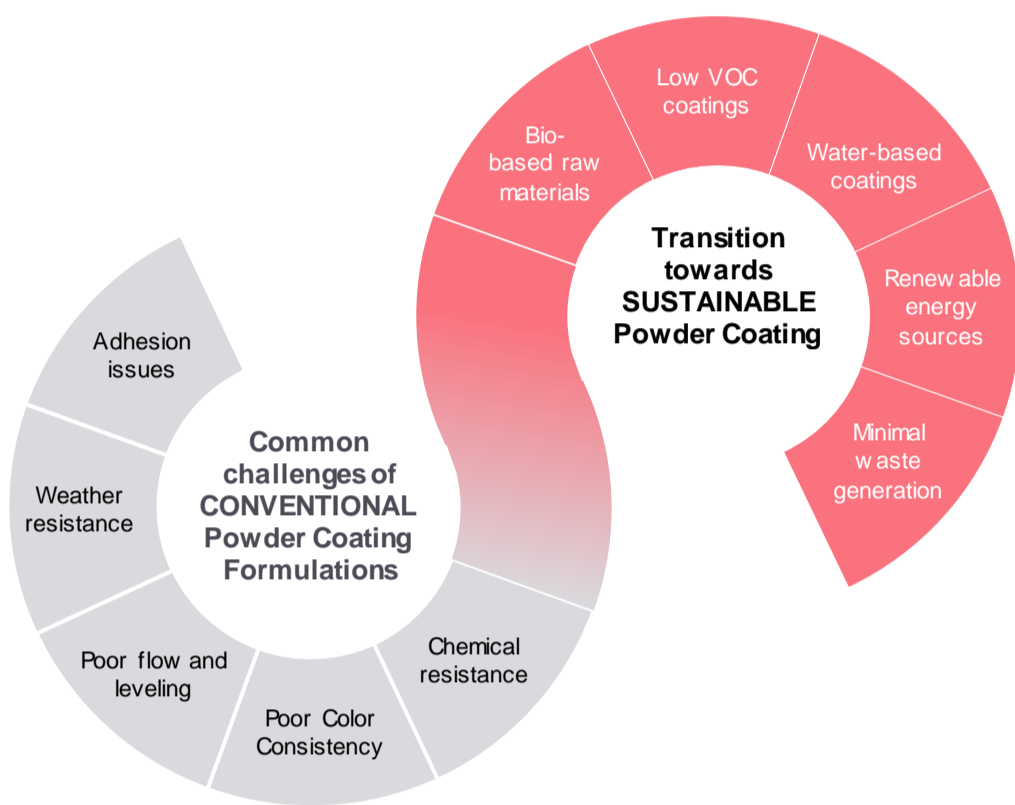
Creating sustainable powder coatings blends eco-consciousness with top-tier performance. By sourcing sustainable materials, reducing energy, curbing waste, and rigorous life cycle analyses, powder coating manufacturers engineer coatings for unparalleled environmental benefits.

Key Challenges and Predominant Issues in Powder Coating Formulation



“ The traditional formulation, substrate pre-heating, coating application, and curing processes in powder coatings are inherently energy-intensive. ”

Transition towards sustainable powder coating formulation



“ Modern powder coatings exhibit elevated performance, low environmental impact compared to high-VOC liquid paints. ”

Innovative Advancements in Powder Coating Technology

TECHNOLOGY	COATING / PAINT COMPANIES
<ul style="list-style-type: none"> Ultra low -temperature cure powder technology 	PPG USA American global supplier of paints, coatings, optical products, specialty materials, chemicals, glass, and fiberglass.
<ul style="list-style-type: none"> Solar active powder for fusion powder coating Multi-functional flow modifier for chemical coating compositions 	PISON STREAM SOLUTIONS USA Manufacturing company that specializes in the development of chemical coatings and disruptive technologies.
<ul style="list-style-type: none"> Sustainable powder coatings based on thermosetting resin 	ifs coatings USA IFS Coatings is a world-class manufacturer of high-quality powder coatings- available as epoxies, hybrids, polyesters & TGIC.
<ul style="list-style-type: none"> Powder coating solutions for heat-sensitive wood and plastic 	BASF Germany We create chemistry. BASF is a supplier of chemicals for industries including construction and coatings, automotive, health and nutrition, and more.
<ul style="list-style-type: none"> Ultra-low temperature curing 	AkzoNobel Netherlands AkzoNobel operates as a paints and coatings company worldwide.
<ul style="list-style-type: none"> Low bake powder coating resin / polymer 	allnex Germany Allnex is a supplier of specialty chemicals for construction, manufacturing, and special purpose markets. PTT Global Chemical acquired Allnex in 2021.

Innovation and sustainable powder coating installation

Special coating allows the second coat to be applied directly after the first, **without the need to heat** the parts in the intervening period. That eliminates both an oven and a cleaning cycle, saving ~75,000 m3 of **natural gas** per year

Which means the **heat released by the oven** at the end of the powder coating process returns to the cleaning installation at the beginning of the cycle. This ensures that **no energy is wasted**

Blasting and spray booths make use of the solar power generated by **solar panels** on the roof of the production facilities. This helps w.r.t. sustainability of overall production process

Trioliet has pioneered a novel dual-coat powder coating method in collaboration with Gema Switzerland GmbH, the Swiss supplier of the installation, and AkzoNobel Powder Coatings.

The new method doubles production capacity while using only 50% of the energy required by equivalent installations

Cattle feeding technology manufacturer Trioliet already had its own **single-coat powder coating installation**. Gema Switzerland GmbH, AkzoNobel, Trioliet joined hands together to develop dual-coat powder coating.

Automated wheel-driven feeding robot operates at different distances from the feeding barrier & is suitable for wide feeding alleys. Overall goal is to **improve the energy efficiency**.

Future Trajectories in Sustainable Powder Coating Formulations

- Innovating eco-friendly resins and additives, like biodegradable and renewable options, shapes the future path.
- Utilizing advanced manufacturing methods—think renewable energy and closed-loop systems—maximizes efficiency, reduces waste, and ensures sustainability.
- Ongoing R&D investments seek sustainability enhancements in powder coatings through new materials, tech, and applications.



About FutureBridge

FutureBridge tracks and advises on the future of industries from a 1-to-25 year perspective. We keep you ahead on the technology curve, propel your growth, identify new opportunities, markets and business models, answer your unknowns, and facilitate best-fit solutions and partnerships using our platforms, programs, and access to global ecosystems and players.