



**ImFuse®** is our production-ready answer to the challenges facing manufacturers of finishes for flat panels. This solution improves sustainability, speed, and design freedom, and is built for the through-feed and continuous belt presses already used around the world.

Marcel Schutte, our New Business Development Manager, and Sjoerd de Jong, our Global Technical Application Manager for powder coating on heat-sensitive substrates, share their insights into ImFuse®'s development and benefits.

## What are the challenges in creating a top-quality powder-coating product?

As we see it, there are four pillars to what manufacturers want from our products. These products need to make the coating process as fast as possible, offer improved environmental impacts, and integrate seamlessly into the production process. Add to this the need for design freedom, and you can see that it can be difficult for powder- coating technologies to meet all these objectives.

# How did these challenges shape the development of **ImFuse**<sup>®</sup>?

From our market research, we knew there was a high demand for products that would enable fast-curing, more sustainable, and cost-effective coatings for flatpanel finishing. We wanted a solution that would achieve all of these goals, without requiring manufacturers to change their processes or equipment.

In parallel, we noticed that the low-bake, fast-cure binder chemistry we've used in products like **PIMC** and **Uralac® Engain**, **UV**, and **Ultra** had a lot more speed potential than existing application technologies were harnessing. So, we set out to find a way to make a powder coating and application technology that could integrate into commonly used presses, unlocking that potential for elevated application speed, sustainability, and design freedom. Starting from scratch, we codeveloped the resin, coating formulation, and application technology at the same time.



## What was the result, and how is it different from other low-bake, fast-cure technologies?

**ImFuse®** is the result. This integrated powder coating and process solution combines our well-known low-bake, fast-cure binder chemistry with a hot-press curing system. The press applies instant heat to the substrate, curing it without stressing it. Unlike other low-bake, fast-cure resins, **ImFuse®** is aimed primarily at flat-panel applications, which most current powder coatings are not suitable for.

### That sounds like a high-tech innovation! How production-ready is **ImFuse**<sup>®</sup>?

Although **ImFuse**<sup>®</sup> is high-tech, it's based on our existing low-bake, fast-cure chemistry, and it's built for the through-feed and continuous belt presses already used by manufacturers around the world. We've now scaled up the solution for the flat furniture, flooring, and building & construction segments.

**ImFuse**<sup>®</sup> is truly production-ready to elevate powder-coating processes across these segments, complying with their main industry standards. In fact, we've already replaced much of the flooring in our offices in Zwolle, the Netherlands, with **ImFuse**<sup>®</sup>-finished panels!

# How do you support **ImFuse®'s** claims of elevated application speed and design freedom?

The cure time for **ImFuse**<sup>®</sup> is often less than one minute. Overall, curing with **ImFuse**<sup>®</sup> can be three to ten times faster than with typical alternatives. This rapid curing also means that **ImFuse**<sup>®</sup> can be applied to heat-sensitive substrates.

Secondly, there can be variations in the mold surface of the press, allowing for 3D effects and customized gloss levels. It's just as easy to make a super-smooth coating as it is to make a textured woodgrain 3D finish! This is a new property that **ImFuse®** offers over other powder-coating solutions.

### What about improved sustainability?

The **ImFuse**<sup>®</sup> application process also provides sustainability benefits. The gentle pressure of the press allows for a thinner coating, and the speed of instant heat transfer means lower energy consumption. Overall, the carbon footprint of the finishing process can be reduced by as much as 80% compared to spray-applied solvent- and water-based systems.

In addition, unlike liquid coatings, **ImFuse**<sup>®</sup> can coat substrates such as MDF or even particleboard in a single coat without the need for sanding. A single layer of **ImFuse**<sup>®</sup> powder coating can therefore be an alternative to laminate finishing. What's more, its polyester chemistry contains no added formaldehyde (NAF) or melamine (NAM) – and we can even build in 30% bio-based content.

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