

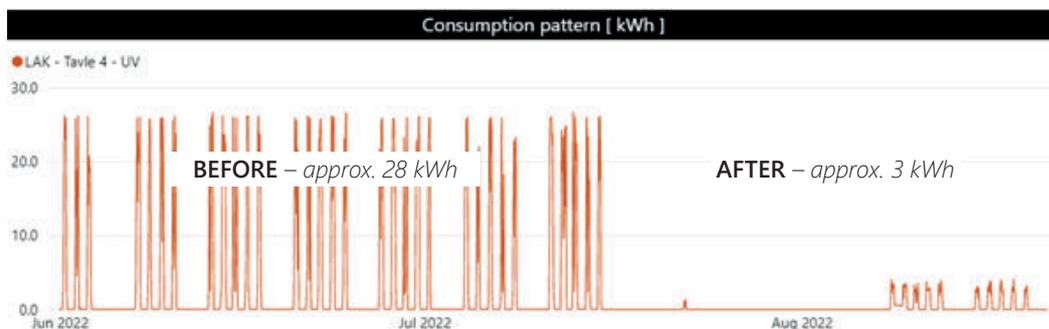
Significant energy saving with switch to UV-LED curing

Frontego, a Danish manufacturer of kitchen and bathroom furniture has, in collaboration with Sherwin-Williams Denmark and EFSEN UV & EB Technology, achieved major operational and energy savings as well as a more uniform quality by switching from normal UV light to UV LED light in production.

Frontego has high demands to the quality of the products they send to the market. It was therefore important to them, that Sherwin-Williams, after installing the W-LED module from EFSEN, was able to replace the UV sealer with a UV-LED curing sealer. This even being a bio-based sealer of the same high quality as before.

The advantages for Frontego are:

- **Less power consumption:** with UV-LED, you save on the very expensive electricity
- **Colder pieces:** this extends the life of the sanding belt and cooling is not necessary
- **Uniform curing:** it provides a more stable production, as the objects are irradiated equally in the middle and on the outer sides
- **Space savings:** a W-LED does not need floor space for electrical panels and ventilation pipes in the ceiling, as everything is integrated in the installation
- **More uptime in production:** maintenance is drastically reduced, just as the number of tube changes and measurement of UV output can be reduced, as W-LED has built-in ICAD[®]



EFSEN UV & EB Technology

EFSEN's product W-LED for the wood industry has been developed specifically for all lines in the wood and furniture industry that want to go from conventional UV to UV-LED without having to make major changes or stop for a long time. Furthermore, EFSEN has implemented the ICAD[®] technology, which makes it possible to run with uniform light and at the same time have online control over its UV-LED production. Before the end of Q2-2023, EFSEN will have contributed to the rebuilding of more than 60 UV stations around Europe, and the demand for the optimized solution is strongly increasing from all countries.

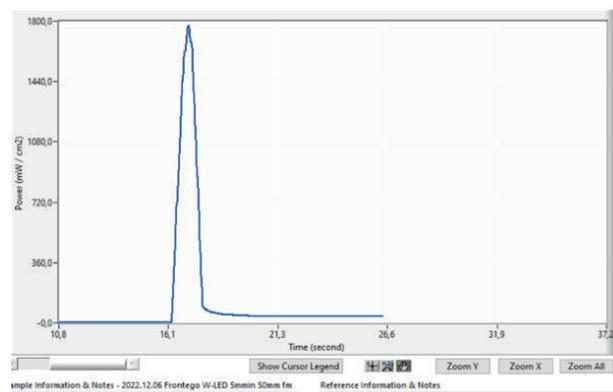
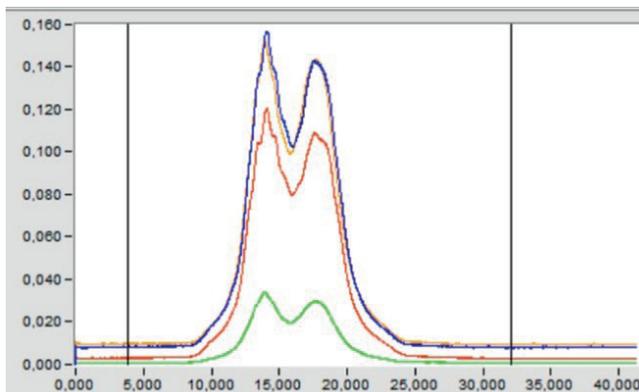
SHERWIN-WILLIAMS DENMARK A/S

Sherwin-Williams has several years of experience with UV-LED drying, and Sherwin-Williams' systems for LED drying are used in several countries. Interest in this type of product is increasing, also in Denmark. In the project at Frontego, Sherwin-Williams has focused on optimizing the process without compromising on the other quality parameters in production. An important parameter has been that the UV primer is thoroughly cured and that the sanding/end result does not deteriorate compared to previously used systems. The UV product from Sherwin-Williams meets these requirements.



BEFORE – UVA 156 mW/cm², 1094mJ/cm²

AFTER – L395 1771 mW/cm², 2037mJ/cm²



Effective energy saving

Energy efficiency is a major requirement for any modern business. The expected energy savings at Frontego of up to 55% were realized by choosing EFSSEN's W-LED system, which is air-cooled and therefore does not use extra energy for water cooling. In addition, the long service life and minimal maintenance help to maximize uptime on the production line. The standby power consumption of conventional UV lamps is eliminated when choosing UV-LED, further increasing the actual efficiency.

Cheap installation

Since EFSSEN's W-LED is an all-in-one module, Frontego was able to install the W-LED itself. It's very simple to lift it onto the line, just connecting it to the power and line signal. There have therefore not been any expensive installation costs or the need for visits.

Frontego

After the installation in August 2022, Frontego has documented big energy savings by switching to LED. Frontego's own measurements show up to a 75% saving in electricity consumption from previous UV lamps to the new W-LED - a saving of at least 25kWh + approx. 10kWh from ventilation and electrical panel. The investment is therefore expected to be paid back in just 2 – 3 years with 1 shift/5 days a week.

EFSSEN UV & EB TECHNOLOGY

has been designing high-end UV curing systems with the user in focus since 1986.

Get in touch

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