

# UV Lamp upgrade at Junckers Industrier A/S

The installation of new UV lamp houses from EFSEN UV & EB TECHNOLOGY turned out to be a win-win situation for the well renowned floor producer. The curing of the coating, which is important for the durability of the wooden floors, was significantly improved and the energy consumption was halved.

What do you do when it takes a lot of UV lamps to get the curing properties right, and thereby creates a heating problem on the material, large consumption of sanding paper and an even larger energy consumption?

At Junckers Industries A/S, one of Europe's leading producers of massive wooden floors, it was decided to replace eight of the old lamp houses in the UV-line, with only four new lamp houses of the WoodCure brand from EFSEN UV & EB TECHNOLOGY. That paid off. The curing properties were increased significantly, the temperature on the products was decreased and the energy consumption was halved. Junckers wooden floors are well known for their durability, which makes them last for many years of daily use. The reason for this is especially the coating that is applied to the floor. The coating, which gives the wooden floors their specific wear and finish, is made by Junckers themselves.

## The heat issue

Junckers realized that the heat from the eight lamps, which were placed in four double houses, made the coating soft. The soft coating got stuck on the sanding paper, when the coated floorboard reached the sanding section. It was therefore necessary to change sanding paper often. Also, the exhaust ducts were loaded with coating and mist from the sanding paper. These factors created an irritation in the production as they often had to stop to change sanding paper and clean the exhaust filter and pipes.

## Savings at Junckers

- Energy saving 50%
- Reduced expenses for sanding paper
- Reduced expenses for UV bulbs (longer lifetime because of better cooling – and only 4 lamps instead of 8)
- Higher productivity, due to 15% increased production speed



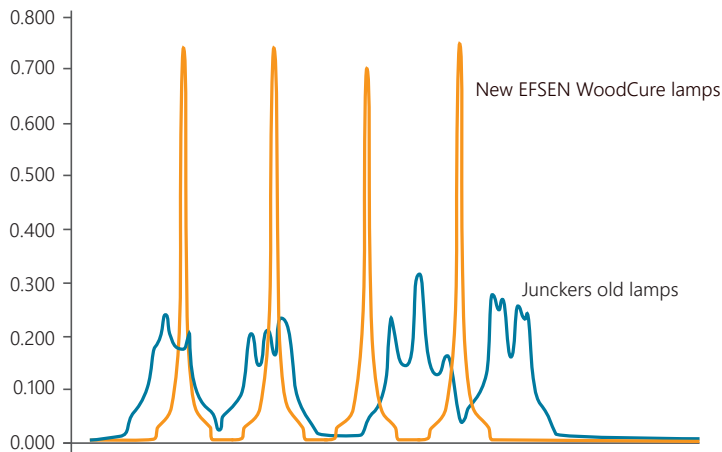
Junckers WoodCure lamps

## Double efficiency

Junckers pursued the opportunity to exchange the 8 old UV-lamps with only 4 WoodCure lamp houses made by EFSEN. WoodCure is constructed in such a way that they are optically more efficient, and thereby uses the injected energy better (see graph below). The WoodCure lamp houses are connected to four of the eight old power supplies.

The test results were all very positive. Besides the achievement of the better curing, the production turned out to be much more efficient. Furthermore, the energy consumption was only half of what it used to be, since the curing was achieved with only four lamps instead of eight.

A third benefit was that the WoodCure lamp houses keep a constant temperature around the bulbs, which for the first 2½ month at full production have led to constant efficiency for the UV output. This was never seen before and will generate significant savings on a yearly basis.



\*measured with EIT PowerMap

## Improvements at Junckers

- Surface temperature on the finished products are significantly reduced, which lead to harder and more robust surface when the products are stacked and packed after curing.
- Maintenance cost for the coating and curing section has decreased considerably.

## Benefits with WoodCure lamps

- ✓ Designed with focus on premium curing of coated items. Cooling and optical design is the core to this.
- ✓ Designed in a way that maintenance of the bulb and reflector is very easy and demands minimum downtime.
- ✓ The benefits lead to higher productivity and savings on energy.
- ✓ The lamp houses can be connected to existing power supplies and is therefore a cheap but efficient upgrade of a UV system.

## A good return on investment

Project Manager at Junckers, Hans Kofoed Thomsen has cooperated with EFSEN UV & EB TECHNOLOGY around the 4 new lamp houses:

*"It is a pretty significant amount of money that we are saving on our operation after the installation of the WoodCure. But the most important is the improvement of the curing process. We knew it would improve, but none of us had imagined the improvement to be that significant."*



**EFSEN UV & EB TECHNOLOGY** has been designing high-end UV curing systems with the user in focus since 1986.

## Get in touch

Skovlytoften 33 | DK-2840 Holte

efsen@efsen.dk | phone: +45 45650260