

# PAINTING WOOD newsletter

**GORI** INDUSTRY

## Content

Editorial: Painting Wood online and offline.....	1
New AQUACOAT 2661 PVC coating available now .....	2
New products for indoors: TEKNOLUX product line expanded .....	3
UV coating: 100% UV for LED lamps.....	4
Trade fair: Teknos at the LESDREVMASH in Moscow .....	5
Teknos powder coatings: Perfect solutions for aluminium .....	6
Country portrait: Teknos Denmark .....	7
Coating in practice: Exterior wood .....	9
Coating in practice: Interior wood .....	10

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## Painting Wood online and offline

### Dear Painting Wood Reader,

Having the right information at the right place at the right time is a major factor for success. That's why we've revamped our Painting Wood newsletter. Our short online version gives you a handy overview – no matter whether you're at your desk or on the road with your tablet or smart phone. If you want to know more, just click on the PDF link to read, print out or download the complete article. You can also download the entire newsletter in PDF format and print it out if you'd prefer. But just like always, Paint-

ing Wood will still feature our latest products, technical subjects, case studies, news and background articles on Teknos.

We hope you have a good time reading it – online or offline alike!

P.S. Pass it on. We always like it when interested colleague sign up for the Painting Wood mailing list! And will be happy to hear any suggestions, requests or criticism you may have! A brief E-mail is all it takes.



**Søren Juhl Hansen**, Product Marketing Manager  
**Karin Skov**, Group Marketing Coordinator



**New AQUACOAT 2661 PVC coating is available now**

## **AQUACOAT 2661**

The new AQUACOAT 2661 coating we announced in the spring is now out on the market. AQUACOAT 2661 is a water borne one pack paint for coating PVC profiles in high-volume production processes like single windows production.

Conventional solvent-based paints aren't used much anymore because of the volatile organic components (VOCs) they emit. Water borne systems present a modern, environmentally friendly solution. AQUACOAT 2661 was specifically developed for applications where it's important to keep processing times as short as possible.

AQUACOAT 2661 is a one pack, water borne hybrid coating. The product provides a hard-wearing, highly durable elastic surface with a stable gloss finish for PVC profiles. It is available in semi-gloss and a structured matt finish. Both can be tinted

with the TEKNOCOLOR tinting system to provide nearly any colour you might desire. A special black pigment which reflects infra-red radiation is used for dark colours. This prevents the temperature to build up under the coating film into a level that eventually could damage the PVC profile.

Its outstanding short processing time is a major advantage. AQUACOAT 2661 is applied as a one-coat system using a conventional spraying method and is suitable for drying at room temperature as well as in forced drying systems. At room temperature, it will dry in around one hour. This significantly reduces processing times in comparison with typical water borne two pack paints. The system can also be used in continuous high-volume production processes.

AQUACOAT 2661 has been tested according to AAMA 615 for Superior Coatings,

and all performed tests comply with all requirements for the tests performed). Two new NMP-free cleaning agents are as well launched in addition to AQUACOAT 2661: TEKNOCLEAN 1953-00 for inline applications and TEKNOCLEAN 1952-00 for offline applications. Both cleanse the PVC surface of dirt and solid particles and prepare it for ideal paint adhesion.





### Additional versions of UV coatings

## TEKNOLUX product line expanded

Teknos expands its range of water borne TEKNOLUX AQUA UV-curing coatings with new versions in white and colourless. The clear coat TEKNOLUX AQUA 1429 is now

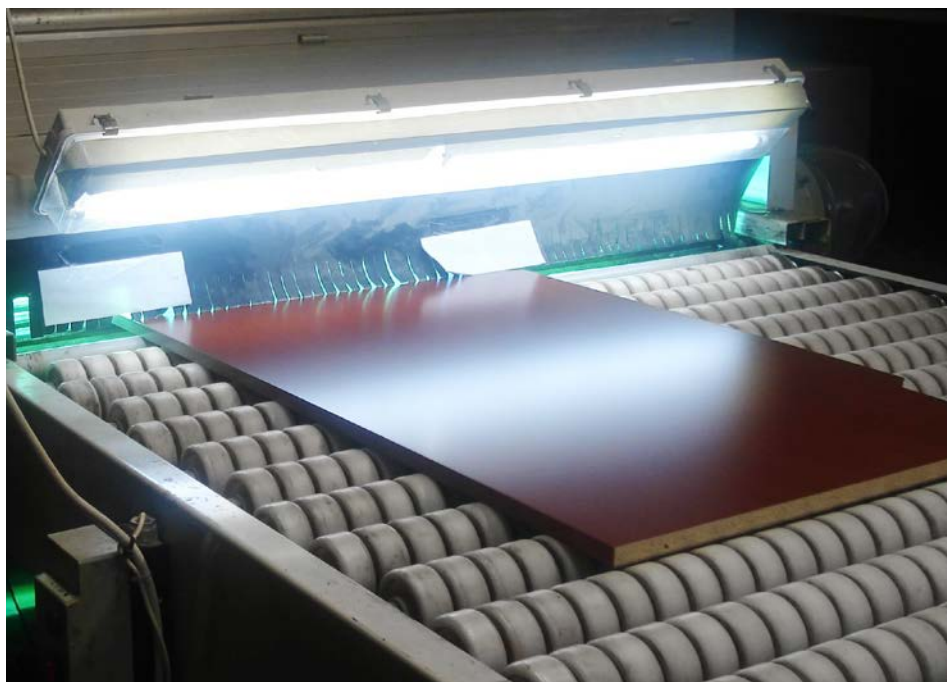
available in white as well. The coat is an all-round solution suitable for a wide range of application subjects to a variety of requirements. These include interior doors,

profiles, frames, mouldings, panels and windowsills.

TEKNOLUX AQUA 1728 had previously only been available in white for opaque coatings. But the product can now be had as a clear coat as well. TEKNOLUX AQUA 1728 was primarily designed for applications with strict requirements. The water borne, UV-curing coating is ideal for high-grade wood surfaces such as those for kitchens, furniture or doors. It is in conformity with EN 71-3, meaning it is also suitable for children's toys and furniture. TEKNOLUX AQUA 1728 provides highly resistant coatings in accordance with DIN 68681 class 1 B and IKEA IOS-MAT-0066 (Class R2).

TEKNOLUX AQUA coatings are an exceptional solution for switching to modern, low-VOC coatings with short processing times.

[> Product data sheet](#)



PW1403EN-02

State-of-the art coatings from Teknos

## 100% UV – even for LED lamps

UV-curing coatings enable cost-effective, environmentally friendly coating with short processing times and low VOC emissions. LED lamp technology is also enjoying increasingly widespread use. These are more energy-efficient and do not produce any ozone or any significant heat, which can cause problems with highly resinous woods such as pine.

But it also has its drawbacks. Drying with LED lamps alone leads to a softer surface due to oxygen inhibition, so a conventional UV lamp will be needed at the end of the curing process. It also requires a closer distance to the object, which may also be a drawback depending on the production environment in question.

### Special coating requirements

It is important to remember that UV curing with LED lamps places different requirements on the coating. "LEDs do not emit a spectrum like conventional lamps. Instead, the light they radiate is monochromatic," explains Jørgen Ulrik Hansen, Research and Development Director at Teknos. "That's why the coating has to be specifically formulated for drying at this wavelength."

This means that not every UV-curing coating is suitable for drying with LED lamps. Upon request Teknos is able to supply a number of

UV curing coatings for the use of LED technology.

### Experience with UV-curing coatings

UV-curing coatings are an important focus of development work at Teknos' competence centre in Vamdrup, Denmark. Its recent innovations include waterborne UV coatings such as TEKNOLUX AQUA 1728 and 100%

UV-curing systems such as UVILUX 1745. Our development department works in close collaboration with a highly experienced team of application technicians. The result: cutting-edge, sustainable coatings for environmentally friendly, cost-effective coatings in industrial processes.





## Teknos powder coatings

# Perfect solutions for aluminium

Good powder coatings are cost-effective and easy to work with and provide a permanent, easy-to-clean surface. This makes them the coating of choice for aluminium.

Teknos has over 40 years of experience with this technology. Teknos had already developed the first powder coatings by the late 1960s and has set many important milestones since then. Examples included the introduction of environmentally friendly curing agents and the decision not to use heavy metals, which was ahead of its time.

Teknos leads the Finnish market for powder coatings and ranks among the leading suppliers in many European countries, such

as Denmark, Sweden, Poland, Russia and Germany. Teknos has one of the most versatile product ranges on the market and offers cutting-edge solutions for all widely used application procedures. Its spectrum includes systems based on polyester, epoxy and polyurethane. Product and service concepts are two of the company's major strengths. For instance, Teknos offers inexpensive sample boards for its INFRALIT decorative coatings in individual RAL colours and a variety of surface effects, which are available on short notice.

Teknos powder coatings are used for agricultural machines, trailers, tools and furniture, as well as for special applications such as anti-microbial powder coating for hospital facilities. Customers which rely on Teknos solutions include large international companies such as Nokia Networks and Scania.

### Solutions for the window industry

Aluminium frames are another important market. Teknos supplies large profile manufacturers such as Nordic Aluminium, Mäkelä Alu Oy and Dovista as well as coating companies and manufacturers of windows and facade elements. Teknos provides a wide range of powder coatings for this industry with outstanding mechanical properties, such as INFRALIT PE 8350 and INFRALIT PE 8928. They are approved in accordance



with GSB and Qualicoat (P-0412) and can be applied with tribo or corona systems.

"We offer our customers a broad selection of modern powder coatings for a wide variety of requirements," explains Pekka Paronen, Director SBU Powder Coatings at Teknos. "And we have a great deal of experience with which to assist our customers in the use of these products."





## Country portrait

# Teknos Denmark

Our Danish Teknos site in Vamdrup represents more than 100 years of experience in paints and coatings. Teknos laid the foundation for its expansion in Denmark and Central Europe when it acquired the Johs Schou paint plant (founded in 1912) at the beginning of 1990. Organic growth and the acquisitions of Hygæa, GORI Industry and, most recently, Burcharths, have made Vamdrup the second-largest Teknos production and distribution location.

Roughly 22 million litres of paint and coatings are produced here each year and ex-

ported to over 40 countries. Teknos employs over 180 people in Vamdrup, many of whom work in research and development. Its technology centre ranks among the largest and most sophisticated of its kind in Europe.

### Strong in wet and powder coatings

An important part of Teknos' business in Denmark are wet and powder coatings for metal, plastic, composite materials and mineral bases. One area of special focus is heavy-duty corrosion protection for applications such as wind turbines, agricultural machines, steel structures, car frames and engines. Teknos also supplies many different companies with decorative coatings for machines, refrigerators and many special applications. Customer-specific colours and special surface effects are often a major factor here. Teknos even developed its own service concept for product samples for INFRALIT decorative coatings. "One of our strengths is developing customer-specific solutions and supplying them in strictly uniform quality," says Henrik Hansen, Market Manager General Industry. "This is also very important for manufacturers of aluminium profiles and structural elements."

### Number One in wood coating

Teknos has already been using environmentally friendly, water borne paints and varnishes for industrial wood coatings since the 1980s. Our exterior products are specially geared to the window industry. "We supply more than three quarters of Danish window manufacturers and lead the market in this segment by a large margin," says Marlene Juul Andersen, Market Manager Industrial Wood. In Denmark, wooden windows are primarily made of domestic woods according to the 2-Eco system. This involves the exclusive use of heartwood, which is coated





in a two-coat system with combi primer and topcoat. Teknos offers coatings which are specifically tailored to the 2-Eco system.

When it comes to interior applications, Teknos primarily supplies manufacturers of panels, mouldings and furniture. “The Danish furniture industry sets international standards and places strict requirements on coating quality, which our product development department made steady advancements with,” Marlene Juul Andersen continues. Much of Teknos’ business in this field is made up of water borne and 100% UV coatings.



“We supply the exterior and interior markets with cutting-edge, environmentally friendly and practical coating systems which meet virtually any requirement. We also support our customers with competent advice on applications in the coating process. This forms the basis of our success in Denmark,” Marlene Juul Andersen concludes.

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Coating in practice:

## Exterior wood

*How can I improve the run off behaviour of products suitable for flow coating?*



The run off behaviour of products in a flow coat application plant depends on climatic environmental conditions in the flow coater and in the zone right after the flow coater. We recommend a temperature of 18–22°C and an air humidity of 55–60%.

If the ambient temperature is too high and the air humidity is too low (on hot days, for instance), the coating will dry more quickly and not flow as well. This often leads to problems with flow-coated primers and intermediate coats. The wet paint tends to run into an already dried surface and must be painstakingly sanded off once dry – especially problematic in the case of window sashes and parts with complex profiling. With transparent coatings, this can also result in colour changes, which may require sanding and re-priming,

We recommend humidification to prevent these problems and the added costs they entail. For one thing, there's the option of moistening the elements with a humidifier before flow-coating them. The increased wood moisture prevents undesired rapid drying, thus improving run off behaviour.

Controlled air humidity in the flow zone is an even better option. This involves the use of a sensor to measure the air humidity and a humidification system in the flash off zone behind the flow coater. If the measured air humidity falls too far, the humidifier will automatically switch on to raise it back up again. This also reduces the ambient temperature and keeps the climatic conditions in the flow coat zone within an ideal range at all times. Investing in the necessary technology generally pays off since it significantly reduces costs and effort for sanding and re-priming.





## Coating in practice: Interior wood

*How can I tell whether the UV curing process is complete?*



There are two simple tests to determine whether the polymerisation process is complete.

**(1) Tape test:** Firmly place a strip of tape on the surface being treated and then remove it. If none of the paint sticks, it means the curing process is complete. There are special testing strips for this, but ordinary office tape is often used in practice.

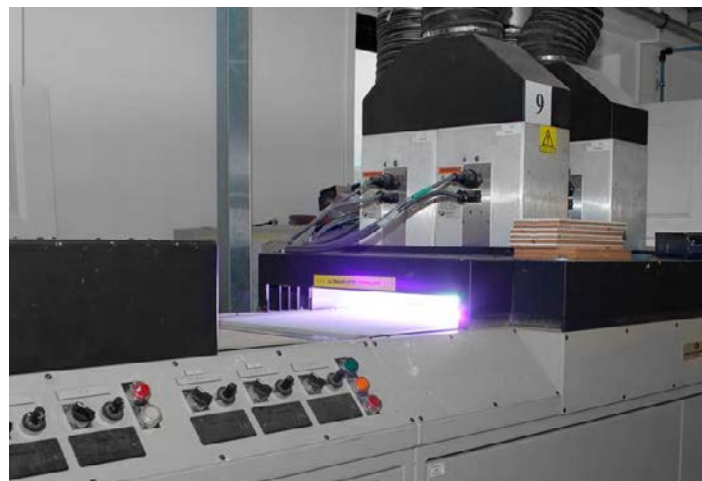


**(2) Scratch test:** The surface is scratched with a sharp object in a criss-cross pattern. This shows whether the coat of paint has cured all the way through.

*How long will a gallium or mercury lamp last?*



Gallium lamps generally have a service life of roughly 1,500 hours, while mercury lamps generally last for about 2,000 hours. But environmental conditions (pollution) and the type of use are also major factors that determine how long UV curing lamps will really last. Continuous operation is the most efficient way to use them, as turning them on and off frequently will significantly reduce their service life. The lamp's radiation intensity should be measured with a radiometer every two to three months to ensure reliable curing. These measurements can also be conducted by Teknos' technical customer service department.



*How do I find out whether my UV lamp is performing adequately?*



UV lamp performance can be determined using a radiometer which measures the intensity of the radiation emitted. EIT's UV Power Puck and UV PowerMap models are two examples of suitable radiometers. They measure the maximum UV radiation intensity (in watts/cm<sup>2</sup>) and energy density (in joules/cm<sup>2</sup>) in UV curing applications. The necessary radiation intensity depends on many factors, such as the type of wood, coat thickness, pigmentation (clear or opaque), conveyor belt speed and number of lamps used. In practice, we recommend you to discuss the radiation intensity necessary for your specific case with Teknos' technical customer service and then conduct measurements to monitor the defined target value.



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# LESDREVMASH

15th International Exhibition

Machinery  
Equipment  
Tools

for

Woodworking, Furniture,  
Timber, Pulp and Paper  
Industries

20–23  
October  
2014



Trade fair

## Teknos at the LESDREVMASH in Moscow

Teknos will be exhibiting at the international woodworking industry trade fair LESDREVMASH 2014 in Moscow from the 21st to 23rd of October. LESDREVMASH is one of the world's most important trade fairs for the woodworking industry and is the largest trade fair of its kind in Eastern Europe.

You'll find Teknos at **Stand 8 in Hall 3**.

Electronic tickets and further information on the trade fair can be found at:

[www.lesdrevmash-expo.ru/en/](http://www.lesdrevmash-expo.ru/en/)