

Teknos Treffert: Sustainable Surface Finishing For Furniture



Furniture pieces are now more than just functional tools or objects but are becoming a form of decorative art that transforms our living space and makes our home feel welcoming, lived in and complete.

When choosing furniture for your living and dining room, it is important to pick timeless, functional pieces that fit our space, budget and performance requirements. Every piece of furniture, especially wooden ones, whether new or antique, needs a finish, but no single finish can meet all desire.

Finishing solutions for demanding requirements

Finishing is the final step of the furniture manufacturing process that gives wood surfaces desirable characteristics, enhanced look and feel, increased resistance to moisture, chemical and other environmental agents. Furthermore, finishing is also able to transform low-value wood into luxurious or high-end wood grades. With furniture market becoming fiercely competitive, it is key for manufacturers to produce market-driven quality in efficient processes. Requirements on coatings are demanding here.

Teknos Treffert's unique coating systems offer technically superior surfaces. A good coating system forms an essential foundation to final lacquering that satisfies all technical, colour and physical requirements of the furniture industry – an optimised system with an attractive cost-performance ratio.

WE MAKE THE WORLD LAST LONGER

Waterborne coating

Waterborne (WB) coating is an excellent choice for those concerned about the environment due to its very low Volatile Organic Compound (VOC) content. It is an extraordinary foundation for finishing coats on solid wood, MDF, HDF and plywood with good adhesion properties, effortless sandability and easily top-coated with other WB, UV and/or solvent finishes.

- Waterborne coating system **for industrial roller application**: WB putty or filler (if necessary and depending on the surface and type of substrate) follow by WB primer/WB basecoat;
- Waterborne coating system **for spray application**: WB primer/WB basecoat (white or color) and lastly, WB topcoat (transparent or tinted with color).

Ultraviolet coating

Ultraviolet (UV) coating, on the other hand, is a coating which is cured by exposure to ultraviolet radiation and has much higher chemical resistance. There are three options:

- 100% UV
- Hydro-UV
- Solvent-UV

The application of 100% UV coating requires less time with immediate curing at production line as well as improves production capacity and reduces application problems due to evaporation of the viscosity control chemicals used in waterborne or solvent based coatings. A combination of UV and WB is also possible, i.e. **hybrid coating system** to suit the application and finishing requirements. However, the application method is dependent on the substrate used, the desired finished quality and the production rate that finishing must be able to achieve.

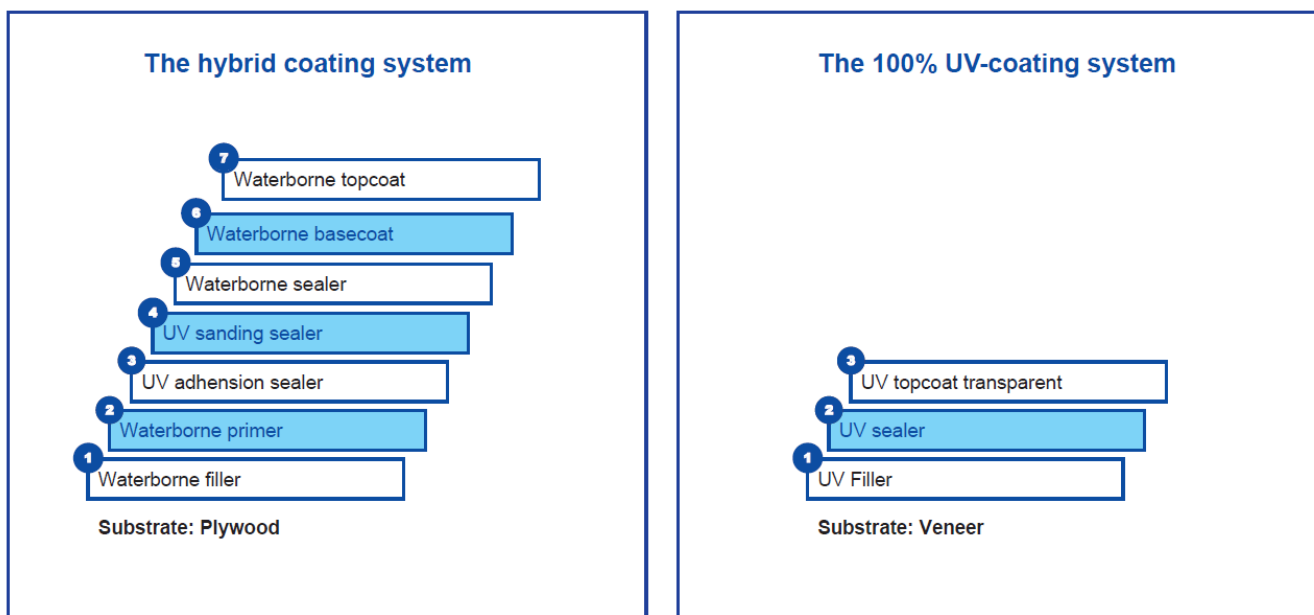


Figure 1. The build-up coating systems recommended by Teknos Treffert Malaysia

Furniture finishing, whether transparent or opaque, is largely a matter of taste, or a question of style and appearance. People often want to use a translucent finish to retain the solid timber feel of the substrate, and opaque colours in white to achieve contemporary appearance. Pigmented wood finishes are available in a wide variety of formulations and colour options, including full-hiding opaque colours. The coating system for opaque or solid colours; waterborne filler or primer can be matched to any colours either by a

master colour sample or international colour chart like RAL and Pantone. Then, a clear sealer and topcoat are applied to finish the coating system. Again, these can be either using waterborne or UV coatings.

However, when the furniture’s natural colour does not match the other colours or wood tones in our home, staining is a great way to change the colour and it can also help to enhance the natural colour of the wood by highlighting the different grains and textures. The benefits of WB stains include low odor versus oil-based stains, faster drying time, require only soap and water for cleaning and come in a wider range of vibrant stain colours. The stained surface can be sealed and top-coated in various ways with different coating system.

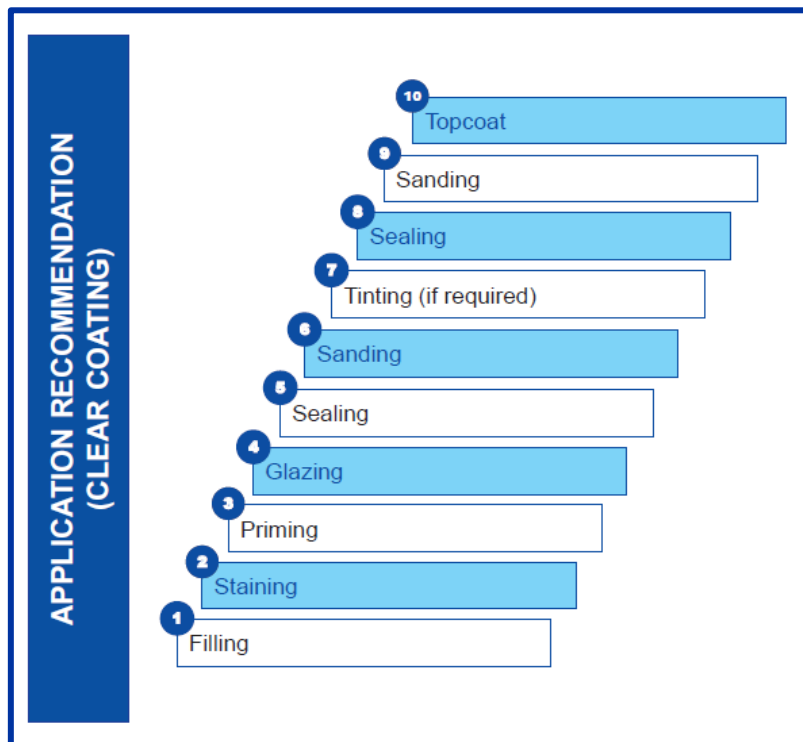


Figure 2. An example of coating system with stained surface

The advantages of full waterborne system

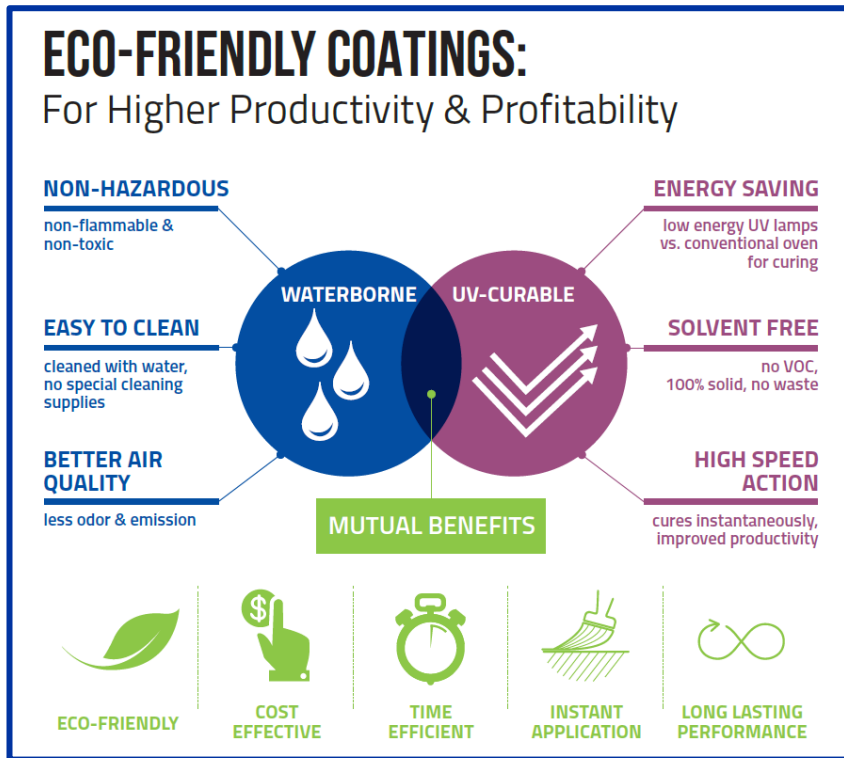
- Environmental friendly with very low VOCs
- Fewer odors and emissions
- easy to clean using water no special cleaning supplies
- Safety: non-flammable, non-toxic and non- hazardous

The advantages of full UV system

- Shorter production line
- Harder finishing
- High water/steam resistance
- Higher coating performance
- Lower waste production

The advantages hybrid system

- Environmental friendly with very low VOCs
- Fewer odors and emissions
- Lower coating cost/sqm



For a sustainable future with environmentally friendly finishing

As sustainability becomes a higher priority for furniture manufacturers, many are closely examining the chemicals used in their production processes, as well as any potentially harmful substances released into the environment by their activities. The finishing, treatments, and binding agents used on furniture can pose a risk to consumers, even after they leave the manufacturing facility. The trend to use waterborne coatings and/or UV curable systems in finishing is increasingly becoming inevitable while chemical suppliers, formulators and equipment manufacturers are continuously improving technologies and economics for the use of these environmentally friendly coatings systems.

Teknos Treffert is highly committed to contribute towards the protection of the planet. Its sustainability program aims to create sustainable long-term value for all stakeholders including its customers, employees, suppliers and society-at-large by using resources more efficiently, protecting the environment and the safety and health of its employees. For Teknos Terffert, sustainable solutions and services do not only mean complying with regulations and legislations but also continuously developing and offering competitive products, technologies and services that meet customers’ needs by using fewer or more sustainable resources and materials as well as developing coating products with no or low VOC content and increasing the use of renewable and secondary raw materials in all its paints and coatings.

We make the world last longer.

Visit us at Malaysia International Furniture Fair (MIFF) 2019 - Booth No. M1115B, Level 3 Hall 11, MITEC KL, Malaysia from 8-11 March 2019.