



and tested at Frimo. Checks are carried out on especially critical components in order to ensure that they display the appropriate sealing and foaming behaviour. Foam is applied using a special film gate, through which the PU is injected into the closed tool by hand. The foam fill weight and corresponding tool and system sizes vary

from about 20 grams for small components to 150 to 200 grams for larger components.

With the PURe Mix Eco, Frimo offers a well-equipped, reliable, and inexpensive PU high-pressure metering machine for processing all standard unfilled 2-component systems. It offers highly

precise metering with simple, low-maintenance manual or automatic operation. For manual operation, as with cable foaming, the hand bracket is designed with an especially large working radius. Equipped with intelligent controls (FIP), the centrally positioned compact control panel makes operating the device easy and efficient.

## Wind energy: Preparing rotor blades for rain



Every day, the rotor blades on a wind turbine collide with raindrops, hail or grains of sand. Over time, these im-

pacts leave traces on the blade and material erosion begins. The BINE-Projectinfo brochure “Rain can damage rotor blades” (14/2017) presents research results on this gradual material destruction. The underlying mechanisms of this type of erosion are being researched on a new test stand. The aim is to improve the protection and economic efficiency of rotor blades.

The research project focused on the design, structure and construction of the test stand. It is made of a steel-reinforced concrete shell

and is 4.5 m high. On top, a rain generator produces water drops. Droplet size can vary between 1 and 5 mm, and the amount of water can vary between 6 and 24 l/min. Inside the system, a sample body rotates on a carrier device with a diameter of 2.8 m. The samples can be accelerated at variable speeds – with peak speeds of up to 600 km/h – in a circular path. The water is gathered after impact and material eroded from the samples is filtered out. Various microscopes and scanners are used to determine the exact dam-

age patterns. The test stand is able to simulate characteristic weather and climate conditions for offshore, coastal and low mountain locations.

Rain erosion has many causes, such as rainfall, hail, UV light, the build-up of ice and temperature fluctuations; it is not a linear process. The Fraunhofer Institute for Wind Energy and Energy System Technology (IWES) in Bremerhaven is operating the test stand and conducting the research.

## Albodur 1055: Hydrophobic, VOC-free polyol based on renewable resources for PU systems with superior UV-resistance

Alberdingk Boley has further expanded its product range of 100 % PU-Polyols based on renewable resources, which underlines the company's commitment to producing sustainable oleochemicals with superior properties. The Krefeld-based company has a 190 year tradition of processing vegetable oils, and constantly strives to combine outstanding performance parameters with a sustainable raw material

base for its binders. Launching the new, VOC-free polyol Albodur 1055, Alberdingk Boley accomplished its aim to push the UV-stability beyond the current limits of decorative 2-pack PU coating systems. When crosslinked with an aliphatic isocyanate, Albodur 1055 can be used to formulate a light-stable PU system (> 1,000 hours QUV B exposition). In addition, the binder offers a hydrophobic nature,

and an extremely pale appearance as both the neat resin and also when combined with a low viscosity isocyanate, which has always been one key aim of Alberdingk's versatile Albodur technology. Thanks to the polymer structure of Albodur 1055, it is possible to reduce the isocyanate demand of the total system without compromising basic features like good workability, broad versatility and compatibility

profile, as well as excellent mechanical properties needed for the applications it may be used.

In summary, it can be justifiably claimed that, compared to alternative technologies, ALBODUR 1055 offers a unique performance profile when formulating light-stable VOC-free 2-pack PU coatings.