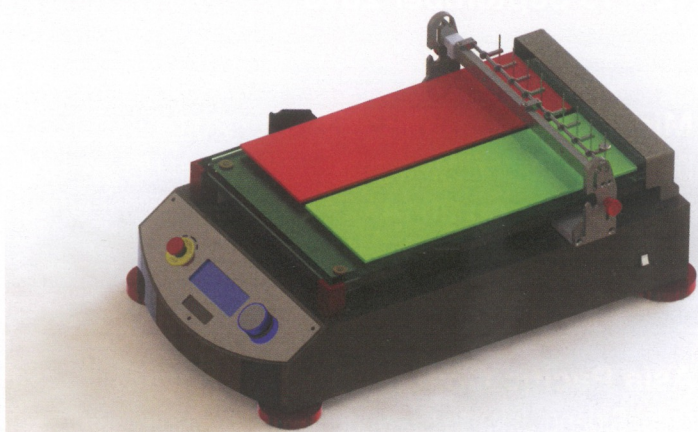


Lisette van der Krans, TQC BV, discusses the development of an automatic film applicator for testing rheological properties in coatings

Testing the effect of temperature



The drying time option can be clipped on to any standard TQC automatic film applicator



TQC's CureView is a flexible oven, which heats up test panels on a glass bed

A motorised automatic film applicator provides a reliable basis to apply coating films to test charts, panels or foils in a uniform and reproducible way, in order to eliminate variations caused by human factors. To prepare samples for testing rheological properties, abrasion resistance, hiding power and gloss, an automatic film applicator is a must have. Dutch paint test equipment developer, TQC, brings automatic film application to a higher level. At the ECS 2013 prototypes were launched of the drying time option and the heated vacuum bed.

RELIABLE BASIS

Because of their special features, like widespread range and low speeds, TQC's automatic film applicators are a reliable basis for new options.

The platform of the TQC automatic film applicator is based upon an in-house designed control that drives a stepper motor in so-called 'micro steps', which allows the machine to be positioned and control the speed in steps of just a few microns. This makes it possible to cover a much wider range than is usually found in automatic film applicators.

Besides a high maximum of 500mm/sec, the TQC auto-

matic film applicator is also capable of moving at a low speed of 2mm/sec.

Combined with new firmware and optional drying time accessory, AB3500, the TQC automatic film applicator can be used as a drying time recorder. The drying time recorder has many sophisticated features, such as digital indication of the various drying stages from touch dry to through dry in 10sec accuracy (with shorter drying-times), electronic setting of drying test time between 5min and 48hrs but also special features such as 'intelligent recording', which enhances the resolution of longer drying processes significantly.

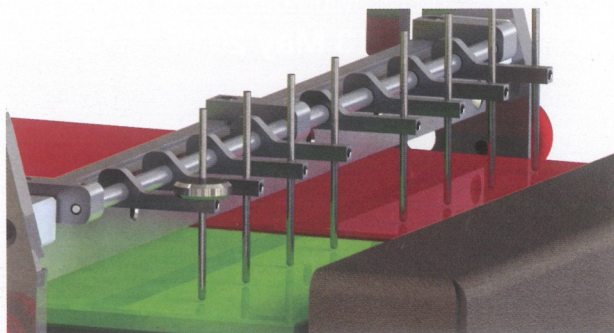
ADD ON OPTION

The drying time option can easily be clipped on to any standard TQC automatic film applicator with firmware version 2.1 and up. Combined with the different temperature controlled test bed options, the drying film forming and curing process of paints can be observed and tested. Either cooled close to 0°C or at elevated temperatures up to 140°C.

Temperature becomes an increasingly important issue when applying paint. Plant downtime, due to repainting, causes significant costs. Testing paints for application on hot surfaces has always been a troubling issue. With the optional electrically heated vacuum bed for the TQC automatic film applicator, the temperature factor can be tested. Simply set the temperature and test as usual with an automatic film applicator. This allows for reliable and fast testing of coating performance on hot substrates.

ECS 2013 was the first occasion to have a look at the new options, which are part of the TQC Thermo Kinetics range. This is a range within TQC's product line, which focuses on the effect of temperature on paint-related chemistry. Further options, such as an electrically cooled plate will be developed in 2013. As is a new gradient oven, the TQC CureView.

The CureView Thermal Test Centre project runs in close collaboration with a number of global players in the resin and additives industry. It is a flexible oven that allows the user to heat up test panels on a heated glass bed in a variety of patterns to temperatures varying from ambient to more than 300°C. A choice of gradient pattern is available, that gradually increases heat from the left to the right side of the panel. Block or uniform patterns are also available. Another possibility is to take profiles measured by the CurveX oven logger system, also part of the TQC ThermoKinetic range and upload these in the CureView in order to duplicate a production process on a lab scale.



Drying time recorder has digital indication of the various drying stages

Author:

Lisette van der Krans, TQC BV, Molenbaan 19, 2908LL Capelle aan den IJssel, The Netherlands
Tel: +31 10 7900100; Fax: +31 10 7900111; info@tqc.eu; www.tqc.eu