CurinScan

Enhance Coatings Formulation & Curing

- Formulation ingredients
- Temperature
- Humidity
- Substrate
- Film thickness

Precise Understanding of Formulation

- Drying time, drying steps & characteristic times

→ *Open time, dry-surface, dry-through...*

Protocol Optimization

- Multilayer analysis
- Temperature & Humidity control
- Realistic substrate
- No thickness limitation
- Large range of time scale

OPTIMIZE FORMULATION & CURING PROCESS

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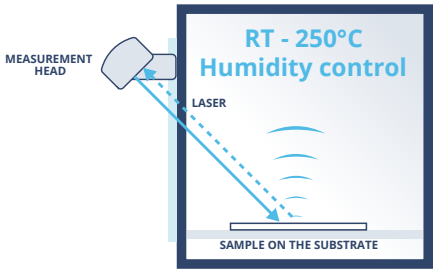
CurinScan

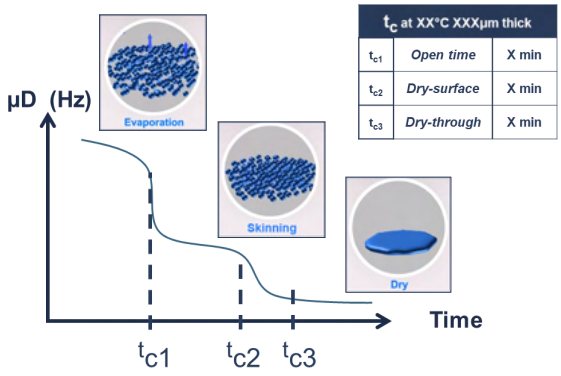
OPTIMIZE **FORMULATION** & **CURING** PROCESS

CurinScan allows the monitoring of nanoscale mobility during the curing and drying process. Thanks to the **Nanosacle Mobility Analysis (NMA)**, it identifies the drying & curing mechanisms (evaporation, packing, hardening...) and the characteristic times (Open time, dry-surface, dry-through...). The measurement is in-situ, contactless and works on any type of substrate (glass, metalic, paper, wood...) from **RT up to 250 °C.**

MEASUREMENT **PRINCIPLE**



CurinScan is based on Nanoscale Mobility Analysis (NMA) and measures the structure (particles, polymers, pigments...) Brownian motion. During the film formation or curing process, structure nanoscale mobility changes due to the change in the material properties, for example from liquid to solide. The in-situ analysis of the nanoscale mobility provides a full reading of the thermodynamic mechanisms and characteristic times.



t_c at XX°C XXXμm thick		
t_{c1}	*Open time*	X min
t_{c2}	*Dry-surface*	X min
t_{c3}	*Dry-through*	X min

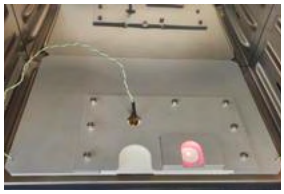
KEY BENEFITS

- Objectivity and accuracy to monitor the curing/drying
- Determine the characteristic times of the film formation
- Analysis from RT up to 250°C with humidity control
- Evaluate the impact of formulation, temperature, substrate & thickness
- Optimize the formulation and the manufacturing protocol

Features

- In-situ & contactless
- Sensitive to nm mobility
- Surface & bulk measurement:
Allowing to determine the surface dry and the dry-through. Also to analyse multilayer samples.
- Realistic experiment conditions:

- Temperature : RT up to 250°
- Humidity up to 80%
- No sample thickness limitation



- Easy sampling
Place the substrate with the sample inside the instrument and start the measurement.

APPLICATIONS

Technical paints & inks | Powder coatings | Adhesives | Cosmetics | Batteries slurries | Elastomers

TECHNICAL **SPECIFICATIONS**

Technology	Non-invasive MS-DWS
Wavelength	650 nm
Applied thickness	μm - mm
Temperature range	RT - 250 °C
Humidity range	up to 80%
Measurement time	Minutes to Days
Substrates	Glass, Metal, Ceramic, Polymer...
Sample Nature	Liquid, Solid
Dimensions	585 x 704 x 434 mm
Weight	55 Kg

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