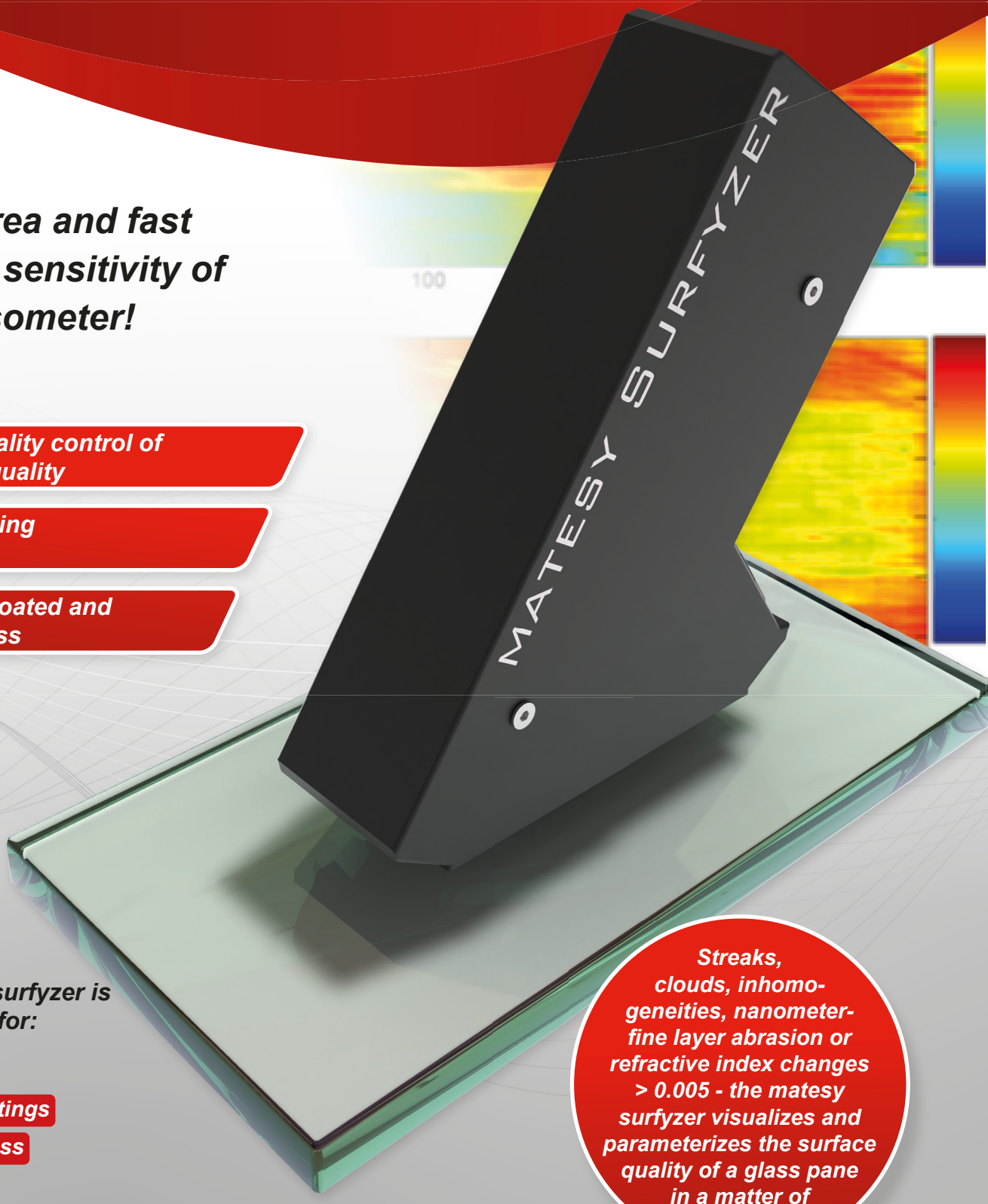
matesy surfyzer

Optical flat glass surface inspection

Large-area and fast with the sensitivity of an ellipsometer!



- ***Unbiased quality control of the surface quality***
- ***Proof of coating capability***
- ***Suitable for coated and uncoated glass***

The matesy surfyzer is the analyzer for:

- ***Flat glass***
- ***Flat glass coatings***
- ***Laminated glass***
- ***PV modules***
- ***Displays***

Streaks, clouds, inhomogeneities, nanometer-fine layer abrasion or refractive index changes > 0.005 - the matesy surfyzer visualizes and parameterizes the surface quality of a glass pane in a matter of seconds.

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Contact & information

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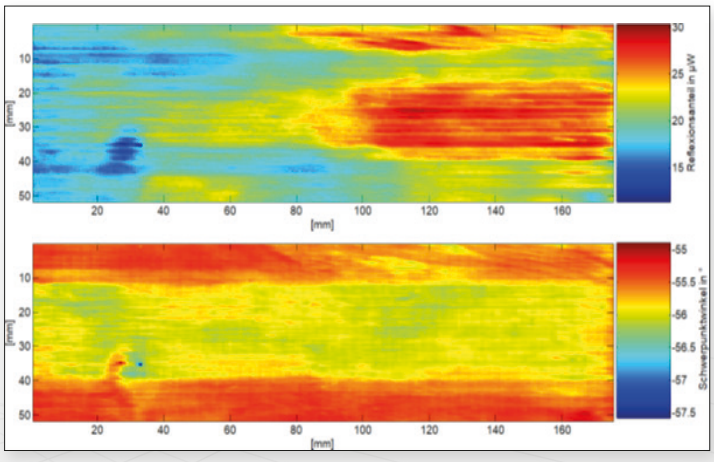
Product description

Both the coating ability of a raw glass pane and the coating quality of a coated glass pane are analyzed and evaluated with the Matesy Surfyzer. Quality criteria such as purity, glass corrosion state, chemical and physical homogeneity of the glass surface are displayed over a large area using optical parameter images and can be statistically classified.
This patented process enables a quick and large-scale examination of flat glass surfaces.

If the coating quality of a glass pane is to be proven using a washability test, the Matesy Surfyzer enables an automatic assessment of the abrasion resistance of the layer. A layer removal of just a few nanometers can be measured. With the help of the grading system of a visual inspection, the process can be trained and used close to production to automatically classify the abrasion quality. If a glass coating must be removed locally in order to bond the glass pane, the Matesy Surfyzer records the degree of stripping with high accuracy. Whether with laser ablation or the classic grinding process, the layer removal is recorded and evaluated in terms of both its degree and its homogeneity

Construction & functionality

A laser light beam of defined polarization scans the glass surface, whereby the reflected light beam is recorded with a camera system and the change in polarization of the reflected laser light is evaluated. The linear illumination area on the glass surface is approximately 6 mm x 1 mm. The surface is fully analyzed in a meandering scan. With a measuring speed of vs = 100 mm/s in the scanning direction and a line feed of 4 mm, a surface in A4 format is measured in approximately 150 s, which corresponds to a lateral resolution of 1 mm x 0.25 mm.

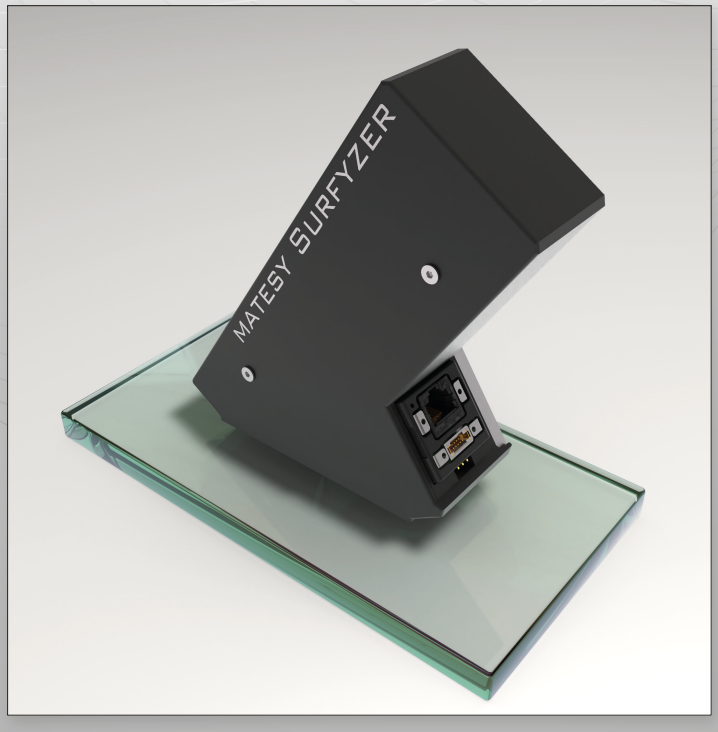


Abrasion testing sample with approx. 10nm layer loss of a Pyrosil coating (thickness 40nm)

The result is displayed in two parameter images: the reflectance sum distribution and the reflectance center distribution. The reflectance sum correlates approximately with the layer thickness. The reflectance center is associated with the refractive index of the layer or the surface modification. The measurement result can be quantitatively evaluated using various area-dependent statistical parameters.

Product Highlights

- Visualization of invisible surface modifications on glass
- Fast large-area scanning
- Parameterization of surface quality and purity
- Automatic exposure time adjustment
- Triggered image recording



Technical Data & Specifications

- Scanning area 400 mm x 400 mm (customizable)
- Glass pane thickness 1 mm - 12 mm
- Scanning speed ≤ 100 mm/s
- Lateral resolution ≥ 0.25 mm
- Graphic output of parameter images
- Laser illumination class 3R

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