
Release: No. 733, 22.11.2018

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Three-dimensional optical surface detection provides fast and complete inspection of flatness, waviness and reflection optics

Efficient thin glass inspection in a matter of seconds: 3D measurement for top-quality large glass

The full-surface 3D quality inspection for thin glass now also captures additional quality characteristics that are important for ensuring the highest customer satisfaction and optimal results: Within seconds, precise data on flatness, waviness and reflection optics is available, even for large glass surfaces. 3D shape defects are detected immediately, preventing faulty materials from being processed further. Manufacturers are able to maximize their yield of high-quality products and ensure they are suitable for use in the most challenging applications, such as touchscreens and displays.

The rigorous inspection of thin glass is crucial for guaranteeing maximum customer satisfaction. However, manual quality inspections in shift operations are generally only performed intermittently, and are also subject to factors such as lapses in concentration and the subjective assessment of the individual operator. Measuring methods, such as a point-to-point analysis, simply take too much time. The introduction of new technologies and areas of applications go hand in hand with higher quality standards for glass products: Increasingly popular products such as ever larger and thinner frameless or infinity displays as well as touch display elements in the automotive sector (dashboard

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and centre console) are opening up new market potential for glass manufacturers, however these products do demand consistently high quality. These quality standards, therefore, require new procedures for glass processing and finishing, as well as correspondingly accurate inspection processes.

3D measurement provides data for comprehensive process optimization

ISRA VISION has developed POWERPLATE-3D (P²-3D) for these specific applications, the first and so far only solution for the automatic and fast full surface 3D measurement of flatness, waviness and reflection optics of glass panes – full surface and contactless. The system is based on the patented stereo deflectometry technology, allowing it to deliver objective and reproducible results in next to no time, regardless of the position or shape of the glass. The POWERPLATE-3D technology displays the measuring result as an elevation map and also as a vertical and horizontal curvature map. This map is a highly sensitive tool that visualizes curvature, which can play a decisive role in further processing steps.

Potential of thin glass inspection for innovative industry sectors

Modern touch screens and high-tech displays place new demands on the production and inspection of thin glass. For example, use in the automotive sector requires special stability; touch display elements in the center console and dashboard are also often non-rectangular and curved. OLED displays, on the other hand, are not anti-glare because they are sufficiently high-contrast. However, this makes the measure-

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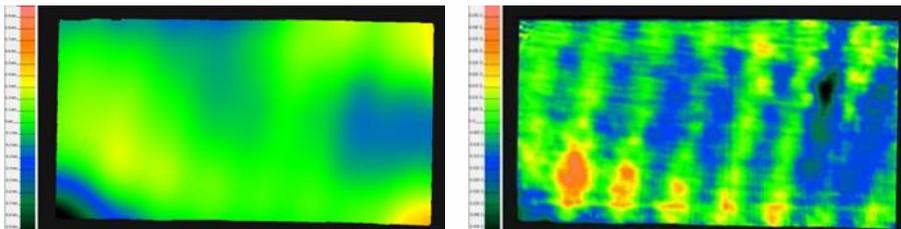
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ment of reflective optics more important. Modern kitchen equipment offers further new areas of application for touchscreens: glass surfaces of cookers and ovens, fully automatic coffee machines or refrigerators. In the thin glass sector, trends such as switchable, smart glasses in architecture require reliable and maximum safety and quality.

ISRA offers a comprehensive portfolio comprising various product lines, which cover the entire range of thin glass inspection. This also includes FLOATSCAN-Thin Superior, a special high-resolution inspection system for thin glass. The FLOATSCAN product line allows continuous process and product optimization for flat glass production, reliable, proven and flexible for every requirement.

Images



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The three-dimensional full surface optical measurement offers fast and complete inspection of flatness, waviness and reflection optics.

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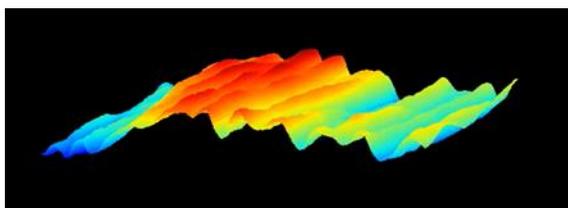


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733_2.jpg

Within seconds, precise data on flatness, waviness and reflection optics is available.



733_3.jpg

Reflections in the screen appear distorted due to uneven and wavy cover glass.

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