



NEXIV gives DEK the edge in emulsion screen dimensional deposition measurement

By investing in a Nikon Nexiv CNC video measuring system, DEK Screens has significantly improved the accuracy and precision of its emulsion screen processes, leading to enhanced quality and reduced wastage.



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Roger Holding, Product Development Manager – Screens at DEK

Nexiv VMR-6555 @ DEK Screens (UK)

DEK Screens invested in a Nexiv VMR-6555 video CNC inspection system to obtain higher-precision sensor strip micro structures of handheld blood glucose meters.

- Fast automated inspection of 500 micro circuits located on just 300mm²
- Coated emulsions edges are precisely located using a unique 8-segment LED ring illumination
- Increased measurement accuracy resulted in a higher quality end product

Measuring key tolerances in up to nine directions

Purchased as part of its on-going quality improvement programme, DEK is now using the Nexiv VMR-6555 on a daily basis to measure key tolerances in up to nine directions on screens comprising over 500 micro-circuits located on just 300mm². These are destined for use in the screen printing of sensor strips associated with handheld blood glucose testing meters.

According to Roger Holding, Product Development Manager – Screens at DEK, “We chose the Nexiv because its unique 8-segment LED ring illumination system allowed us to clearly locate the edge of our emulsions, even though they are coated on to a mesh. This has proved a problem with other video measuring systems, but the Nexiv merely ignored the mesh and allowed us to focus clearly and consistently on the emulsion that has been deposited.

Furthermore, using the Nexiv’s AutoMeasure software, it was a simple process for us to automate the entire measuring sequence.”

Being able to measure the dimensions of the micro circuits with such a high degree of accuracy has allowed DEK to review its screen making processes and improve the quality of the end product. “Prior to the arrival of the Nikon system we could not measure the tolerances accurately enough to allow us to review how minor modifications to the screen process altered its performance” added Roger. “Now, armed with the data from the Nexiv, we have been able to optimize the process and materials in order to meet the increasingly tight demands placed upon us by our customers.”

In addition to the glucose sensors, the Nexiv has also been programmed to measure emulsion screens destined for use within electronic components for automotive braking systems and aircraft instrument display systems. However, with an exceptionally high level of accuracy, the Nexiv should be more than a match for anything DEK chooses to measure on it.