

New Characterization Instrument for the Detection of Cosmetic Surface Effects on Silicon Wafers from Tordivel Solar

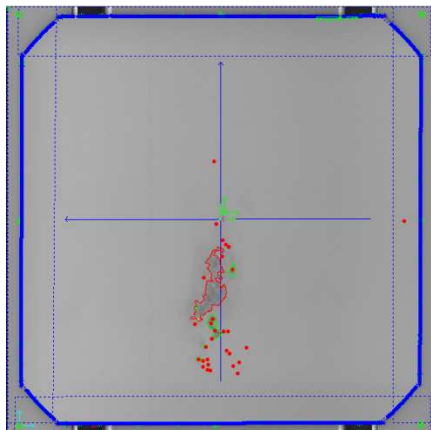
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Contact: John Bratland, Marketing Manager Tordivel Solar, john@tordivelsolar.com

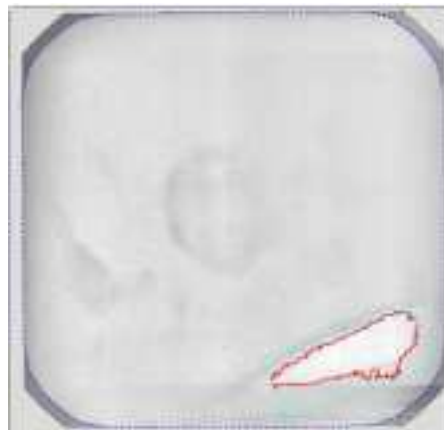
Tordivel Solar is pleased to announce a new generation of optical contamination inspection solutions for mono and poly-crystalline wafers.

The Wafer Surface Instrument is performing an automatic surface quality control of wafers targeting the value creation for the Photovoltaic industry. The wafers are characterized based on the following cosmetic surface effects: large area contamination, small area contamination, lines and spots, dark spots, suction cup marks and shiny patches.

The system is using a combination of angled lighting and omnidirectional uniform illumination together with two line scan cameras per side and a PC for image collection, processing, user interface and process interface software. The special lighting removes crystals in the image and the cosmetic surface effects like contamination and shiny patches are clearly visible on the wafer image.



Large area contamination



Shiny patch

The 4 MPixel images are captured using line-scan cameras with 80 micrometer resolution. Combining the high-quality images with state of the art image processing algorithms ensures the highest sensitivity and selectivity on the market and reliable operation 24/7.

The solution is built on Scorpion Vision Software® for user friendliness, configurability, reliability, flexibility and ease of maintenance.

The system is sold as a stand-alone system, as part of the Surface Instrument or as part of the Tordivel Solar WIS – Wafer Inspection System. The characterization instrument is delivered as a one-sided or a two-sided version. The throughput is typically one wafer per second.



The increased focus on cosmetic surface effects like wafer contamination is due to the higher awareness to quality and is one of the most significant contributors to wafer returns. The Tordivel Solar instrument for contamination detection is a very cost effective measure to reduce wafer returns due to surface effects.

About Tordivel Solar AS

Tordivel Solar is a complete supplier of in-line and off-line inspection instruments and measurement systems for the global photovoltaic industry. The core of our offering is a state of the art WIS – Wafer Inspection System including a sorting unit. We develop the most compact, accurate and reliable inspection instruments for automatic production control of ingots, blocks, wafers and solar cells.

The systems are built on Scorpion Vision Software® for user friendliness, configurability, reliability, flexibility and ease of maintenance. Tordivel Solar has key customers and OEM partners within the PV industry for seamless integration of complimentary instruments and system solutions. Tordivel Solar, with its powerful technological platform, aims to be a global leader through focus on development, sales and service of optical measurement systems for the PV industry.