SURFACEVISION

Battery Electrode
DATASHEET

Surface Inspection of Battery Electrode Material

DELIVERED THROUGH

SMART VIEW® Online detection, classification and visualization of surface defects

SMART ADVISOR® Synchronized real-time process monitoring and inspection

High-performance battery electrodes are a critical component of lithium-ion cells. The coated electrode materials for cathodes and anodes must meet high requirements for energy efficiency, storage density, and safety.

AMETEK Surface Vision delivers trusted highly accurate solutions for battery electrode coating processes, maintaining line speeds and rapidly detecting defects including agglomerate, coating spots, particles, missing coating, wrinkles, scratches, holes, edge cracks, and dents.

Improve your quality, reliability, and speeds:
ameteksurfacevision.com or contact us at:
surfacevision.info@ametek.com

AMETEK®
SURFACE VISION

SURFACEVISION

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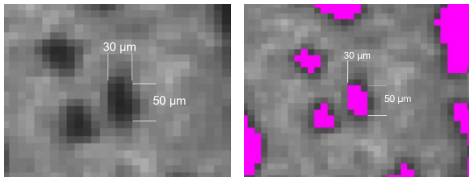
BATTERY ELECTRODE

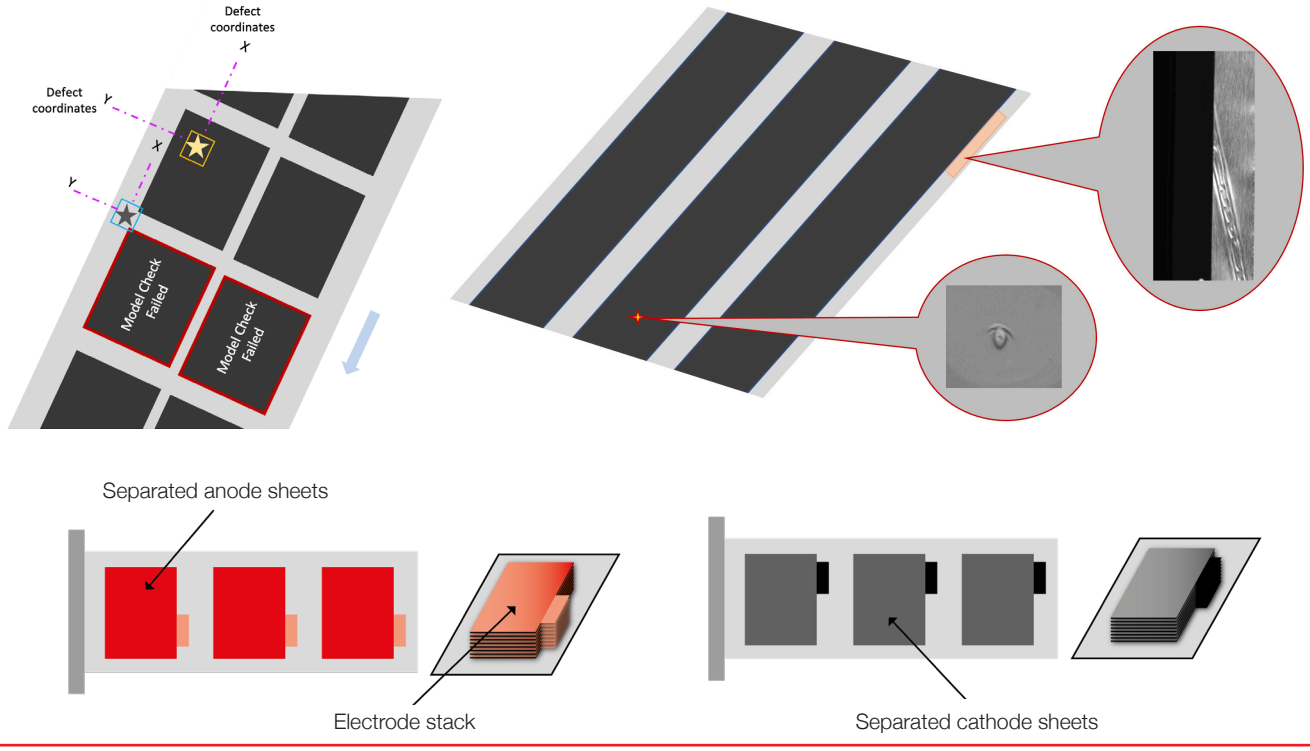
- 100% defect detection and classification
- Modular Camera Option in HDR mode and optimized illumination concepts.
- Typical System Resolution = 10µm - 50µm
- Web speed >100 m/min
- Web Width 100 – 2000 mm
- Top & Bottom Inspection with defect correlation
- Coated area vertical stripes & Intermittent patches.
- Inspection of any shape for Intermitted coating pitches
- Selectable Inspection Zone / coating layer, substrate layer, multi layer
- Defect features includes in layer information.
- Self Learning Classifier
- Low contrast detection algorithm
- Gauging Model Check of Coated Areas
- Real time output for marker / labeler etc.
- Long Term trends

DEFECT TYPES

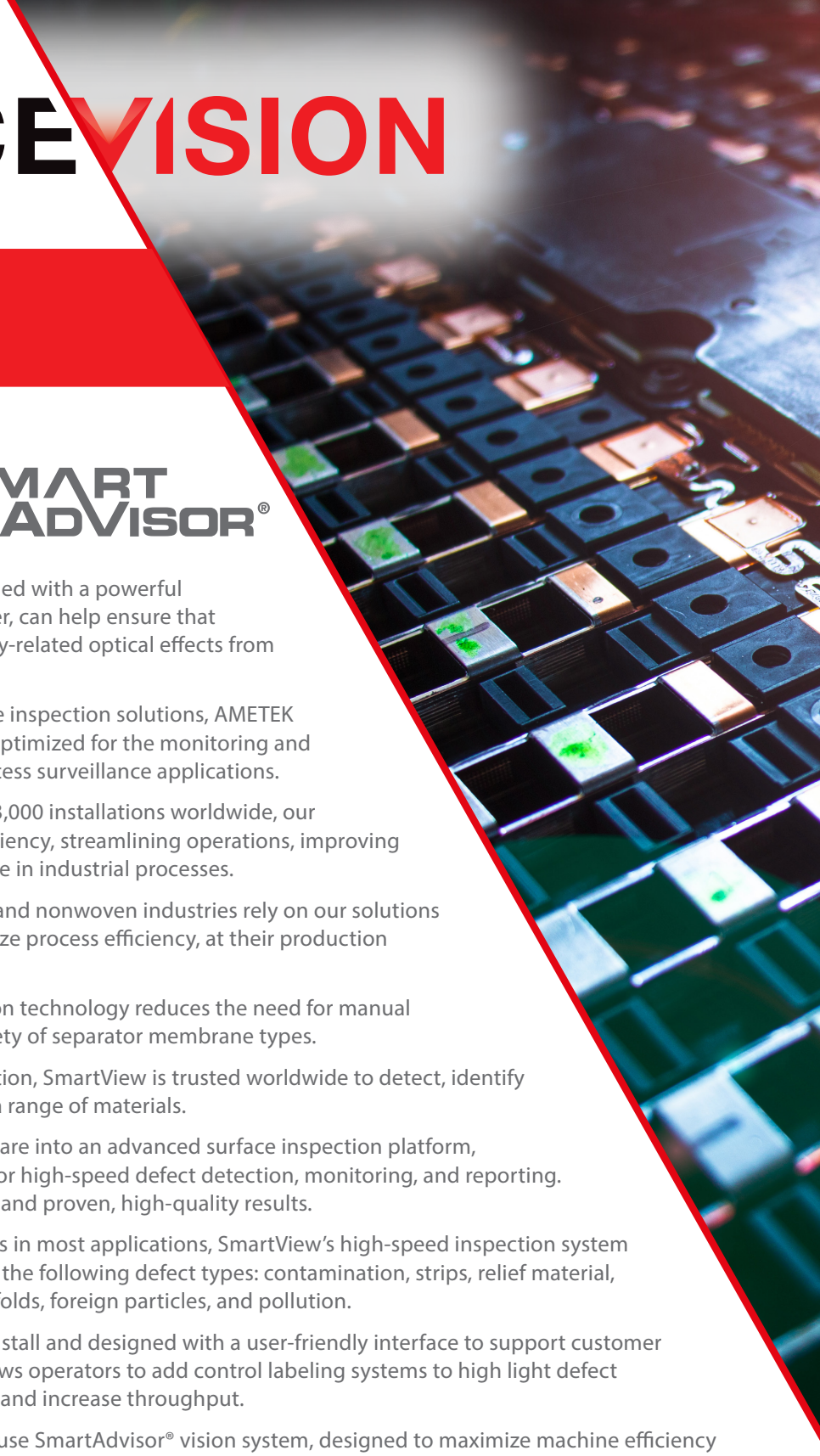
- Pinholes
- Divots
- Agglomerates
- Blisters
- None uniform coating
- Wrinkles
- Etc.



EXAMPLES OF DEFECT TYPES



SURFACE VISION



THE AMETEK SURFACE VISION SOLUTION

SMARTVIEW® | SMART ADVISOR®

A highly sophisticated optical set-up, combined with a powerful detection algorithm and a multi-step classifier, can help ensure that battery producers can distinguish non-quality-related optical effects from defects in battery production.

The world leader in automated online surface inspection solutions, AMETEK Surface Vision offers a broad product range optimized for the monitoring and inspection of webs and surfaces, and for process surveillance applications.

With hundreds of customers and more than 3,000 installations worldwide, our systems have become vital to increasing efficiency, streamlining operations, improving product quality, and reducing costs and waste in industrial processes.

Manufacturers in the metals, paper, plastics, and nonwoven industries rely on our solutions to detect surface flaws or defects, and optimize process efficiency, at their production facilities across the globe.

AMETEK Surface Vision's SmartView® detection technology reduces the need for manual intervention, and can adapt to the huge variety of separator membrane types.

The industry-leading surface inspection solution, SmartView is trusted worldwide to detect, identify and visualize surface defects in real time for a range of materials.

Merging state-of-the-art software and hardware into an advanced surface inspection platform, SmartView provides total vision integration for high-speed defect detection, monitoring, and reporting. It delivers robust features, flexible operation, and proven, high-quality results.

Installed on the coating and slitting processes in most applications, SmartView's high-speed inspection system delivers high-resolution image acquisition of the following defect types: contamination, strips, relief material, cutaways, coating defects, insects, pinholes, folds, foreign particles, and pollution.

SmartView technology is quick and easy to install and designed with a user-friendly interface to support customer needs. Real-time notification technology allows operators to add control labeling systems to high light defect positions which optimize yield management and increase throughput.

It can be supported by our versatile, easy-to-use SmartAdvisor® vision system, designed to maximize machine efficiency and yield rates. This provides high-speed, multi-dimensional video monitoring and process analysis, helping to optimize processes, find defects, and detects process upsets.

Using the inspection and monitoring solution provided by AMETEK Surface Vision, battery cell manufacturers can be assured of adaptable defect detection that supports quality and reduces the need for manual intervention.

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