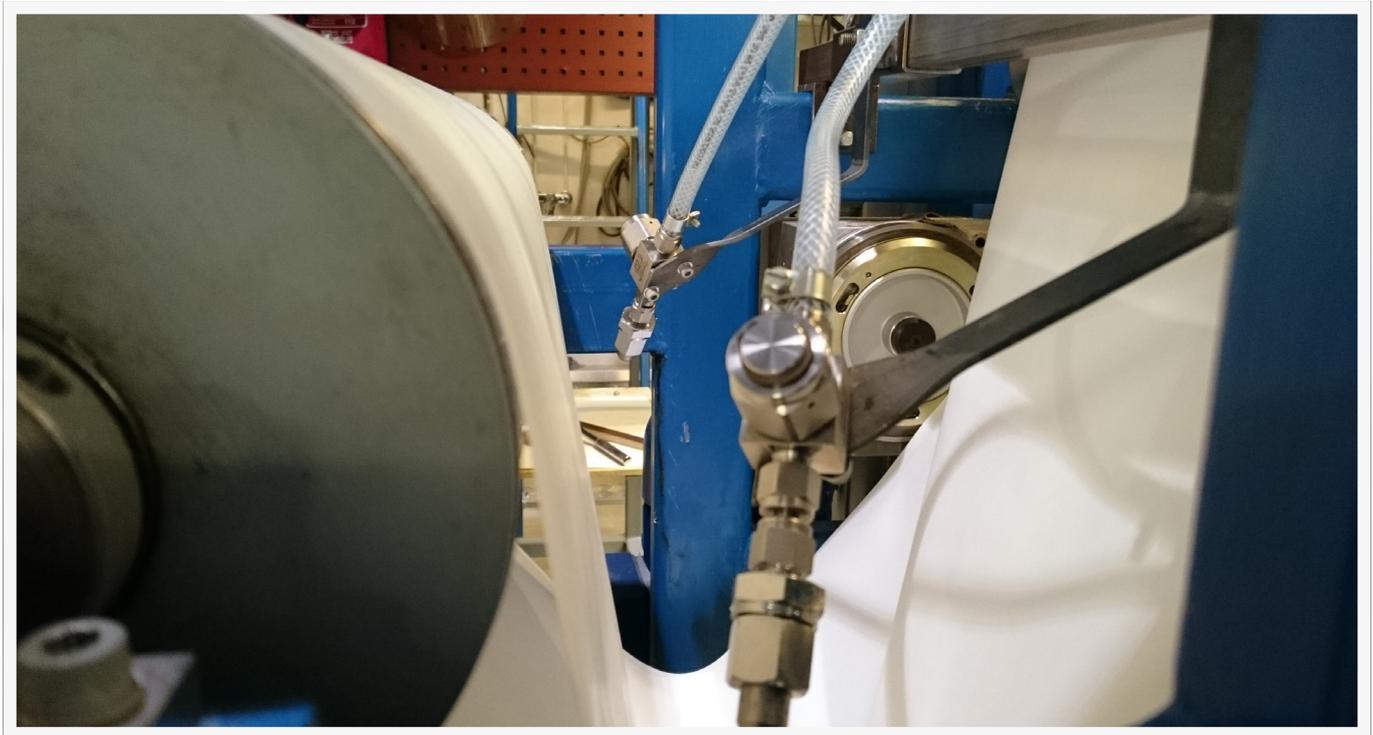


Local Cleaning Method for Micron-sized Particle Contamination in Thin Film Processing



Cleaning system for paperboard packaging substrates installed at Tampere University of Technology in Tampere, Finland.

Introduction

TNO-Solliance and IBS Precision Engineering are collaborating together in the development of a cleaning method to locally remove particles in thin film processing. The low cost, modular cleaning unit which has been developed in the NanoMend project enables the removal of more than 90% of micron sized particles and significantly reduces the occurrence of electrical shunts in the roll to roll manufacturing of photovoltaic and of leaks in aseptic packaging.

Key Innovative Features

The modular cleaning unit has three main features:

- Local cleaning focused at the location of particulate contamination
- Easily adaptable to the web width size in roll-to-roll pilot production or panel size in sheet-to-sheet manufacturing
- On-demand cleaning by direct interaction with an optical inspection system



Cleaning system for thin film photovoltaic substrates installed for testing purposes at Flisom's R&D line in Zurich, Switzerland

Specification

Properties	Value	Unit
Typical Web Speed:		
Photovoltaics	1 - 10	m/min
Paper Packaging	20-450	m/min
Local Cleaning Spot Diameter	20	mm
Web Width	50	cm

Market Applications

Developed as part of the NanoMend project, prototypes of the cleaning units have been demonstrated on thin film photovoltaic and paperboard packaging substrates. The photovoltaic unit is based for testing purposes at Flisom's R&D line in Zurich, Switzerland and the packaging unit located at Tampere University of Technology in Tampere, Finland.

Once commercialised the technology will be applicable to the following market applications:

- Thin film photovoltaics
- Flexible and printed electronics
- Paperboard packaging

Commercialisation

TNO and IBS Precision Engineering are interested in working with clients in the following areas:

- Prototype, testing and development
- Technology development and licensing

Contact

For more information on cleaning methods for thin-film coatings please contact:

info@nanomend.eu



www.nanomend.eu

Full project title: Nanoscale Defect Detection, Cleaning and Repair for Large Area Substrates



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