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New 100% inspection of plastic webs ensures optical quality

All-in-one inspection for all plastic web products: Optical properties can now be checked!

In many applications of plastic films, the quality of the final product is more than just the absence of defects. Coatings and glue, for example, must be evenly applied in an unbroken layer to ensure the functionality of adhesive and packaging films. This is all the more true for all optical films, such as those used in modern display devices: the important thing here is to achieve a high degree of uniformity within predefined segments. ISRA VISION is now the first company to offer an efficient way to monitor these properties in films, coatings and applications.

By monitoring optical properties such as gloss and haze, the uniformity of applied coatings and the material thickness, ISRA's SMASH system provides reliable quality inspection of coatings and ensures that the products work in a uniform way. This new dimension of inspection performance and precision expands the focus of inspection from mere defect detection to include monitoring material property directly inline. The system analyzes characteristics such as haze and gloss through high-precision analysis of incident light, providing comprehensive information about all aspects of quality.

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ISRA offers more: unique all-round inspection for maximum quality

ISRA uses the possibilities of its switchable SMART LINE LED illumination for defect inspection. In one special application, Pattern LED Illumination, it creates different light incidence angles by varying lighting patterns – similar to manual inspection, where the quality inspector moves a sample of the film around to view it in different light conditions. This is the only way to reveal defects and inhomogeneities in and on the film reliably. For example, the method allows reliable detection of scratches in the micrometer range under production conditions. ISRA now makes it possible to inspect optical properties such as gloss and haze with the same hardware but with a new, innovative software technology. The thickness and evenness of a material or material application can be monitored in the same way. To achieve this, ISRA uses the light-absorbing properties of plastic films, for example, to detect deviations from a desired set-point. All results are converted into user-friendly graphics to highlight inhomogeneities in the optical properties. ISRA's inspection solution is the most comprehensive of its kind for plastic materials.

A new technology – with unimagined possibilities

Practically all manufacturing processes leave traces on the surface of a film. Glue and silicone coatings are perfect examples: monitoring the optical properties allows the evenness of the coating and thus the functionality of the final product to be examined directly. In the food sector in particular, packaging films have to meet both practical and aesthetic requirements so as to appear attractive to customers while keeping goods both fresh and fresh-looking. Monitoring optical properties is also an advantage when inspecting films in the pharmaceutical industry:

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while attractiveness is less important in this application than with fresh goods, the strict hygiene standards are much easier to meet with an inspection method that provides such meaningful information. The method qualifies film manufacturers to supply customers in premium market segments. Reliable monitoring of optical properties is an inspection technology with boundless possibilities, as myriad material properties can be recorded with the parameters of reflection and absorption.

ISRA – everything from one source

The comprehensive inspection of plastic webs, including optical properties, enables users to address the entire scope of material challenges with just one system. Supplemented by a wide range of Beyond Inspection applications, the ISRA product is more versatile than any other inspection system on the international market. Optimum use of the production data collected is already possible and helps users to enhance their production efficiency.

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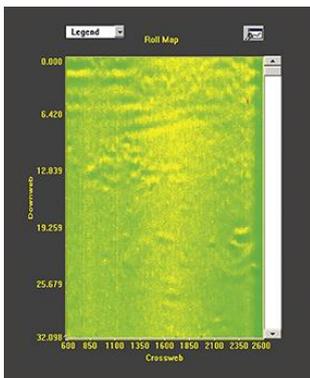
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Images



662_1.jpg

Maximum resolution ensures uniform product quality; compact design saves space



662_2.jpg

Inhomogeneities are detected at once, so that machine operators can act before rejects are produced

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