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Superior UV-light Based Oil Detection in Food Packaging

In the world of food packaging, ensuring the highest quality standards is a top priority. One often-overlooked aspect is the detection of oil defects on packaging boards, a critical element in the food industry. The commonly used traditional detection methods fall short, capturing only around 50% of oil defects. With the patented Procemex UV inspection you get close to 100% certainty in safeguarding your product quality and customer satisfaction.

Importance of Detecting Oil Defects

The packaging board acts as the first line of defense for preserving the integrity and safety of food products. Oil defects, if left undetected, can compromise this crucial barrier, and pose serious risks to both the packaged product and consumers. The significance of identifying oil defects lies in maintaining the hygienic and safe qualities of food-grade packaging.

Consequences of Overlooking Oil Defects

Undetected oil defects can lead to contamination of packaged food, risking the health and safety of consumers. The permeability of oil through the packaging material can introduce foreign substances, altering the taste, texture, and quality of the enclosed product. Additionally, oil defects can accelerate the deterioration of food products by promoting oxidation and spoilage. This can result in a significantly reduced shelf life, causing economic losses for both manufacturers and retailers.

In the food industry, regulatory bodies set the standards for packaging materials to ensure consumer safety. Failure to identify and rectify oil defects may lead to non-compliance with these regulations, inviting legal repercussions and damage to a brand's reputation.

Recognizing Oil Defects with UV-Light

UV-light technology is transforming the oil defect detection on food packaging board with its ability to detect previously invisible oil defects using ultraviolet light. UV-light illuminates oil defects, making them visible on the packaging board.

Certain materials, such as contaminants and oils, can exhibit fluorescence when exposed to UV light. This means that they absorb the UV radiation and re-emit it at longer wavelengths that are visible to the human eye. The fluorescence effect under UV light often provides a higher contrast between defects and the background material. This heightened contrast enhances the visibility of defects, making them stand out more prominently.

Incorporating UV-light into the defect detection process allows manufacturers to identify and address oil defects on the spot, ensuring that only flawless packaging material reaches the next production stages. This gives board manufacturers confidence in identifying and addressing oil defects that might escape detection through traditional methods.

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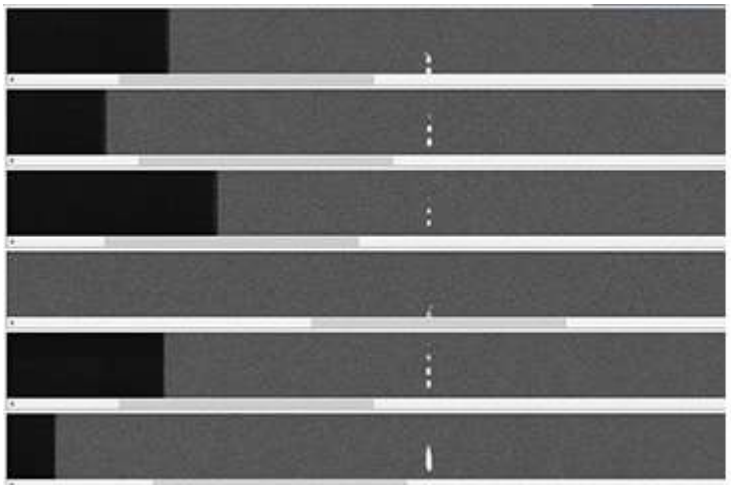

Traditional Oil Detection Technologies

There are different oil defect detection technologies available on the market. The most commonly used technology is the grayscale- and shape-based detection. This commonly used technology can detect up to 50% of Oil defects.

Another quite commonly used way utilizes blue light in oil detection as blue light can cause fluorescence in certain materials and thus increase slightly the contrast of oil defect. The effectiveness of blue light however in triggering fluorescence is considerably lower than that of UV light reaching around 50% detection level.

Benefits of the new Technology

UV-light-based Web Inspection System emerges as a powerful new tool, providing superior visibility and enabling reliable real-time quality control. With the patented Procemex UV-light Web Inspection technology, we reach almost 100% accuracy in detecting oil defects.

The patented UV-light oil defect detection technology can be integrated into all delivered Procemex Web Inspection systems. Also, to mill’s existing Procemex Web Inspection frames, offering a cost-effective way to elevate your current Web Inspection capabilities.

Are you ready to elevate your commitment to product and customer safety? With Procemex, you are not making compromises; you're choosing a solution that brings you close to 100% confidence in identifying and addressing oil defects.

The Web Inspection System equipped with patented UV defect detection technology is now available for full-width and high-speed paper and board machines. Please contact our sales team to learn more.