

Supporting the drive for less plastic



HyperScope™ also inspects packages with cardboard trays or backing

Today, there is a definitive trend to use less plastic in packaging for fresh meat, fish, cheese. Formable paper or cardboard backings sealed with plastic film reduce up to 80% of plastic, are made of recyclable materials and interesting for marketing as they can be printed in attractive patterns.

Of course, the seal integrity requirements remain the same as for standard plastic packages. For traditional vision systems, this might cause issues in both cases where direct or opposite illumination is used. With direct lighting, contamination in the sealing area might have too little contrast to detect the issue. To increase the contrast to better see contamination in the sealing area, packages are therefore often illuminated from below. But because the cardboard packaging is opaque, it is not possible to use this technique. HyperScope, Engilico's hyperspectral seal inspection system, offers a solution.

are no issues with opaque backings and have increased flexibility of integration onto the line. A hyperspectral camera analyzes spectral composition rather than colors. As it operates in the (near-)infrared wavelength bands, it is capable to analyze longer wavelengths that are transmitted and reflected through the top film. This gives a clear view to detect contamination in the sealing area, differentiating substances such as water, oil, fat, meat which reflect a different spectrum than a perfect sealing.

The hyperspectral technology's additional advantages are that it penetrates through printed film which can be plastic or cellulose based, functions in low contrast situations, and is more reliable than visible light spectrum. HyperScope™ is directly integrated in the food production line, checking up to 160 packages per minute.



HyperScope™ uses hyperspectral imaging (HSI) to detect contamination in the seal of trays with a much higher contrast than standard vision cameras. With the light source and camera being placed directly above the package on top of the conveyor belt, there



Hyperspectral imaging detects foreign material (e.g. fish, oil) with high contrast in the sealing area of a package with a cardboard backing.