



ApplicationFocus

Food Packaging



Inspection and measurement of Food Packaging

The design of food packaging and films has become more complex in recent years. Most films consist of multiple layers laminated together, each designed to act as a barrier to oxygen, moisture and other external influences that can cause the food to spoil. Individual layers may be aluminum foil, plastic film or even metallized plastic. Each layer must be a controlled thickness – too thin and it will fail to protect the contents of the package, too thick and

material will be wasted, increasing the cost of the package. As design and manufacturing requirements for these films have become more complex, the need for faster, more accurate, and more highly automated inspection of these materials has also increased. Traditional manual methods of inspection that need to be set up differently for each measurement task are no longer adequate beyond research and development.

System Challenge

Manual methods of inspection are limited in their ability to:

- Image individual layers, which may consist of similar types of plastic
- Accommodate the thickness of the laminated film, which contains multiple layers
- Ability to change over rapidly from one laminated film construction to another
- Maintain operator comfort during prolonged periods of use

Nikon's Solution

LV-UDM Microscope with NIS Elements-D Software

- Wide variety of CFI60-2 lenses with different magnifications for different film structures
- Large maximum specimen thickness capacity to accommodate multiple layers
- High resolution Nikon DS digital cameras with NIS Elements-D software tools to isolate individual layers
- NIS Elements software allows the creation of macros to allow for repetitive measurements
- Ability to capture images to a report format to document the various film layers

LV-UDM

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