

Multilayer plastic packaging: Monitor thickness using portable NIR spectroscopy

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Multilayer plastic films used for packaging of food and pharmaceuticals are gaining in popularity. The properties of the multilayer plastic are tailored to the application by adjusting the composition and thickness of the individual layers. Typically, the core layer provides strength, while the outside layer(s) act as water vapour and/or oxygen barriers. While these barrier layers are essential for maintaining the quality of the packaged product, they are also quite costly. Thus, the ability to monitor and control the thickness of these layers impacts both product quality and overall cost.

Portable near-infrared analysers such as the ASD LabSpec[®] (See Fig. 1) are excellent tools to not only verify the identity of each layer and determine its thickness, but also to verify the identity and quality of incoming raw materials prior to their introduction into the coextrusion process. Due to its flexibility, ruggedness and true portability, the ASD LabSpec[®] is ideally suited to perform these measurements either at-line or near-line, with rapid and precise results ensuring product specifications are more tightly controlled. LabSpec[®] is a cost effective quality control tool for minimising both the use of costly barrier materials and wastage in the production of out of specification product.

Figure 2 shows the NIR spectra from 3 different plastics used for packaging; PP, HDPE and PETE.



Fig. 1

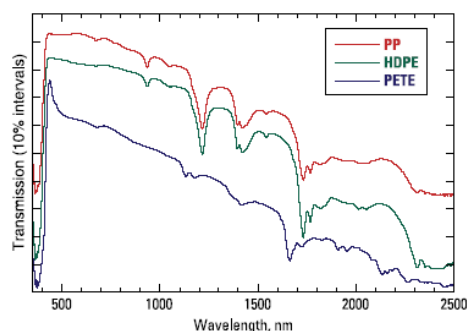


Fig. 2

To learn more about ASD LabSpec[®] systems and other portable NIR spectroscopy solutions please visit www.analytik.co.uk (UK and Ireland) or alternatively visit www.asdi.com.