

# IKV shows multi-layer gauging

Engineers at the IKV plastics processing institute in Aachen in Germany have integrated an on-line optical film thickness control system into its three-layer Flexring adjustable blown film system.

IKV's blown film extrusion specialist Janina Overbeck told visitors at the institute's bi-annual colloquium in May that it has integrated an Isis Optronics system on the line. The system features Flexring adjustable sleeve technology on a pancake die, developed by German company Heinz Groß, to provide selective online film layer measurement and regulation.

The Isis Optronics systems works on the principle of optical coherence tomography, in which a monochromatic light beam is split into two using a semi-permeable mirror before being directed to the film. Interference is caused between the two beams at interfaces between individual material layers and



The Flexring system regulates individual multilayer blown film layer thicknesses with an online thickness measurement, monitoring and regulation system developed by IKV

this can be used to determine thickness.

Overbeck said it is possible to measure  $13\mu\text{m}$  to  $300\mu\text{m}$  layers of multilayer films with the equipment using a  $10\mu\text{m}$  diameter measuring point. The system can function at linear production speeds of up to 1,200 m/min.

Labview software from National Instruments is used to determine absolute thickness values on the institute's lab line. These values are fed into a control unit that calculates and applies the necessary adjustments to the Flexring sleeve to regulate layer thicknesses around the circumference of the film bubble.