

APPLICATION NOTES

IMPACT Solutions for Plastics Industry Multi-camera Web Inspection

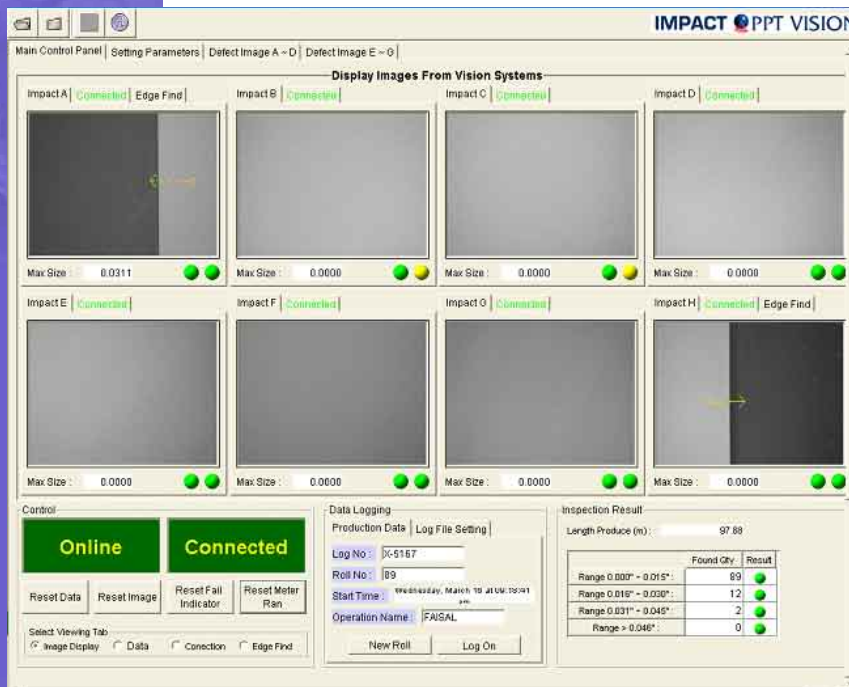
Application Description

This application solution inspects the quality of tri-laminated conductive polymer materials used to make carrier tapes. Using eight PPT5100 cameras, this solution provides 100% inspection for the 660mm wide polymer web running at the speed of 20 meters per minute. The camera mounting positions are offset from one to the other to allow for the space needed to mount the LED ring lights. The cameras are triggered by an encoder wheel, which tells the cameras to take an image every 60 mm. With a resolution of 14 microns per pixel, the vision system can pick up defect size as small as 0.45 mm². Detectable defects include bumps, pimples, blow holes, pin holes and scratches. The system is also designed to be able to keep the last failing image plus keeping track of the defect quantity in each meter in length. For every inspection, each IMPACT (slave) sends the results to one master IMPACT through TCP/IP. The master IMPACT compiles the results from all slaves and makes a final pass/fail decision based on certain criteria configured by the operators. Inspection results are also stored in a text file located on the vision PC for future reference (Production History).

Eight PPT5100 Cameras Covering a 640mm-wide Polymer Web



Inspection Results From All Cameras are Displayed on the Same Control Panel



Application Highlights

- Detects bumps, pimples, blow holes, pin holes and scratches
- Provides a low cost alternative to a conventional line scan solution
- Multiple camera views displayed on one control panel
- IMPACTs are configured in a master-slave configuration (1 master, 7 slaves)
- Results from all slave cameras are combined before final pass/fail decisions are made
- Production history data is stored in a text file located on the PC
- Easy setups through user-friendly control panels