

Automated Seal Inspection System



Challenge

Following an internal recall of Class 3 medical device packing, a medical device manufacturer needed an automated, advanced vision system to provide 100% inspection of the tyvek seals on medical packages, including attributes such as shape, transparency, and color. Each package includes eight products with four seals each, which needed to be inspected within 12 seconds.

Solution

A bank of nine cameras with dual-channel illumination capture 378 high-contrast images per package for defect inspection and classification. The low angle light channel highlights adhesion defects, while the high angle light channel detects foreign material, glazed seals, pinholes, and other non-adhesion defects. Real-time analysis of the images provides feedback to the system, directing rejects into a separate bin and allowing only the good packages to pass.



Result

The automated inspection system **inspects 100% of the packages** on a manufacturing line, capturing **50-micron diameter defects** and meeting the pass criteria of a 99% confidence level with a 5% confidence interval.

About DWFritz Automation

Established in 1973, DWFritz Automation provides world-class build-to-print manufacturing capabilities to clients, in addition to designing, building, and supporting engineered-to-order automation systems and high-speed, non-contact metrology products.

