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PHOTO CONTEST
WINNER!

MEET OUR FIRST WINNER!

Chris Walker, Project Manager

EPIC Systems, Inc. in St. Louis, Missouri USA

EPIC Systems, Inc provides turnkey solutions for advanced automation and machine vision systems.



IMAGE 1

Glare present on black material, no filter



IMAGE 2

Glare reduced using a Custom Shape MidOpt Polarizing Filter



IMAGE 3

Glare *eliminated* by a combination of a custom polarizing filter & MidOpt BP550 IR Block - Visible Pass Filter

before&after
PHOTO CONTEST



Application: Black bead of material is inspected for width, position, and consistency inside a cylindrical object.

Camera: Cognex Camera (multiple used)

Area of Spectrum: Visible

Light Source: Xenon Strobe light source with Fiber Optic cable to end effector

Filters Used: PS007 Custom shaped Linear Polarizer, BP550 IR Block - Visible Bandpass Filter, AC380 Protective Acrylic Window

APPLICATION OVERVIEW

Image 1: Glare is present on the black material (no filters). Product is black & white.

Image 2: Glare is reduced by using a unique setup of polarizing filters that were made by MidOpt. The unique setup is shown above in which three pie-shaped polarizers were fit into a peace-sign fiber-optic end effector. The direction of polarization of these pie-shaped polarizers served to eliminate glare caused by both direct reflections of light and the Brewster effect of reflected light polarizations. In other words, the cylindrical geometry of the object under inspection interfered with the ability to use just a simple 1D polarizer for a multiple camera system. This geometry of polarizers served to polarize the light source in such a way that would benefit every camera inspecting the product. The cameras were additionally cross-polarized with PR032 polarizers from MidOpt.

Image 3: Glare is eliminated completely by using the BP550 filter to eliminate any UV or IR being generated from the Xenon light source. This filter was necessary because standard polarizer filters do not polarize light in this range of the spectrum.

In addition, the AC380 filter from MidOpt was used as a protective surface for the end effector.