

Using Fixed Thermal Imaging to Ensure Quality Results, Every Time

Introduction

The automotive industry boasts one of the most sophisticated, and increasingly complex, supply chains in manufacturing. Suppliers of varying sizes must manufacture a variety of pieces while adhering to strict quality requirements that ensure each component of the final vehicle results in one that is a safe to drive.

What determines quality, however, depends on your unique situation and workflow. Backlight manufacturers, for example, must test every rear window to ensure the defroster grid meets stringent specifications. Without proper evaluation, defective products could move downstream, potentially reaching the OEM or end customer – which could see additional repair costs occur as well as manufacturers damaging their relationship with the OEM.



Methods of Quality Inspection

Continuing to look at backlight manufacturers, there are multiple methods that facilities can undertake to perform quality tests on the final product. An older method, for example, saw sites pass aluminum rollers over the window defroster grid to check for electrical continuity. Other testing methods may require contact temperature measurement devices, such as thermocouples, on each grid element. While thermocouples can give you the reliable data you need, they can be mechanically cumbersome and take significantly longer to evaluate the product.

With fixed thermal imaging, however, tests are nearly instant once a voltage is applied to the heating grid, and they're far more comprehensive so you can ensure temperature specifications meet your application standards and help improve throughput.

Expand Your View

The ThermoView TV40 is a fixed thermal imaging camera and software package that provides continuous infrared and visual feeds with actionable analytics that are ideal for facilities producing product that must undergo quality inspections. The infrared camera can read temperatures up to 1200 °C (2192 °F), features simultaneous infrared and visible sighting for easy alignment and the ability to quickly locate inconsistent temperatures, is rated for ambient temperatures up to 200 °C (392 °F) with additional accessories, and more.

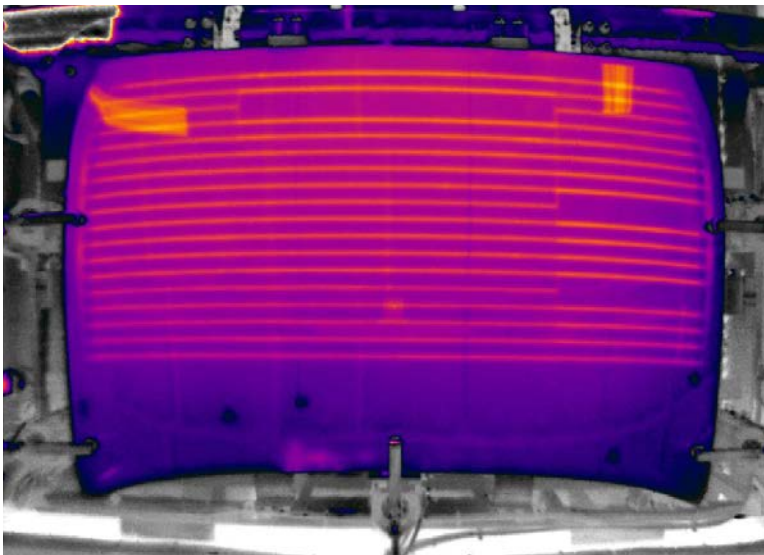


Figure 1: Bad part isotherm

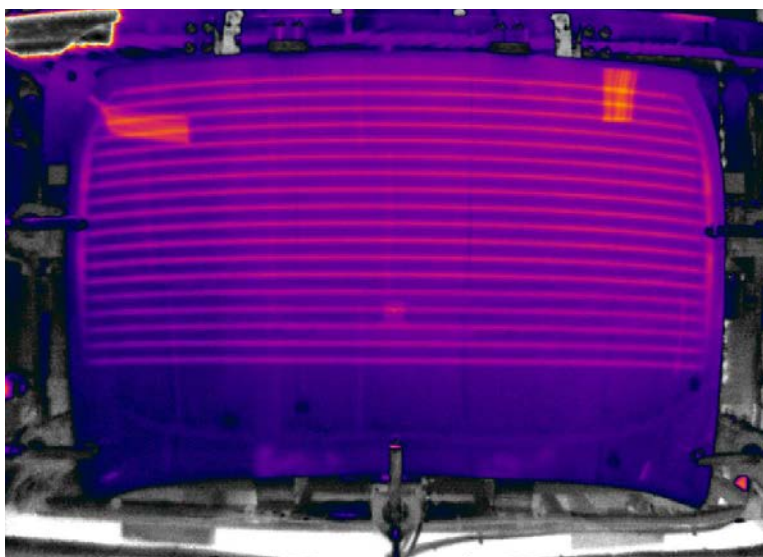
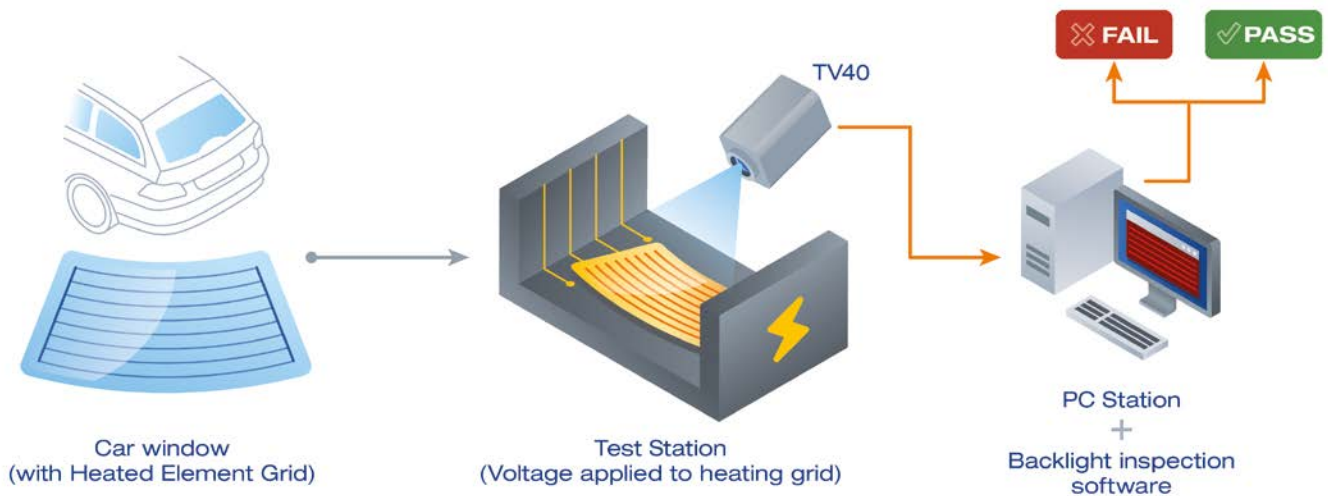


Figure 2: Good part isotherm

The TV40 also features image subtraction, which accounts for changing ambient temperatures and calculates the temperature different, as well as automatic snapshots on failed parts – giving operators the ability to quickly identify faulty parts.

With the ability to personalize your integration and automate your product quality inspections, fixed thermal imaging also enables you to set unlimited areas of interest and alarms that notify your team when parameters are out of your established conditions. Furthermore, the ThermoView software allows you to use additional accessories, such as the Pan and Tilt, for complete coverage.

Conclusion

By implementing a non-contact temperature measurement solution like fixed thermal imaging, you can gain better control of your quality inspection processes – helping you to improve uptime and throughput in a cost-effective manner. The ThermoView TV40 is also an ideal solution for safety inspections and process monitoring or control.

Fluke Process Instruments

Americas
 Everett, WA USA
 Tel: +1 800 227 8074 (US and Canada only)
 +1 425 446 6300
 solutions@flukeprocessinstruments.com

EMEA
 Berlin, Germany
 Tel: +49 30 4 78 00 80
 info@flukeprocessinstruments.de

China
 Beijing, China
 Tel: +8610 6438 4691
 info@flukeprocessinstruments.cn

Japan
 Tokyo, Japan
 Tel: +81 03 6714 3114
 info@flukeprocessinstruments.jp

Asia East and South
 India Tel: +91 22 62495028
 Singapore Tel: +65 6799 5578
 sales.asia@flukeprocessinstruments.com

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 Fluke Process Instruments offers services, including repair and calibration. For more information, contact your local office.

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 9/2020 6012268b-en

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