

Attain 100% quality on welded plastic automotive parts with fixed thermal imaging

Introduction

The automotive industry boasts one of the most sophisticated—and increasingly complex—supply chains in manufacturing. Automakers, also referred to as OEMs, rely on suppliers of varying sizes to manufacture components that are assembled into a final vehicle. Strict quality requirements ensure materials and manufactured systems, from Tier 3 to Tier 1 suppliers, result in a car that is safe to drive. When it comes to meeting those stringent quality requirements, suppliers can encounter prohibitive costs that don't always allow for complete, quality inspections; and fixed thermal imaging is a cost-effective way to ensure these parts are delivered to automakers with 100 % quality inspection.



Prevent bad product from driving off the lot

Today, plastics can account for up to 50 % of a vehicle's volume and certain plastic components, such as protective casings for the airbag system's electronic control unit, can require a 100 % – passing inspection due to safety concerns. These types of parts, for example, often have redundant testing procedures; however, fixed thermal imaging can provide a clear picture as to where a weld fault is, allowing your team to discard the part immediately after it's manufactured and without wasting valuable test time later in the process.

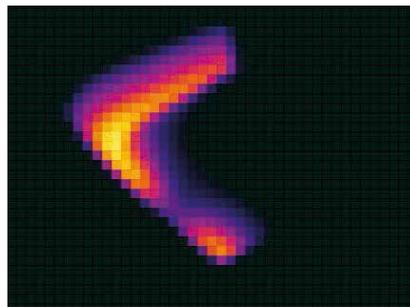


Figure 1: Bad plastic weld

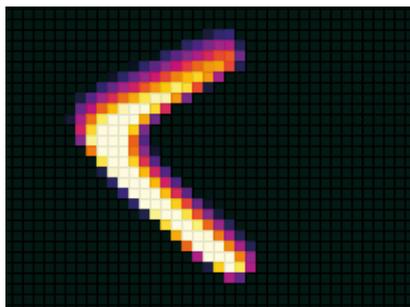


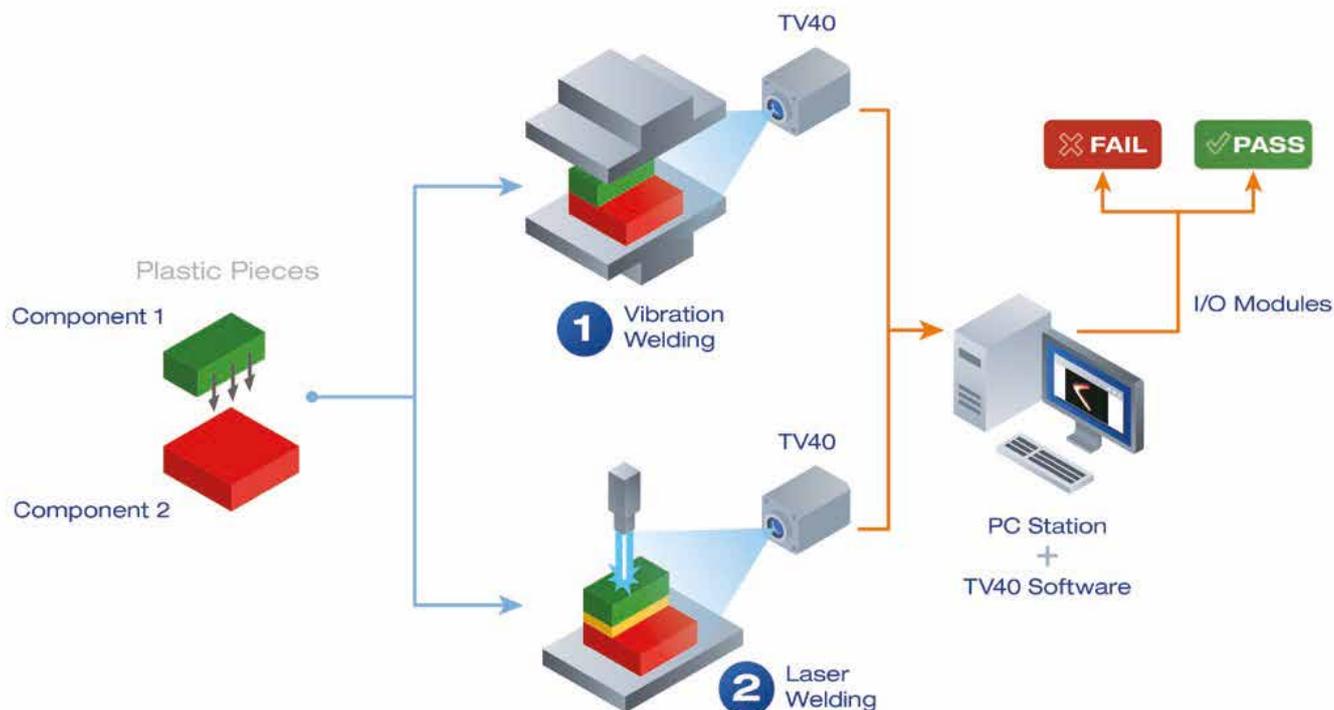
Figure 2: Good plastic weld

Factors of infrared quality inspection

Alternative methods like IR machine vision systems can detect a continuous weld (or lack thereof) but are not able to measure temperature, which could prove to be problematic in applications where temperature differences indicate a bad weld, such as ultrasonic welding. Other quality tests may also be too time intensive or cost prohibitive to allow for a complete, 100 % inspection.

The ThermoView solution

Fixed thermal imaging is a cost effective and comprehensive method to inspect welded parts before they move further downstream. Customizable Areas of Interest (AOIs) allow your team to inspect along any weld—no matter its geometric complexity. Automatic snapshots on failed parts give operators the ability to quickly identify and



troubleshoot faulty locations. Meanwhile, project loading through digital inputs helps completely automate the inspection process.

Our ThermoView solution integrates with your existing control systems through industry standard I/O modules and a comprehensive software package, making it possible to implement detailed automation projects without going through an expensive integrator. When the inevitable question does arise, our global support team is here to help guide you back to production with an in-line, continuous, and quality monitoring system.

Conclusion

When manufacturing essential, plastic-based automotive components, achieving a 100% quality inspection is top priority. Current quality tests can be a major drain on both your time and production costs, but they don't have to be. The ThermoView solution offers Tier 1 automotive suppliers a cost effective, easy to implement, and 100% confident quality inspection system for plastic component manufacturing.

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