APPLICATION NOTE

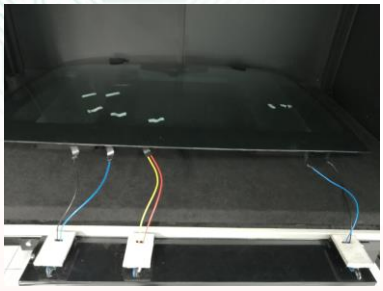
Thermographic inspection of heated windshield

Thermographic inspection of windshield is possible through the use of **bcbTestBench®**, *a customized software based on* **FLIR** *IR technology.*

To provide a high-quality service to customers, an inspection station with an automated system has been developed, capable of performing a complete thermographic verification of the components.

Thermographic technology plays an important role in the inspection of heated windshield. The verification of resistive filaments and the visualization of different deltas of temperature, positions thermography as the most sophisticated, reliable, easy and fast detection technology, by achieving an exhaustive analysis and supporting a better decision-making process based on the acquired results, ensuring to the maximum the integrity of its tests and, therefore, increase in the production and satisfaction of the clients.

FLIR A615 is ideal for continuous monitoring of heated windshield.

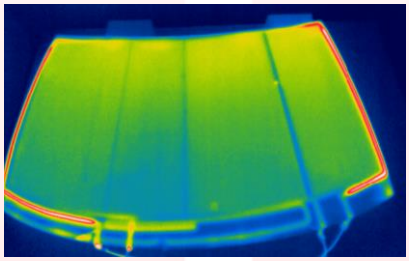


Windshield to be inspected, shown inside the test booth.

With the help of thermography and the **bcbTestBench®** software, it is possible to carry out an early detection and, therefore, propose improvements to the performance of the windshields by using FLIR thermal imaging cameras. The software can link more than 300.000 recognition points of temperature by converting a matrix incorporation into a radiometric image. Thermographic inspection has become an essential testing activity allowing the development of new and better components.

Thermographic inspection cabin for heated windscreen

Through a metallic cabin with a matte black finish interior, an automated electrical supply and a thermographic inspection system, each windshield is analysed for quality purposes. This cabin provides voltage to 3 circuits of the windshield, in order to defog the glass in places with cold climates and thus allow the driver's visibility or remove the ice formed due to large snow storms.



Thermal image of a faulty windshield.

Official dealer & integrator TELEDYNE FLIR Everywhereyoulook

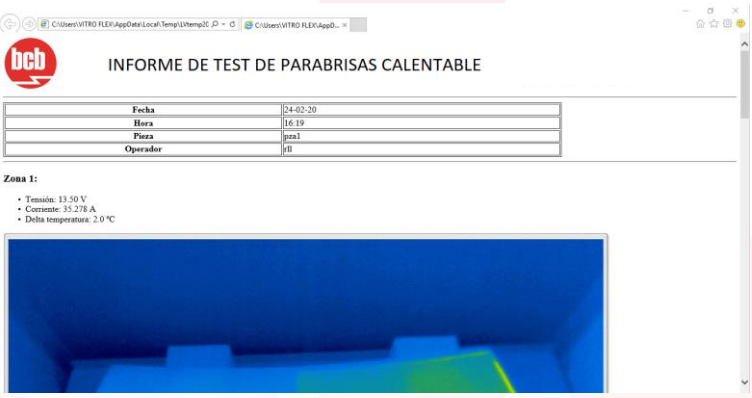
APPLICATION NOTE

The practical design of the cabin allows to introduce the component with a sliding plate and manage the connection and disconnection of the windshield in an easy, fast and safe way.

Thermographic visualization and system's control

The system's control allows the communication between the instruments and the computer, where the **bcbTestBench** software is installed. It is responsible for processing the images and allowing the communication with the electrical instruments in order to provide each circuit with current and voltage necessary to achieve its thermal increase.

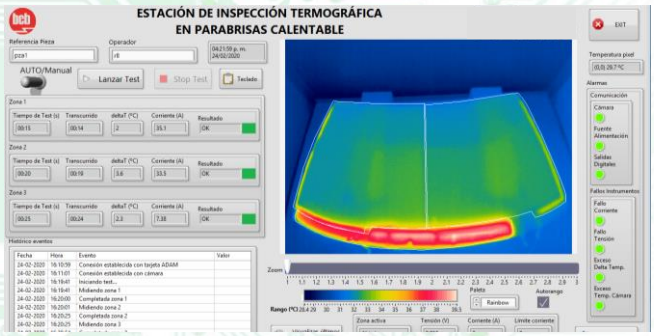
All this is possible thanks to the thermal measurement carried out by the bolometric sensor inside the chamber. The power in the resistive areas of the windshield generates a thermal change that is appreciable with the thermographic camera permitting the visualization of the adequate distribution of heat and incomplete filaments.



Report generated by **bcbTestBench** software with temperature, current and voltage data.

Software

Although the system's objective is the thermographic inspection of heated windshields, the **bcbTestBench** also gives the possibility of carrying out thermographic tests manually and automatically, recording communications with the help of an event history, visualization on the screen of thermal images, current records, voltage and resistance measured during the test time. Also, it has a report generation and alarms for instrument failures.



Graphical interface of the **bcbTestBench**: Software for inspection of heated windshield.

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