

Thermography

Optical Measurement
and Test Systems



The method of thermography enables the visualization of the surface temperature in objects. Due to the optical, non-contact use of thermal imaging cameras, it is perfectly suitable for measurement technology. The number of possible applications is almost infinite from process monitoring and maintenance to the detection of anomalies.

The technology has developed constantly over the last few years and is thus increasingly useful in industrial environments. The cameras now offer numerous advantages such as:

- Line mode for continuous control of strip material
- fast frame rate
- relatively high resolution

imess uses the technology in applications for quality control and dimensional accuracy checks in the line. For example, the distribution of temperature in strip and sheet material is checked or thermography is used to detect material defects.

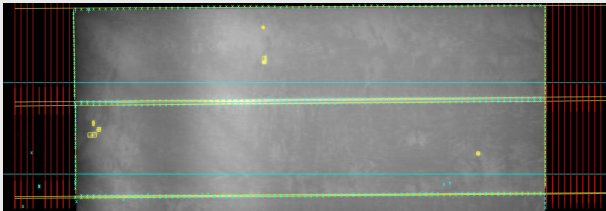
T100

Surface inspection

Different temperatures in the component can be an indication of flawed production. Thermal imaging cameras visualize them to determine contrast and, for instance, check for various geometric features.

Sample application: Coated panels

Bubbles may occur during the coating process. They become visible when the panels are heated because they heat up faster than the rest of the material. The software detects the increased temperature and thus localizes and measures the hollow space. If the size exceeds the permitted tolerance, a signal is transmitted to the customer's control system.



Features

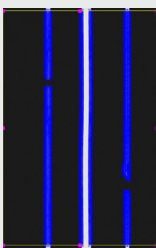
- Freely selectable tolerances
- Test plan
- Password-protected parameters
- Line mode
- 100% control



Take a look:
www.imess.com/vertrieb/T100.mp4

Sample application: Seams on band material

Seams occur when plastic is welded. These seams have a higher temperature. This effect is suitable for checking the seam with a thermal imaging camera. The seam is visible in the camera image and evaluated by the imess software with regard to various inspection features. Among other things, it is possible to continuously check the number and width of the horizontal or vertical seams. In particular, critical interruptions are reliably detected. In the event of deviations from the nominal specifications, this is signaled to the customer's control system.



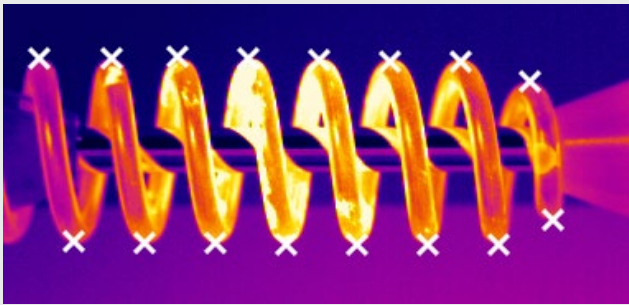
Other possible applications:

- Casting process monitoring
- Truck tyre inspection

The intended distribution of the temperature is reliably monitored to 100 % even in complex workpieces with this kind of test.

Sample application: Springs

In this application, relevant test points on the spring are automatically found and checked for correct temperature. The software displays the measured temperature of the spring and the deviation between set and actual values. The extensive statistics function covers the last 500 measurements and includes the average temperature of each spring as well as its tolerances.

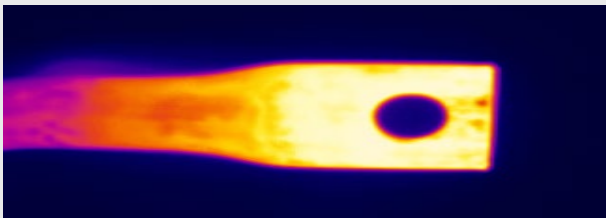


Features

- Dynamic tracking of the measuring position
- Detailed statistics
- User-friendly software interface
- Graphical evaluation
- Display of the current temperature
- Password-protected parameter management

Sample application: Stabilizers

The heating of the stabilizers is used on the one hand to analyze the temperature before and after punching and on the other hand to check the geometry of the stabilizer ends. When viewed by a thermographic camera, the stabilizer exhibits a high contrast to the cold environment, so that geometric features can be precisely determined.



Characteristics

Perforation

Symmetry

Dimensions

Outer contour / burrs

Further characteristics on demand

Areas of thermography applications

- Plastics industry
- Spring industry
- Steel industry
- Glass industry
- Material testing
- and many more

Your demands

The use of thermography or thermal imaging cameras for quality control has many possible applications.

Contact us with your inspection task.

