

Application Note

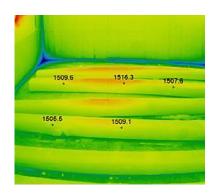
ANNEALING FURNACE



The Opportunity

Annealing is a controlled heating and then cooling process that changes the metal's characteristics. It is often a relatively slow process requiring significant energy. Inaccurate temperature measurement, non-uniform ovens, or poorly sealed furnaces lead to added costs and reduced quality.

A thermal imaging system can help control uniformity inside furnaces with zone control and can be used to monitor door seals and external insulation to find leaks and other sources of heat loss



Annealing furnace thermal image

Our Solution

For temperature measurement of the product as well as the furnace, LumaSense offers a specialized thermal imaging solution:



FurnaceSpection™

Designed and developed for continuous temperature measurement inside high temperature furnaces.

FurnaceSpection™ helps operators monitor and control process temperature uniformity through streaming images and powerful software for analysis and historical trending, outputs to automation and DCS, and a real-time web server to broadcast images on the plant's local network. Customers can reduce cycle times while at the same time improving quality and process repeatability.

- Rugged IP66, air cooled, protective enclosure
- Accurate 640 x 480 focal-plane array thermal imaging camera with sensitivity of 0.06 $^{\circ}\mathrm{C}$
- Real-time tool for quickly and accurately identifying process abnormalities

Your Benefits

- ✓ Non-contact, direct, and accurate temperature measurement of the metal and furnace
- Automatic recording and documentation of temperatures
- ✓ Minimum system maintenance required
- Increased safety with reduced employee interactions



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