

Thermal growth phenomena in low-voltage electrical installations

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Thermography has long been used to monitor thermal regimes in industrial facilities and technological processes. In recent years, thermography has gained significant importance in maintenance, particularly in the following areas:

- monitoring electrical installations for regular prevention, to identify heat spots (operational data show a reduction by at least 10-fold of the damage caused by imperfect contact)
- monitoring of clutch, bearings, electric motor stators, lubrication and cooling systems
- monitoring the integrity of thermal insulation of fixed and rotary kilns, and heat exchangers.

In this paper, the following daily conditional maintaining activities within Apa Nova, Bucharest, are presented:

- electrical equipment thermographic scanning and monitoring of the evolution of temperatures
- heat loss detection through the conductor of a heat engine in a generator
- thermographic scanning of moving parts in mechanical equipment.

Keywords

Electrical installation, heat losses, mechanical failure, temperature monitoring, thermography