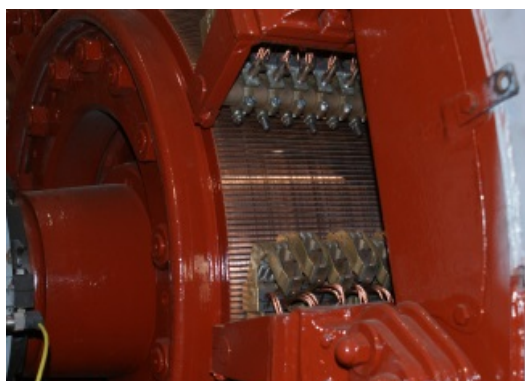
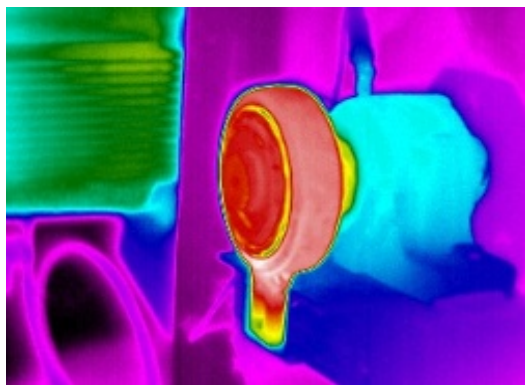


Multi-technical monitoring

Your requirements

- RELIABLE production tools
- CONTROL your costs
- PLAN work in good time
- SEEK the causes of malfunctions



The solutions

- Monitoring the production equipment
- Electro-mechanical assessment before preventive stoppage
- Clear summary report
- Recommendations covering the whole unit

■ Complementary techniques

- The vibratory analysis to monitor the mechanical state of the facility
- Thermography to monitor the thermal footprint
- The electrical analysis to monitor the power supply, regulation etc.
- The complementary oil analysis for the reducing gears

■ An original and unique concept

The combined use of several techniques makes it possible to :

- Refine the diagnosis by correlating the results
- Perform the monitoring of the whole equipment
- Carry out targeted recommendations
- Provide an exhaustive report on the overall state of the facility

■ Means adapted to each installation

- Specialists for each technique
- A differentiated periodicity of the inspections
- Electrical analyses specifically for the type of engine or generator
- Measurements extended to high voltage if necessary
- Static and dynamic electrical analyses

■ Taking into account past experience

- Exchange among the parties involved
- Feedback on the maintenance actions recommended
- Cross-checking the symptoms relating to each technique

▪ Vibratory monitoring

Measuring vibrations makes it possible to monitor the mechanical state of a machine. It is based on the evolution of indicators coming from periodic measurements. It makes it possible to decide on defects of types involving unbalance, alignment, bearings, electro-magnetic phenomena, as well as defects involving teeth, belts...

▪ Thermographic inspection

Thermographic inspection makes it possible to detect abnormal temperature rises on the rolling bearings, shaft lines, plain bearings and pulley-belt units. It also makes it possible to check the thermal footprint and the operating temperature at the winding.

The hot spots on the power supply cabinets are also detected.

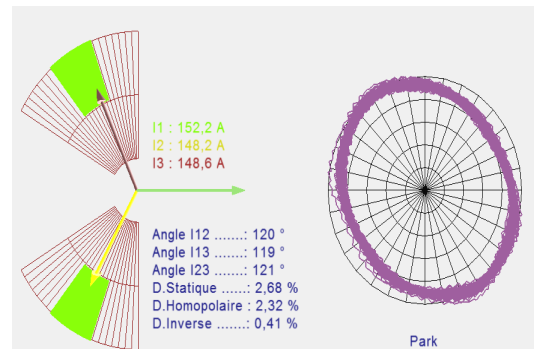
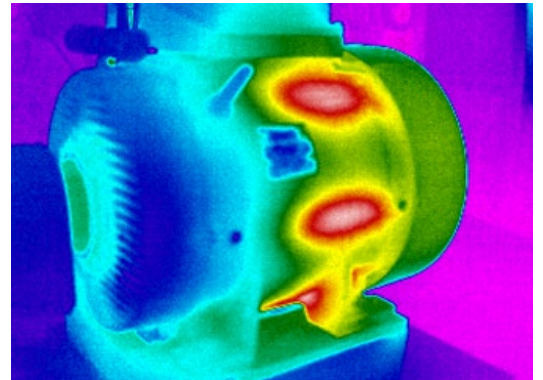
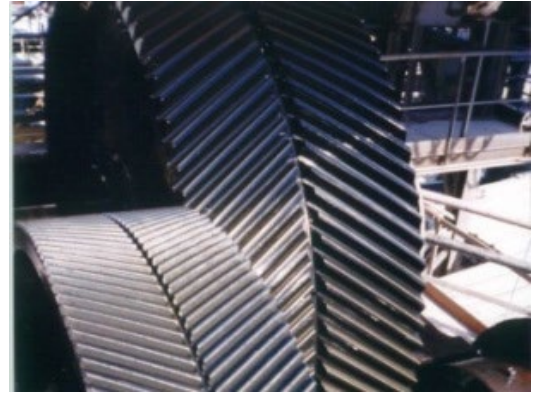
▪ Electrical inspection

The electrical inspection is based on two types of measurements :

- Operating measurements: intensities, phase-to-phase and phase-to-earth voltages, active and reactive powers, cosines, harmonics, and torque fluctuations.
- Measurements at a standstill: polarisation index, insulation, brush, commutator, slip-ring testing...

These tests make it possible to :

- Diagnose electromagnetic defects
- Detect any overloads
- Diagnose the power supply defects and current unbalances, regulation and ventilation defects.
- Check the operating conditions in relation to the standard and manufacturers' recommendations.



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