

Case Study

Electrical Condition Assessment for Nampak Glass Insurance Requirements



Client Background

Nampak Glass is a leading glass manufacturer producing glass bottles for the food and beverage industry. The state-of-the-art manufacturing facility in Roodekop, Gauteng operates three furnaces and nine parallel production lines to produce a total of 260,000 tons per annum. This output consists of bottles in a variety of customised shapes, sizes and colours.

Nampak Glass asked Martec to investigate implementing a service level agreement (SLA) based on GRC (guide for maintenance and testing of electrical power system equipment) that would be linked to the insurance requirements.

Martec studied the GRC document and adopted the process into the electrical services SLA, which will cover the insurance requirements.

Key Challenges

- Ensure that Martec testing and condition assessments provided to Nampak Glass adhere to the GRC maintenance guide.
- Implement the system cost effectively with the required periodic visual inspections, testing and online condition assessments.
- The Nampak Glass electrical plant is unique and can only be maintained during colour changes, therefore it is important to implement non-intrusive online condition monitoring systems without impacting production.

The key is "right information at the right time".

Implementing a successful electrical condition assessment and testing results led to increased performance and reliability with life extension characteristics. The GRC guidelines will improve the quality of power supply to the network of Nampak Glass and cover the insurance requirements.

Martec Intervention

- Condition Monitoring Service
- Sub-station hazard identification
- Electrical Discharge Detection (non-intrusive)
- Quality assurance provided for the execution of work
- Verification and validation of successful corrective actions
- Periodic trending of performance and defect development



Value Add

- Increased environmental safety
- Improved personnel working conditions
- Enabling of quality controlled work execution
- Restoration of a safe electrical system
- Increased asset performance
- Increased asset reliability
- Reduced risk of failure
- Potential production loss avoided



Tools and Technology

- Frequency System Analyser
- Tan Delta
- Very Low Frequency Testing
- Partial Discharge Mapping
- Quality Assurance Procedure
- Infra-red Scanning
- Ultrasound Scanning