



QUALITY CONTROL IN METAL HEAT TREATMENT

The system has been designed to ensure the quality control for heat treatments in a plant division equipped with heterogeneous furnaces (multi-chamber furnaces, pit furnaces, tempering and hardening furnaces), replacing traditional paper recorders and creating production reports. Furnaces are equipped with their own instrumentation (PLCs, Eroelectronic/Gefran controllers, recorders) and can perform different kind of heat treatments (hardening, tempering, annealing, stabilization, normalization). The system gathers heat treatments measures of all division from a parallel data acquisition network without entering any interference to the existing control instrumentation; collected data (temperatures, carbon percentages) are continuously referred to theoretical curves values set in every production recipe to verify the quality of the process. At the end of every production process, reports are generated containing load identification data, process variable curves and alarms. All historical data and reports are exported in a MS Office compliant format and extended to the quality control division. Alarms coming from process and machines are recorded and broadcast to maintenance staff and, in case of not guarded plant, to surveillance staff. Two PClog client stations and a PClog server TCP/IP provide system HMI, ensure data integrity and maintain plant work continuity.