

PAUL WURTH SERVICING**HEATING, COMBUSTION & EMISSION ANALYSES****EFFECTIVE AND COST SAVING!**

A coke oven plant is subject to very high temperatures, whose distribution heavily influences both the coke quality and the lifetime of structures and bricks.

The thermal process within the coke oven plant involves gas combustion and generates emissions. In order to ensure environmental compliance and optimise energy consumption, it is crucial to minimise pollutant concentrations in the waste gases and to reach the correct combustion ratio.

Heating, combustion & gas emission analyses

The analyses proposed by **Paul Wurth** involve a general survey of the parameters that influence the life and efficiency of the coke oven plant. It includes two main activities: Heating Analysis and Combustion/Emission Analysis.

The Heating Analysis (thermal profile of the battery) is performed by detecting each oven temperature through the inspection holes at the basis of each heating wall (a recorder connected to the measurement system can be utilized).

The Combustion and Gas Emission Analysis is performed by analysing the battery emissions and specifically the waste gas composition including O_2 , NO_x , SO_x and the dust rate in each waste gas box. Therefore, a waste gas analyser operated by skilled personnel is necessary.

Your benefits

A professionally performed regular survey allows to optimise consumptions and prevent pollution. Moreover, correct heat distribution prolongs the life of the battery. Needless to say that the oven temperature is linked to the distillation time and consequently to the battery production.

Amongst other, you can get the following benefits from our analyses:

- improved coke quality
- decreased pollution
- possible increase of production
- avoiding not distilled or overdistilled coke phenomenon
- avoiding temperature differences in heating flux





HEATING, COMBUSTION & EMISSION ANALYSES

Field of application

This servicing activity can be performed for any Coke Oven Battery supplied by Paul Wurth or by another company.

Given Paul Wurth's comprehensive know-how in coke making technology, the analyses are independent from the type of charging system (top or stamp charging) or from other specific coke plant characteristics.

Why to charge Paul Wurth with this activity?

As a global leading technology provider for the primary stage of integrated steelmaking, Paul Wurth has developed a sound expertise in coke making technology.

By supplying and commissioning coke oven plants and batteries worldwide, Paul Wurth has accumulated large experience and dedicated skill to give assessment on COP conditions and suggest the appropriate remedies.

What do you get from this service?

- Report on the temperature distribution of each battery (graphics and tables), including a diagnosis with action plan on how to restore the best operating conditions
- Report on the combustion products and the emission status with restoring action plan
- Fluid dynamics simulation with FLUENT software (FAN), if necessary
- Proposal of actions to tune/adjust the plant as far as both thermal efficiency and pollution control are concerned
- Possible implementation of a second level automation (SUPRACOK)
- Operators' training
- Verification/development of safety procedures
- General trouble shooting with effective solutions