

Burners, combustion and NOx emissions

Introductory training

duration
1 ½ days

date
13 – 14 October 2021

location
Eindhoven, The Netherlands – or Online

Fossil fuel combustion is a key element affecting glass furnace emissions and energy consumption. Combustion settings and burner types influence heat transfer and formation of aggressive and polluting such as NOx. In addition to explaining the various mechanisms responsible for polluting, the course will explain how to reduce emissions both from the perspective of primary (process integrated) and secondary (end-of-pipe) techniques.

Contents

- Combustion mechanisms
- Emissions sources and legislation

- Glass furnace energy balance
- Radiation and heat transfer

- NOx formation
- Burner types
- Staged combustion

- Carry-over and evaporation

- Impact of combustion on redox

- Combustion monitoring & control
- Abatement technologies

Training methods

We offer a blended learning approach by mixing e-learning, lectures, open discussions, exercises, and case studies in teams or individually. The number of participants per course is between 10 and 25 to maximize your learning experience. Participants always receive the presentations and a training certificate.

Level of seniority

This training is meant for novice to advanced beginners who would like to improve their understanding and apply the knowledge during practical cases.

Investment

Training costs € 1,450 per participant, € 1,350 for each extra participant per company. Price includes 2 lunches and 1 dinner. It excludes accommodation, travelling, tax and duties. excludes tax and duties.

After the training

- You realize the mutual interaction between batch components & combustion atmosphere on one hand and glass quality & furnace lifetime on the other hand.
- You are trained to find industrially feasible emission limits for different glass and furnace type.
- You are familiar with techniques to reduce emissions.
- You can diagnose causes of emissions and define measure to reduce them.

We do our best to ensure that the events take place. However, CelSian reserves the right to cancel up to two weeks prior to the training, proposing new dates or refunds. Cancellation fees apply from 4 weeks before the event: more than 4 weeks before training free of charge, less than 1 week before training 50%; otherwise full price. In case of an unexpected event, we are happy to look for a voucher solution for future courses.



We welcome your questions by e-mail: academy@celsian.nl Register on www.celsian.nl

Online access to this training can be offered and the training may be fully given online.