

# Glass melting technologies

## Introductory training

duration  
4 half days

date  
March 4 - 7

location  
Online or Eindhoven,  
The Netherlands

This training provides an eminent overview of the key process steps involved in converting raw materials into a glass melt ready to be delivered to the forming process. The general description of glass production enables trainees who desire generic knowledge of glass melting to understand the challenges of glass production. At the end of the training, you will have a clear view of the main challenges in glass production and how they are linked to raw materials, furnace design, and process settings.

### Contents

- Production lines for different glass types and products
- Furnace configuration: end port, cross-fired, oxygen-fired, electric melters
- A glass furnace is a chemical reactor
- Glass quality : fining process
- Raw materials, recycling and carry-over
- Regenerators and recuperators
- Evaporation and condensation
- Refractory types, properties and challenges
- Energy consumption of glass furnaces
- Environmental aspects and emissions

### 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 8 and 20 to maximize your learning experience. Participants always receive the presentations and a training certificate.

### Level of seniority

This training is meant for advanced beginners to skilled professionals willing to deepen their knowledge.

### Investment

Training costs € 2.190,- per participant. This is the equivalent of 4 tons of glass. Price excludes tax and duties. The 6th participant from the same company can join for free.

### After the training

- You have a clear overview how raw materials affect melting, energy consumption, glass quality and furnace lifetime
- You understand the link between energy consumption (& CO2 emission) with fuel source, furnace design and operation
- You know how emissions can be minimized by primary and secondary measures
- You are able to pinpoint critical furnace conditions and process settings that affect furnace lifetime
- You can perform faster trouble shooting and come up with ideas to solve the problem.

Cancellation fees apply. 1 week before training 50%; no show, full price. In case of an unexpected event, we are happy to look for rescheduling or voucher options. Celsian reserves the right to cancel up to two weeks prior to the training, proposing new dates or refunds. Are you registering as a group? You are entitled to a 15% discount on all courses: for 5 registrations, the 6th participant can join for free.