

# General Glass Technology

## American summer edition

duration  
5 days

date  
June 20 - 24

location  
Detroit area, US and/or Online

The training course is an excellent introduction for new entrants to the glass industry and a perfect refresher for more experienced ones. This course contains a global overview of key glass making technologies from raw materials till the glass forming process. At the end of the training, you will have a clear view of the industrial glass production process, understanding of the current and future challenges, and plenty of ideas to optimize your process. This comprehensive course was developed in cooperation with the National Committee of the Dutch glass industry (NCNG).

### Contents

- Glass and melt composition, structure, properties
- Raw materials and REACH
- Cullet and recycling
- Batch processing
- Carry-over
- Batch-to melt conversion energy and kinetics
- Redox, colour and heat transfer
- Fining and foaming
- Evaporation
- Furnace types, design and control
- Electrical melting
- Combustion and NOx
- Energy efficiency
- Emissions and Carbon capture
- Glass defects : bubbles and inclusions

### 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 receive the presentations, a training certificate and a comprehensive 800-page textbook on industrial glass technologies.

### Level of seniority

This training is very comprehensive and suitable for all technical people in relation with the glass industry, from novices to competent professionals.

### Investment

Training costs **€ 2950** per participant. When onsite, price includes 5 lunches and 2 dinners. It excludes tax and duties. The 6th participant from the same company can join for free.

### After the training

- You can improve various glass properties by tuning their composition and optimizing raw materials.
- You know how to react when redox-based issues occur and impact heat transfer, fining, foaming and colour of the glass.
- You recognize solid and gaseous defects; you know their origin and have ideas to solve a crisis.
- You can select process design and operation parameters to achieve emission reduction, energy savings and improve sustainability of glass production.

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.



We welcome your questions by e-mail: [academy@celsian.nl](mailto:academy@celsian.nl) Register on [www.celsian.nl](http://www.celsian.nl)

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