

# Glass Technology training

duration  
5 days

date  
27 Sept – 1 Oct 2021

location  
Eindhoven, The Netherlands

This training 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, recycling, batch processing, carry-over
- Melting and kinetics
- Redox, colour and heat transfer
- Fining and foaming
- Glass defects : gaseous and solid inclusions
- Annealing, tempering, mechanical properties
- Furnace types, design and control
- Combustion
- Evaporation
- Refractories
- Energy efficiency
- 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 10 and 25 to maximize your learning experience. Participants will receive the presentations, a comprehensive textbook (about 800 pages) on industrial glass technologies and a training certificate.

## 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 € 3,450€ per participant, € 2,750 for participants from GlassTrend member companies. Price excludes tax and duties.

## 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 optimize process design and operation parameters to achieve emission reduction, energy savings, to improve the lifetime of your process and the sustainability of your production.

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](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.