

# Glass Defect Diagnosis

## Introductory training

duration  
1 day

date  
March 22

location  
Eindhoven and/or Online

Product quality is vital in glass production. This short course focuses on the identification of solid and gaseous defects in glass, diagnosis of the problem and solving it at root cause. An overview is given of the potential sources of various defects and the available analytical techniques. Examples of defects (from container, tableware and flat glass) will be shown and the participants will be given the chance to analyze the defects themselves. Bubble diagnosis will be explained using case studies.

### 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 novice to advanced beginners who would like to improve their understanding and apply the knowledge during practical cases.

### Investment

Training costs **€ 950** per participant. When onsite, price includes lunche and refreshments. It excludes tax and duties. The 6th participant from the same company can join for free.

### Contents

- Explanation of solid defect sources (raw materials, recycling cullet, refractory, melting & fining processes)
- Characteristics of common defects (stones, devitrification, knots, cords, bubbles)
- Hands-on identification of solid inclusions
- Explanation of sources of bubbles and seeds
- Diagnosis and solution of bubble problems using case histories

### After the training

- You have an overview of common glass defects.
- You know the approach for efficient defect analysis.
- You are able to diagnose bubble problems and know how to solve these.
- You have knowledge of additional tools available to help diagnose more complicated defect cases (e.g. lab studies, CFD modelling).

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.