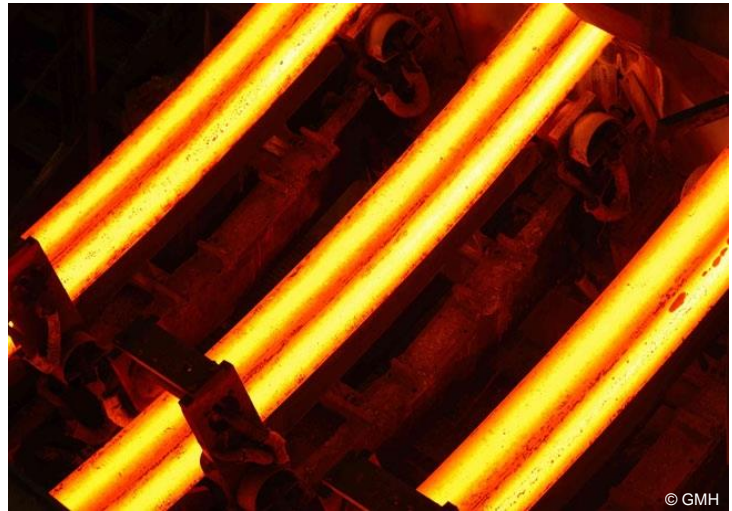


International Seminar

Continuous Casting of Steel

9 - 11 September 2025
Düsseldorf, Germany



AIM

This Continuous Casting Course is designed to train persons in continuous casting of steel. In three days, the essential topics of CC are explained in detail. The course is suitable to give an overview to newcomers and to train operating engineers in theoretical fundamentals

It offers you the opportunity to gain a deeper insight into a crucial manufacturing process in the steel industry. You will not only learn the technical fundamentals and the latest developments in the technology, but also the practical applications and challenges associated with continuous casting.

In addition, you can make valuable contacts with professionals and experts who can help you expand your network in the industry. The seminar also offers the chance to ask questions and benefit from the experiences of other participants. Overall, it is an excellent opportunity to deepen your knowledge and expand your professional skills.

CHAIRMEN

Dipl.-Ing. Dr. mont. Michael Bernhard

REGISTRATION FEE

EUR 1.090,00* seminar registration fee VAT-free plus
EUR 320,00 catering package (**total amount 1.410,00 EUR**)

EUR 1.290,00 registration fee VAT-free plus
EUR 320,00 catering package (**total amount 1.610,00 EUR**)

* for employees of member companies and individual members of the Steel Institute VDEh. Scientific staff of universities gets a 50 % off.

+++ as part of the VDEh young talents promotion also young engineers (up to 30 years) of member companies receive a 50% discount +++

The conference package includes food and beverages during the seminar (incl. 19 % VAT). This fee does not include the hotel room. A free withdrawal from the seminar is possible until two weeks prior to the start. Then, 25% of the seminar fee must be paid. The total registration amount will be charged for no show or cancellation from the first day of the event. The participant has to bear the cancellation costs of the seminar hotel.

CONTENT

- Fundamentals of solidification of steel
- Solidification microstructures of steel
- Technology of continuous casting
- Heat transfer and cooling technology
- Tundish to mold operation
- Defect formation in mold
- Internal defects
- Surface defects
- Sensors and automation
- Refractory materials
- Teamwork on CC process design

REGISTRATION

Steel Academy | Steel Institute VDEh
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VENUE / HOTEL

NH Düsseldorf City Nord
Münsterstr. 230-238
40470 Düsseldorf
Germany
nhduesseldorfcitynord@nh-hotels.com

Once we have confirmed your place on the seminar the Steel Academy will automatically make a room booking for the participants at the NH Düsseldorf City Nord from 8 September (the night before the seminar starts) to 11 September 2025 for a special rate of EUR 129 / night incl. breakfast. The hotel room bill will be settled by you upon departure. Please advise at your registration, if you do not need a reservation or whether you would like to stay longer in the hotel.

PROGRAMME

Tuesday, 9 September 2025

- 08:30 **Introduction to Course**
Personal introduction of lecturers and participants
- 09:00 **Fundamentals of solidification of steel**
Michael Bernhard
Introduction to CC | Phase equilibria | phase diagrams
Peritectic system in steel | precipitation during solidification
- 11:00 Coffee Break
- 11:30 **Solidification microstructures of steel**
Michael Bernhard
Nucleation | dendritic growth | micro segregation
Columnar-to-equiaxed transition | shell growth in CC
- 13:00 Lunch
- 14:00 **Technology of CC; Cooling Systems**
Jochen Wans
Development of CC | Products | Plant types | Technical components of casting machines | Primary and secondary cooling systems for solidifying strands
- 16:00 Coffee Break
- 16:30 **Heat transfer and cooling technology**
Christian Bernhard
Physical fundamentals of heat transfer | Primary cooling in the mold | Secondary cooling | nozzle types and recent developments | cooling strategies for specific products (until 18:00)
- 19:00 Common Dinner

Wednesday, 10 September 2025

- 08:30 **Tundish to mold operation I**
Gerhard Kemper and Thorsten Bolender
Tundish design | flow control systems | covering fluxes and cleanliness | Temperature evolution | hydrogen pickup
- 10:00 Coffee Break
- 10:30 **Tundish to mold operation II**
Stefan Senge
Mold oscillation | oscillation marks | mold flux selection | lubrication | fluid flow | flow control systems | EMS/EMBr

- 12:00 Lunch
- 13:00 **Defect formation in the mold**
Christian Bernhard
Initial solidification | sub-surface cracking | casting of peritectic steel grades | surface depression | slag entrapment | blow holes
- 14:00 Coffee Break
- 14:30 **Internal defects**
Christian Bernhard and Gerhard Kemper
Strand mechanics | strand guidance | hot tearing | centre segregation | centre porosity | soft and hard reduction.
- 15:30 **Teamwork on CC Process Design**
Stefan Senge, Michael Bernhard, Christian Bernhard (until 17:30)
- 18:00 Common Dinner

Thursday, 11 September 2025

- 08:30 **Surface defects**
Christian Bernhard and Gerhard Kemper
Surface cracks | Fine surface or subsurface cracks | Internal cracks
- 10:30 Coffee Break
- 11:00 **Sensors and automation**
Oliver Lang
Measurement systems for process control and equipment maintenance | mold instrumentation | new sensor developments
- 12:30 Lunch
- 13:30 **Refractory materials**
Emine Sari
- 15:00 Summary
- 15:15 End of the Seminar

SPEAKERS Ao. Univ.-Prof. Dipl.-Ing. Dr. mont. Christian Bernhard, Montanuniversität Leoben ■ Dipl.-Ing. Dr. mont. Michael Bernhard, Montanuniversität Leoben ■ Dr. Thorsten Bolender, Hüttenwerke Krupp Mannesmann GmbH, Duisburg ■ Dr. Gerhard Kemper, Hüttenwerke Krupp Mannesmann GmbH, Duisburg ■ Emine Sari, Weerulin GmbH, Mülheim/Ruhr ■ Dr.-Ing Stefan Senge, TataSteel Europe, IJmuiden ■ Dr. Jochen Wans, SMS group GmbH, Mönchengladbach