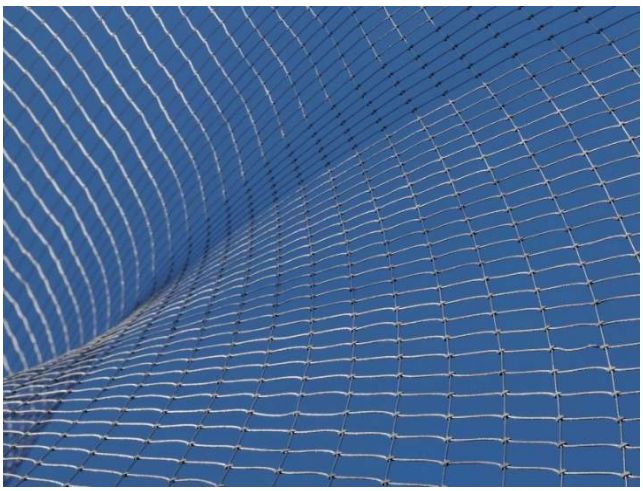
Stahl | Steel Institute VDEh

Steel Academy

Online Seminar / Live Stream

Stainless Steels



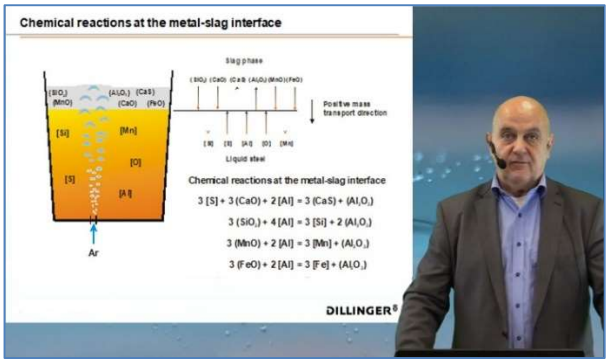
11-12 May 2022

9:00 a.m. to 2:00 p.m. CEST (Berlin time)

Target

Stainless steel is a material that is used for an ever-increasing range of applications due to its diverse properties. Not only the corrosion resistance but also the hygienic or aesthetic aspects lead to an increased use of the material in a wide variety of fields of application. This seminar is intended to help the user to better understand the material, to choose the right stainless steel for his project, to get to know the appropriate processing techniques and to avoid errors in processing.

Online Seminar Concept



Technical quality

The seminar will be broadcast as a live-stream from Steel Academy's film studio in Dusseldorf – with high quality camera, microphone and lighting. In the picture will be shown the speaker and his presentation.

Online seminar - how does it work?

- 2-3 days before seminar's starting you receive an e-mail with a link and a password
- the link leads you to the streaming platform vimeo.com
- you log in with the password
  => we recommend using earphones, LAN or good WLAN

Seminar handouts

Download of the presentations as a pdf

Content

- Production routes of stainless steels and history of stainless steel
- Basic metallurgy of stainless steels
- Chemical resistance of stainless steels
- Standards and codes, designations
- Groups of stainless steel and their properties
- Duplex steels
- Manufacturing of stainless steels
- Surface properties
- Applications of stainless steels

Chairman

Prof. Dr. Thomas Ladwein

Organisation

Steel Academy
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Registration Fee

€ 540,00* // € 590,00 VAT-free

* for employees of member companies and individual members of the Steel Institute VDEh. Scientific staff of universities gets a 50 % off. Also 50 % discount for each additional participant from the same company.

Cancellation free of charge is not possible after receiving of the log-in data.

+++ as part of the VDEh youth development sponsorship also young engineers (up to 35 years) of member companies receive a 50% discount +++

Programme

Wednesday, 11 May 2022

09:00 **Introduction**

09:10 **History of Stainless Steels**
André van Bennekom
A brief journey through 110 years of stainless steel development and production

9:25 **Basic metallurgy of stainless steels, part I**
Thomas Ladwein
Metallurgical principles, alloying elements and their function, crystal systems, phase diagrams

10:10 questions and answers or coffee break

10:25 **Basic metallurgy of stainless steels, part II**
Thomas Ladwein
Phase transformations, precipitations and their effects, strengthening mechanisms

11:10 questions and answers

11:25 **Production routes of stainless steels**
Andre van Bennekom
Melting, forming, heat treating, finishing

12:00 **Chemical resistance of stainless steels**
Thomas Ladwein
Corrosion basics, forms of corrosion, passivation and passivity, factors influencing corrosion properties

12:45 questions and answers

13:00 **Standards and codes, designations**
André van Bennekom
European and ASTM standards for various stainless steel alloys and product forms

13:45 questions and answers
afterwards: end of 1st day

Thursday, 12 May 2022

09:00 **Groups of stainless steels and their properties, part I**
Thomas Ladwein
Ferritic and austenitic grades, alloying principles, properties, characteristics and applications

09:45 questions and answers and the first coffee

10:00 **Groups of stainless steels and their properties, part II**
Thomas Ladwein
Martensitic and nickel martensitic grades, precipitation hardening grades, high temperature grades, alloying principles, properties, characteristics and applications

10:45 questions and answers

11:00 **Surface properties**
Raymond Cordewener
Surface qualities of rolled and forged products, mechanical and chemical treatments, pickling, passivation, surface hardening

12:00 questions and answers

12:15 **Duplex stainless steels**
Tom Ladwein
Alloying principles, duplex metallurgy, grades, mechanical and corrosion properties, applications

13:00 questions and answers

13:15 **Manufacturing of stainless steels**
Raymond Cordewener
Welding, hot and cold forming, machining

13:45 **Applications of stainless steels**
Raymond Cordewener
Overview over the applications of stainless steel products, architecture, commodities, household, food production, automotive, process industries

14:15 last questions, afterwards end of seminar

SPEAKERS Raymond Cordewener, R Cordewener Management & Consultancy BV, Maasbracht ▪ Dr.-Ing. André van Bennekom, Max Aicher GmbH & Co. KG, Freilassing ▪ Prof. Dr.-Ing. Thomas Ladwein, Steinbeis Transferzentrum Korrosion und Werkstoff, Augsburg