HiPerScale Seminar on

Oxide scale formation and flexible descaling during steel processing

23 November 2017, Düsseldorf

Aim
Scale formation during hot rolling cannot be avoided completely. For steel grades which are difficult to descale or prone to decarburisation - processed from both conventional (long, flat) and compact strip hot rolling lines, poor primary descalability or remnant residual scale lead to surface defects and poor as rolled surface quality. Strategies to optimise the reheating process, to condition scale formation and to improve the descaling process were developed during the last years. The seminar gives an overview on primary scale formation mechanisms and the interrelations with the process conditions, examples on scale conditioning and an overview on the latest developments for improved descaling based on selected practical research results. Innovative companies from steel industry will give an insight into their latest approaches.

The HiPerScale Project
The seminar is organised as a workshop activity within the project “HiPerScale” (High performance hot rolling process through steel grade-dependent influencing of the scale formation and flexible descaling control). This is a project sponsored by the Research Fund for Coal and Steel (RFCS; Project No. RFCS-CT-2014-00010). The aim of this project is to develop an integrated, energy efficient and flexible approach to improve oxidation, decarburization and overall descalability as well as the surface quality for difficult to descale steel grades. The project was started the 1st of July 2014 and ends in 2017. By this seminar the European steel plants will be informed about the activities and selected practical results in the HiPerScale project.

Who should participate
- Operating staff / engineers from furnace and hot rolling mills
- Staff from innovation departments or production optimization
- Technical purchasing agents in the steel and related industry
- Plant manufacturers for the steel and related industry
- Supplying industry for scale conditioning or descaling equipment

Price
Registration fee: 250 €* // 290 €
including lunch and beverages
* for staff of the HiPerScale project or employees of member companies and individual members of the Steel Institute VDEh.

A cancellation from the seminar is possible until 2 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.

Organizers
The seminar is organised as an activity within the project project “HiPerScale” (High performance hot rolling process through steel grade-dependent influencing of the scale formation and flexible descaling control)
The project is sponsored by the Research Fund for Coal and Steel (RFCS). The project group consists of:
- VDEh-Betriebsforschungsinstitut GmbH, Germany
- Arcelor Mittal Ruhrtal, Germany
- Brno University of Technology, Czech Republic
- Centre Research Métallurgique, Belgium
- Centre Sviluppo Materiali, Italy
- Emuref, Belgium
- Siderior Investigación y Desarrollo S.A., Spain
- Swerea MEFO, Sweden
- Tata Steel, UK
- thyssenkrupp Steel Europe, Germany

Registration
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Thursday, 23 November 2017

09:00 Registration
09:30 Welcome

Scale Formation Mechanisms and Interrelations with Process Conditions

09:45 Primary scale formation during reheating and its dependencies with reheating conditions
Didier Farrugia

10:15 The effect of Si and fayalite on scaling and descaling
John Niska

10:45 Influence of furnace atmosphere on scaling and descaling: pilot plant experimentation
Irene Luzzo

11:15 Coffee Break

Scale Conditioning by Application of Coatings

11:45 Overview on scale conditioning coatings
Miriam Sartor

12:15 Strategy to condition primary scale
Stéphane Deleuze

12:45 Lunch Break

New Descaling Strategies

13:45 Innovative shot blasting process to remove scale
Diana Espinosa

14:10 Performance study of descaling nozzles and new strategies to avoid problems in overlap area
Michal Pohanka

14:40 New descaling nozzles to improve the descaling process
Jochen Munz

15:10 Break

Pilot and Industrial Experiences on Scale Conditioning by Application of Coatings; Scale Detection

15:30 Strategies managing decarburisation in long product mill
Victor Santisteban

15:50 Descalability trials in a pilot line
Christian Müller / Martin Wunde

16:10 Short overview scale detection systems
Hagen Krambeer / Jan Niemi

16:30 End of the Seminar

Speakers
Stéphane Deleuze, Emuref, Belgium ● Diana Espinosa, Centre Research Métallurgique, Belgium ● Didier Farrugia, Tata Steel, UK ● Hagen Krambeer, VDEh-Betriebsforschungsinstitut GmbH, Germany ● Irene Luzzo, Centre Sviluppo Materiali, Italy ● Jochen Munz, Lechler GmbH, Germany ● Christian Müller, thyssenkrupp Steel Europe, Germany ● Jan Niemi, Swerea Mefos, Sweden ● John Niska, Swerea Mefos, Sweden ● Michal Pohanka, Brno University of Technology, Czech Republic ● Victor Santisteban, Sidenor Investigación y Desarrollo S.A., Spain ● Miriam Sartor, VDEh-Betriebsforschungsinstitut GmbH, Germany ● Martin Wunde, VDEh-Betriebsforschungsinstitut GmbH, Germany)