METALLURGICAL SLAGS: Theory and practice
Short courses

COURSE OVERVIEW

Slagmaking is the most significant process in steelmaking due to their wide influence not only on the final purity of steel but also on energy consumption, metallic yield, refractory wear and other important aspects of the overall steelmaking process. Slags play multiple roles and each role involves practical and fundamental aspects that need to be properly understood in order to guarantee the production of high quality steels at high rates.

INSTRUCTORS

Alberto N. Conejo: Professor at the University of Science and Technology Beijing (USTB) in China. Previously Professor at Morelia Technological Institute in México for 30 years. He worked as a consultant for several steel plants in México for more than 20 years. Received several awards including the 2010/2011 National award from the Steel Chambers Association for his work on slag foaming, the 2005 Michoacán state award on Technology for his work on optimization of EAF metallurgical

practices and the 2002 Charles W. Briggs award from the Iron and Steel Society in the USA for best research in the Electric Arc Furnace. Since 2017 is member of the editorial board of Metallurgical Research and Technology. He has provided training to the steel industry for more than 1500 men-hours.

LEARNING OUTCOMES

- This course will provide with an overall knowledge of ferrous metallurgical slags
- After the course you will have an understanding of the fundamental principles and practical aspects of slagmaking.
- After the course you will be able to provide ideas to improve the current metallurgical practices in your steel shop.

COURSE PROGRAM

1. Introduction
2. Physicochemical properties of slags
3. Structure of slags
4. Basicity
5. Experimental thermodynamic activity of slag components
6. Slags theories and models
7. Application problems using slag models
8. Refractory-slag interaction
9. Effect of slag composition on steel cleanliness
10. Slag foaming
11. Ironmaking and ladle furnace slags
12. Steelmaking slags
13. Continuous casting fluxes
14. Design of slag composition
15. Slag recycling

WHO SHOULD ATTEND

Engineers (process engineers, production engineers, quality control engineers, etc.) and management involved in ironmaking and steelmaking, students of metallurgy, lecturers in metallurgy, suppliers of raw materials and equipment

COURSE VENUE

University of Science and Technology Beijing (USTB)
School of Metallurgical and Ecological Engineering
30 Xueyuan Road, Haidian District, Beijing 100083 P. R. China

COURSE DURATION

There are two short courses;

- Short course I: 16 hours. This course is an introduction to slagmaking
- Short course II: 40 hours. This course covers in more detail slagmaking based on the technical program outlined before.

INVESTMENT (COST):

- 16 hours: 800 USD
- 40 hours: 2000 USD

Includes: USB with lecture notes, welcome reception, a souvenir, lunches and coffee breaks.

CONTACT INFORMATION

Alberto Conejo
e-mail:
Professor of Metallurgy, USTB, Beijing, P.R. China