

## TECHNICAL WORKSHOP

The Westin Palace, Madrid, Spain

18-20 September 2016



### The Progressive Levels of Optimisation

In this three-day technical training workshop the progressive levels of cement manufacturing process optimisation will be explored, beginning with the raw materials and their preparation, moving on to the fuels for firing a cement kiln and the ventilation of the exhaust gases from the process. An understanding of all these processes and how they interact is necessary to control and optimise the process. The intention of this workshop is to provide and enhance that understanding of the individual processes and their interaction.

Optimisation is a fundamental requirement for maximising the productivity and efficiency of the cement manufacturing process. It is a way to minimise manufacturing costs, while maximising product quality and the profitability of a cement factory and company. This Cemtech technical training workshop will aim to explain how that can be achieved.

### Outline Course Programme

#### Sunday, 18 September 2016

##### Introduction & 1<sup>st</sup> Level of Optimisation: Raw materials

- Review of core technologies and processes
- Best available technology
- Optimisation priorities of cement manufacturing
- The progressive levels of optimisation
- Raw materials for cement manufacture
- Raw mix design
- Converting the kiln feed raw mix into clinker

#### Monday, 19 September 2016

##### 2<sup>nd</sup> Level of Optimisation: Fuels and combustion

- Fuels for firing the kiln and their combustion
- Thermal energy cost minimisation

##### Fuels and combustion continued...

- Alternative fuel project methodologies
- Alternative fuels best practice
- Combustion air and oxygen requirements
- Exhaust gas volume

#### Tuesday, 20 September 2016

##### 3<sup>rd</sup> Level of Optimisation: Emissions and the exhaust gas flow path

- Chloride cycles and bypass technology
- External cycles, sulphide inputs and SO<sub>2</sub> emissions
- Waste heat power generation
- Emissions mitigation
- Preheater induced draught fans
- Gas conditioning towers
- Drying in raw and coal mills
- Mill ventilation

## Training Format

The format of these technical training workshops will be a series of lectures provided by course tutor, Dr Clark, interspersed with exercises to illustrate and practice the concepts discussed in the lectures. Open discussion forums will be encouraged following each lecture and exercise. As the exercises will be largely Microsoft Excel based, participants should bring their laptop or arrange to complete the exercises jointly with another participant.

The workshops will be of interest to both the technical and managerial staff of cement companies. Guidance will be provided in the completion of the exercises which will be within the compass of all delegates to Cemtech conferences.

## Venue and Accommodation

The training course will take place at The Westin Palace hotel, Madrid (Spain). A specially discounted room rate from EUR249 per person per night will be available to those wishing to stay in the Westin Palace. For other hotel recommendations at different budget levels, please contact the organisers.



## Registration Fee

- USD 1385 / EUR 1250 / GBP 975 per participant
- **10% discount for groups of three or more**

Participants will be provided lunch and refreshments on each day of the training course.

**FREE to participants:** Technical Workshop Manual with Excel plant simulation models.  
**PLUS** a complimentary copy of The Cement Plant Operations Handbook, 6th Edition, published by International Cement Review.

For programme details and workshop registration, visit:

**[www.Cemtech.com/25/Workshop](http://www.Cemtech.com/25/Workshop)**

## Course Tutor Biography

Dr Michael Clark is a leading cement plant operations and technology specialist with over 40 years' experience in the cement industry. His skills cover the whole process of cement manufacturing from quarry planning, through clinker production, cement manufacture and distribution. He is regarded as the leading international expert in problem identification, efficiencies and improvements throughout the manufacturing process.

With a PhD in the manufacture of white cement, Dr Clark's career highlights include senior operational positions within Blue Circle Industries and ABB Linkman Systems Ltd, after which he founded Whitehope (UK), an international consultancy specialising in the cement industry. In addition, Dr Clark is Technical Consultant for International Cement Review and Moderator of the CemNet.com e-Learning suite of training courses.

Dr Clark has worked in over 30 countries around the world in Asia, Africa, Australia, the Americas, eastern Europe and the Middle East.

For more information, see: **[www.Cemtech.com/25/Workshop](http://www.Cemtech.com/25/Workshop)**

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