

# Clinker Grinding, Milling & Separation Cycle <u>Techniques</u>





## Clinker Grinding, Milling & Separation Cycle Techniques



### **Course Overview**

This course has been developed to Having a skilled team plays a key role in the optimal utilization of the grinding in the cement plant. The operators and process engineers must be able to evaluate all the process variables in order to optimize the production economy. This course provides an in depth understanding of grinding theory and equipment and gives you the tools to audit your own installation. The purpose of the course is to give operators and process engineers tools to optimize the output of an existing grinding installation.

### **Course Objective**

After completing this course participants will have:

- > Full understanding of the equipment and grinding theory.
- > Proper process control.
- ➤ Optimize any existing grinding.
- ➤ Understanding of the plant power consumption.
- ➤ Boost the production rate.
- ➤ Become familiar with all types of Mills.
- ➤ Become familiar with Separators and Separation cycle and fineness or Blaine control.

### **Target Audience**

- ➤ This course will have a particular focus for people working in the Cement production
- > process control Engineers.



- ➤ Production supervisors.
- > Production technicians.



### **Course Outline**

### Module Introduction to Principles of Material Grinding and Breakage.

Types of mill

- ➤ Impact and Attrition in a Ball Mill.
- ➤ Compression in a Roller Mill.
- ➤ Raw mill operation Milling requirements and What must the system achieve.
- ➤ Milling system and mill circuits.
- ➤ Mill operational features and process limitations.

### Module (02) Ball Mill (Description, Liners, Diaphragm, Grinding Media, Water Injection)

- > cement mill mechanical components from inside and outside.
- ➤ Internal Liners types and functions.
- ➤ Mill Diaphragms.
- ➤ Grinding media size and distribution.
- ➤ Milling temperature and Water injection system and function.
- > Design and function of HLPC lubrication unit, Slide Shoe bearing.

### Module Vertical Roller mills.

- ➤ Mechanical Design.
- Process Design.
- > Performance testing.
- ➤ Mill Operation and Process Control.
- > Types of Mill Feeders.
- ➤ Dossimat, Dosax and rotary feeder main parts, its functions and how its work.



➤ The Magnetic separator and the Metal Detector, There parts and how its work.

### **Module Classifier Operation and Control**

- > The needs to separation.
- > Separation principle.
- > Separator types and their mode of operation.
- > Separator efficiency and particle size distribution .
- > Separator mechanical design and function.
- ➤ Mill Hydraulic (Accumulator).
- ➤ Roller Lubrication and Gear Lubrication.

#### Module Mill operation screens.

- ➤ Ball Mill operation screens.
- ➤ Ball Mill operation parameters.
- ➤ Vertical mill operation screens.
- Vertical mill operation parameters.

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- 1) Scientific article on flash memory.
- 2) Training Room.
- 3) Training.
- 4) Coffee break.
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### Price (USD)

## Communicate with the training department to know the participation fees

> There are offers and discounts for groups

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