

Our horizontal grinding mill maintenance course equips participants with the knowledge and skills required for safe and efficient maintenance of Metso Outotec grinding mills. Training is delivered by our experienced team of in-house certified experts and covers basic knowledge of grinding mill components as well as training on optimal preventive maintenance practices and procedures.

#### Training overview

This targeted two-day course:

- Provides practical knowledge of horizontal grinding mill components and preventive maintenance practices.
- Is suitable for maintenance supervisors and technicians (both beginners and those requiring refresher training).
- Allows participants to focus on understanding and implementing proven inspection and maintenance routines
- · Can be delivered at Metso Outotec facility or on-site.

Carefully designed to cover the following elements:

- 1. Safety guidelines for performing preventive maintenance on grinding mills safely and correctly.
- Technical overview recognizing mill types and their components, including lubrication systems.
- 3. Operational overview maintenance workflow and use of an inching drive for inspection and maintenance.
- 4. Maintenance and after-sales support extending the life of grinding mills through preventive maintenance.

### Read more at mogroup.com/trainingacademy



## Training is a foundation for:

- Increased productivity
- Improved safety
- Higher equipment availability
- Optimized maintenance processes
- Decreased repair costs

## Horizontal grinding mill maintenance training

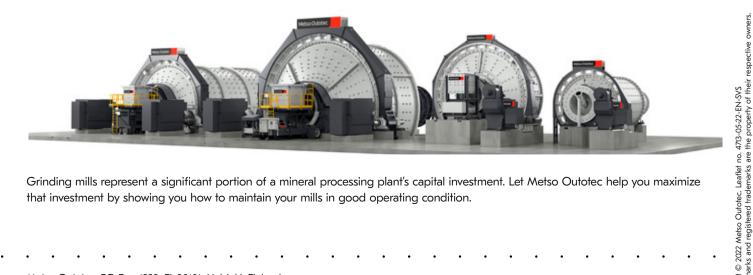
# Training course details

This two-day training focuses on:

Topic	Details
Grinding mill types	Overview of AG, SAG, rod and ball mills and their capabilities
Grinding mill components	<ul> <li>Detailed exploration of typical horizontal mill components with a focus on main bearings, main bearing lubrication systems and mill drives</li> <li>Includes review of site-specific piping and instrumentation diagrams for Metso Outotec main bearing lubrication systems when available</li> </ul>
Operational stressors	Discussion of physical stresses that affect horizontal grinding mills during operation and how to recognize and mitigate them
Maintenance workflow	<ul> <li>Outline of typical planning, preparation and procedures involved in performing maintenance safely and efficiently</li> <li>Instruction on safely positioning horizontal grinding mills for maintenance using an inching drive</li> </ul>
Operational monitoring	<ul> <li>An inclusive checklist of data points that should be tracked constantly or daily while a mill is running</li> <li>Where the gauges that record or transmit operational data are located</li> <li>Manual options for obtaining operational data if transmitters are not installed</li> </ul>
Oil filtration and analysis	<ul> <li>In-depth examination of lubricant properties, contamination hazards, sampling procedures and testing recommendations</li> <li>Covers both circulating oil and gear spray lubricants</li> </ul>
Vibration analysis	Overview of vibration principles, data collection equipment, the data collection process and how vibration data is interpreted
Physical inspections	<ul> <li>A comprehensive review of the preventive maintenance tasks that should be performed at regular intervals – from daily to annually – in order to keep a mill running in top condition</li> <li>Tasks are divided into those that can be performed while the mill is in operation and those that require the mill to be shut down</li> <li>Includes recommendations for spare parts storage</li> </ul>

#### Theory training

Metso Outotec offers various forms of equipment training ranging from theoretical to practical machine side courses. The Horizontal grinding mill maintenance training is a theory and classroom-based course which covers basic maintenance principles and safe maintenance of Metso Outotec equipment as well as after-sales support. This course is intended for supervisors, maintenance personnel, and technical specialists, and can also be used as a refresher course for personnel who already possess a basic knowledge of equipment.



Grinding mills represent a significant portion of a mineral processing plant's capital investment. Let Metso Outotec help you maximize that investment by showing you how to maintain your mills in good operating condition.