Safety in Grinding

GRINDING I - Training Session

What are the main risks in a grinding workshop?

- **Split in 3 groups**
- **10 minutes individual reflection on**
  - What activities do you regularly perform in a grinding workshop?
  - What are the **main** risks, specific to the grinding workshop? (using STOP categories)
  - How do you deal with these risks?
- **Common risk analysis**

STOP categories:

1	**Machinery**	Can the machinery start unexpectedly, or can you be trapped or become entangled?
2	**Struck by falling or flying object**	Can something fall onto you or fly at you?
3	**Struck by vehicle**	Do vehicles operate in this area?
4	**Struck against**	Is there sufficient headroom or space?
5	**Handling, lifting or carrying**	Is the load too big or awkward or are there any sharp edges?
6	**Slip, trip or fall on level**	
7	**Fall from a height**	
8	**Trapped by something collapsing**	Is the structure above you stable?
9	**Drowning or asphyxiation**	Can you fall into water or be engulfed by material such as powder or is there a good air supply?
10	**Contact with harmful substances**	Could you come into contact with hot materials, hot or pressurised gases, harmful chemicals, noise?
11	**Fire or explosion**	
12	**Electricity**	

Risk analysis

- **1 - Machinery**
  - Start of the mill or separator during visit
    □ LOTOTO – **Never enter a mill without the key in your pocket!**
  - During sampling or measurement
    beware of conveyor belts, valves… □ risk areas to be identified

- **2 - Struck by falling object**
  - Not specific to grinding activities

Risk analysis

- **3 - Struck by vehicle**
  - Not specific to grinding activities
- **4 - Struck against**
  - Not specific to grinding activities
- **5 - Handling, lifting or carrying**
  - Careful when transporting measuring equipment (e.g. for sampling inside the mill)

Risk analysis

6 - Slip, trip or fall on level

- For mill internal visit, the ball charge **must** be level
  - Easy when mill has a barring drive, but procedure must be followed
  - Without a barring device, a strict procedure has to be established and followed

7 - Fall from a height

- Access to mill doors for internal visit
  - the best is a direct access from platform
  - otherwise, make sure to respect procedures (harness…)

Risk analysis

- **8 - Trapped by something collapsing**
  - Raw mills and coal mills: check the flap on the hot gas inlet, can there be some material accumulated there?

- **9 - Drowning or asphyxiation**
  - Mills with hot gas from preheater: good sealing of the flaps
    - Check flap closing
    - Maintain draft
    - Gas analysis
  - Coal mills: lock-out of inertisation system

Risk analysis

- **10 - Contact with harmful substances**
  - Mill visit: hot, material can be irritating
    - Mill temperature < 50 °C (keep draft)
    - Proper PPE, long sleeves…
  - Sampling and measurement

- **11 - Fire or explosion**
  - Coal mills
    - Raw meal blanket
    - Check CO measurement
  - HGG: risk of CO / CH_4… accumulation

Risk analysis

- **12 - Electricity**
  - Internal visit (metal surrounding)
    - Low voltage electrical equipment
    - Isolation transformer

- **13 - Others?**
  - Confined space
    - How to extract someone who would have fainted?