GOOD PRACTICES FOR LINING AND BREAK-OUT IN FOUNDRIES

This activity covers lining and break-out of refractory material in foundries.

ACCESS

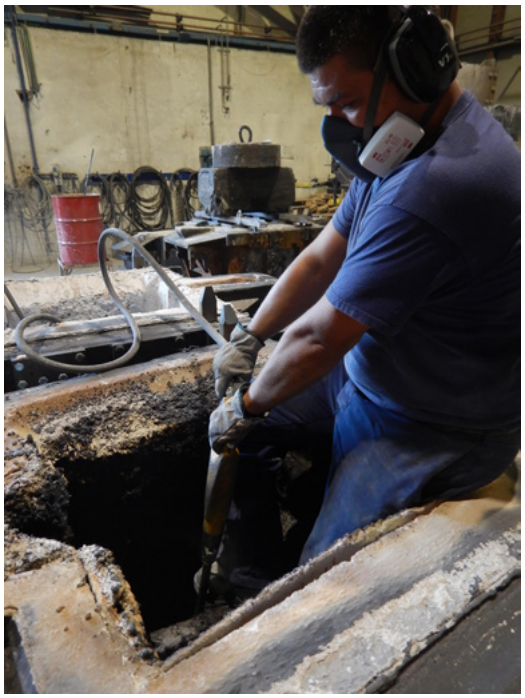
Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- Where practicable use pre-formed or "push out" linings to reduce dust generation.
- Use local exhaust ventilation, e.g. when fettling ladles, when practicable.

MAINTENANCE

- Follow instructions in maintenance manuals.
- Keep equipment in effective and efficient working order.
- Repair faulty extraction systems immediately. Meanwhile, wear respiratory protective equipment (RPE).
- Plan regular maintenance.



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EXAMINATION AND TESTING

- Check visually the equipment before use. Noisy or vibrating fans can indicate a problem. Repair damage immediately.
- Check the extraction system and gauge work properly.
- You need to know the manufacturer's performance specification to know if extraction is working properly.
- If this information isn't available, hire a competent ventilation engineer to determine its performance.
- The engineer's report must show the target air speeds.
- Keep this information in your testing logbook.
- Get a competent ventilation engineer to examine the system thoroughly and test its performance at least once every 12 months or obey the national regulations.
- Keep records of all examinations and tests for at least five years.
- Review records to see if there are failure patterns that make planning maintenance easier.
- Put in place measures to control the risk of bacterial growth within water sources used across site, focusing most on systems where water droplets will be generated.

CLEANING AND HOUSEKEEPING

- Clear up accumulations of dirt in areas where people work all the time.
- Use a vacuum cleaner fitted with a filter to clear up fine dust.
- Shovel large spills carefully to avoid stirring up dust.
- **DO NOT use dry brushing or compressed air.**

TRAINING

- Give your employees information on the health effects associated with respirable crystalline silica dust.
- Provide employees with training on: dust exposure prevention; checking controls are working and using them; when and how to use any respiratory protective equipment provided and what to do if something goes wrong. Refer to task guidance sheet **2.3.4** and part 1 of the Good Practice Guide.

SUPERVISION

- Check that the extraction is working properly; PPE is being used properly; and the rules on personal hygiene are being followed. Refer to task guidance sheet **2.3.3**.
- Employers should make sure that employees have all the means to perform the checklist given below.

PERSONAL PROTECTIVE EQUIPMENT

- Refer to task guidance sheet **2.1.15** dedicated to Personal Protective Equipment.
- Respiratory protective equipment (RPE) is normally needed for lining and break-out.
- Use positive pressure RPE with an Assigned Protection Factor (APF) of at least 40.
- Make sure all RPE is properly fit-tested – get advice from your supplier.
- Make sure that workers check their RPE works properly before use.
- Keep RPE clean and store it away from dust.
- Check the air flow and air quality to air-fed respiratory protective equipment at least every 3 months or before use.
- **Never allow compressed air use for removing dust from clothing.**
- **Workers must not take their coveralls home for washing. Use a contract laundry.**

EMPLOYEE CHECKLIST

- ☐ Make sure the room is well ventilated and any dust extraction system is switched on and is working.
- ☐ Check your RPE and the clean air supply.
- ☐ Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor.
- ☐ If you think there is a problem with your dust control equipment, ensure additional control measures are taken to reduce exposure to respirable crystalline silica dust while the problem persists.
- ☐ Do not interfere with ventilation systems – they are provided to protect your working environment.
- ☐ Clean up using vacuum or wet cleaning methods.
- ☐ Use, maintain and store any respiratory protective equipment provided in accordance with instructions.
- ☐ Check and implement the measures to control the risk of bacterial growth within water sources used across site, focusing most on systems where water droplets will be generated.

This guidance sheet is aimed at employers to help them comply with the requirements of workplace health and safety legislation, by controlling exposure to respirable crystalline silica. Specially, this sheet provides advice on dust control when lining or break-out of refractory material in the workplace of foundries.

Following the key points of this task guidance sheet will help reduce exposure to an acceptable level.

Depending on the specific circumstances of each case, it may not be necessary to apply all of the control measures identified in this sheet in order to minimise exposure to respirable crystalline silica. i.e. to apply appropriate protection and prevention measures. This document should also be made available to persons who may be exposed to respirable crystalline silica in the workplace, in order that they may make the best use of the control measures which are implemented.

This sheet forms part of the Good Practices Document on silica dust prevention, which is aimed specifically at the control of personal exposure to respirable crystalline silica dust in the workplace.