GOOD PRACTICES FOR CORE MAKING AND MOULDING IN FOUNDRIES

This activity covers core shop and moulding shop in foundries.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- Control sand spillage. Make sure the right amount of sand is used for the mould.
- You need an air speed typically between 0.5 and 1.5 metres per second into the enclosures. Refer to task guidance sheet **2.1.13**.
- Always confirm that the extraction is turned on and working at the start of work. Check the gauge.
- Discharge cleaned, extracted air to a safe place outside the building, away from doors, windows and air inlets.
- Have a supply of clean air coming into the workroom to replace extracted air.
- Consult a qualified ventilation engineer to design new control systems.

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).
- Sand is very abrasive and plant wears out quickly. Plan regular maintenance.

EXAMINATION AND TESTING

- Look daily for signs of damage to the ducting, fan and air filter. Noisy or vibrating fans can indicate a problem. Repair damage immediately.
- At least once a week, check that 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 an engineer competent in ventilation techniques to determine its performance.
- The engineer's report must show the target air speeds.
- Keep this information in your testing logbook.
- Get an engineer competent in ventilation techniques to examine the system thoroughly and test its performance at least once every 12 months or obey national regulations.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum 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.

FND

CLEANING AND HOUSEKEEPING

- Every day, clear up accumulation of dirt in areas where people work all the time.
- Clean general workrooms once a week to stop dust being stirred up and to reduce slips.
- Use a vacuum cleaner fitted with a filter to clean up dust.
- **DO NOT clean up with a brush or with compressed air.**
- Keep lids on containers when they are not being filled or emptied.
- Dispose of empty containers safely.
- Dispose of wastes safely.

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

- Have a system to check that control measures are in place and that they 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.
- Ask your safety-clothing supplier to help you get the right PPE.
- Respiratory protective equipment (RPE) should not be needed if the extraction is designed correctly and working properly.
- RPE is needed for maintenance and cleaning, and for clearing up spills.
- Use a P3 standard of RPE (Assigned Protection Factor 20) or equivalent standard. Consult your supplier for advice.
- Replace RPE filters as recommended by your supplier. Throw away disposable masks after one use.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Provide eye protection.
- **Never use 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.
- ☐ 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 interface 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 of controlling 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. Specifically, this sheet provides advice on core making and moulding in foundries.

Following the key points of this task guidance sheet will help reduce exposure.

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 Guide on silica dust prevention, which is aimed specifically at the control of personal exposure to respirable crystalline silica dust in the workplace.