

GOOD PRACTICES FOR CUTTING AND POLISHING CERAMIC AND STONE MATERIALS

This activity relates to the cutting of ceramic materials which may generate large quantities of airborne dust.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- Dust control can be achieved by using wet cutting methods, which prevent fine dust from becoming airborne by trapping it in water.
- Ensure that water supplies are adequate and that they are maintained. Take precautions during cold weather against freezing.
- Take precautions to ensure the control of legionella and other biological agents. If the water used for wet cutting is recirculated, ensure that it is checked regularly with respect to pH value and contamination with micro organisms.
- The provision of appropriate drainage systems is essential when using water sprays and hoses.
- Ensure that electrical systems etc. have adequate protection against the hazards present in the working environment, including water and silica dust.
- Use cutting and polishing tools containing no crystalline silica.



MAINTENANCE

- Maintain the equipment as advised by the supplier, in efficient working order and good repair.

EXAMINATION AND TESTING

- Visually check the equipment for signs of damage at least once per week or, if it is in constant use, check it more frequently. If used infrequently, then check it before each use.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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

- Clean the equipment regularly.
- Use vacuum or wet cleaning methods.
- **DO NOT clean up with a dry brush or using compressed air.**
- **DO NOT allow deposits of dust/debris to dry out before cleaning up.**

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.
- Indicate areas where personal protective equipment must be worn.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Replace respiratory protective equipment at intervals recommended by its suppliers.
- Risk assessment could be carried out to determine whether existing controls are appropriate.

EMPLOYEE CHECKLIST

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|--|--|---|---|
| <input type="checkbox"/> Ensure that you follow your employer's safe working procedures. | <input type="checkbox"/> Look for signs damage, wear or poor operation of any of the equipment used. If you find any problems, tell your supervisor. | <input type="checkbox"/> Clean using vacuum or wet cleaning method. | <input type="checkbox"/> 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. |
| | <input type="checkbox"/> Clean up the equipment after use. | <input type="checkbox"/> Use, maintain and store any respiratory protective equipment provided in accordance with instructions. | |

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 the cutting and polishing of refractory materials.

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.

GOOD PRACTICES FOR FIRING (BISCUIT, GLAZE, FINAL, DECORATION) IN CERAMICS AND STONES

This activity relates to the firing of ceramic products in periodic or continuous kilns. The measures for biscuit firing, glaze firing, final firing or decoration firing are similar.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

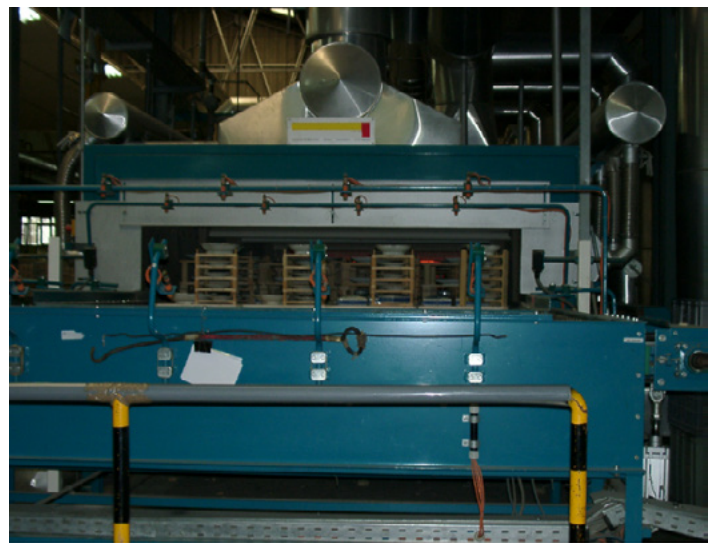
- Good thermal insulation should be applied.
- Local exhaust ventilation should be applied to the entry and exit points of a continuous kiln or to the door of a periodic kiln (to prevent vapour loss, contamination and dust emissions).
- Exhaust ventilation systems should be easily controllable, interlocked to the kiln heating controls and fitted with warning lights/alarms.
- **When feeding or onloading the kiln, avoid any friction of the products to be fired (design of transportation units).**
- Where possible, locate the work area away from doors, windows and walkways to stop draughts interfering with the ventilation and spreading dust.
- Provide an air supply to the workroom to replace extracted air.
- Provide an easy way of checking the control is working, e.g. a manometer, pressure gauge or tell-tale (a small flag).
- Discharge extracted air to a safe place away from doors, windows and air inlets.
- **Air recirculation is not recommended.**

MAINTENANCE

- Ensure equipment used in the task is maintained as advised by the supplier/installer in efficient working order and in good repair.
- Replace consumables (filters etc.) in accordance with the manufacturer's recommendations.

EXAMINATION AND TESTING

- Obtain information on the design performance of the ventilation equipment from the supplier. Keep this information to compare with future test results.



- Visually check all equipment at least once per week for signs of damage or, if it is in constant use, check it more frequently. If used infrequently, then check it before each use.
- Have the ventilation equipment examined and tested against its performance standard, at least once each year.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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

- Clean your workplace and equipment on a regular basis.
- Deal with spills immediately.
- Use vacuum or wet cleaning methods.
- **DO NOT clean up with a dry brush or using 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

- 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.
- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Replace personal protective equipment at intervals recommended by the manufacturer/supplier.

EMPLOYEE CHECKLIST

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|--|--|---|---|
| <input type="checkbox"/> Make sure the ventilation system is switched on and is working. | <input type="checkbox"/> 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. | <input type="checkbox"/> Clear up spills immediately. Use vacuum cleaning or wet cleaning methods. Dispose of spills safely. | <input type="checkbox"/> 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. |
| <input type="checkbox"/> Make sure it is running properly; check the manometer, pressure gauge or tell-tale. | <input type="checkbox"/> Remove broken products immediately from feeding units. | <input type="checkbox"/> Do not clean up with a dry brush or using compressed air. | |
| <input type="checkbox"/> Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor. | | <input type="checkbox"/> Use, maintain and store any respiratory protective equipment provided in accordance with instructions. | |

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 good practice advice on dust control during firing of ceramic products containing crystalline silica. The firing process can be periodic or continuous.

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

GOOD PRACTICES FOR WATER ASSISTED DUST SUPPRESSION

This activity relates to the use of water flooding and of atomised water mists to suppress the generation and lower the concentration of airborne crystalline silica dusts.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- If possible, use water fed tools for cutting, grinding and shaping crystalline silica containing products.
- Consider the application of water sprays or trickles to working surfaces when water fed tools are not available.
- In circumstances where there will be no adverse impact on process conditions, product quality or health and safety, apply water mists in work areas where airborne crystalline silica may be generated by material and product handling.
- Ensure electrical systems have adequate protection when used with water flooding, spraying or misting.
- Take precautions to ensure the control of legionella and other biological agents in water storage and delivery systems.
- Take precautions to ensure that wastewater and sludges are disposed according to appropriate prescriptions.

MAINTENANCE

- Ensure water dust suppression equipment used in the task is maintained as advised by the supplier/installer in efficient working order and good repair.
- Replace consumables in accordance with the manufacturer's recommendations.



EXAMINATION AND TESTING

- Visually check all equipment for signs of damage at least once per week or, if it is in constant use, check it more frequently. If used infrequently, then check it before each use.
- Obtain information on the design performance of dust suppression equipment from the supplier. Keep this information to compare with future test results.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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

- Clean water dust suppression equipment as instructed by the manufacturer/supplier.
- **Avoid accumulation of slurries/sludges.**
- Ensure spills are cleaned up immediately, and provide adequate spill control equipment.
- **DO NOT allow collected slurries/sludges to dry out and the dust to become airborne.**

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.
- Risk assessment must be carried out to determine areas where personal protective equipment must be used. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean, when not in use.
- Replace personal protective equipment at intervals recommended by the manufacturer/supplier.

EMPLOYEE CHECKLIST

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Make sure that water dust suppression equipment is working properly. | <input type="checkbox"/> Protect water supplies against freezing. | <input type="checkbox"/> Clean up spills immediately. | <input type="checkbox"/> 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. |
| <input type="checkbox"/> Ensure water supplies are adequate with an uninterrupted supply during use for dust suppression. | <input type="checkbox"/> Look for signs of damage or malfunction, and if you find any tell your supervisor immediately. | <input type="checkbox"/> Clean dust suppression equipment regularly and after use. | |
| | | <input type="checkbox"/> Keep personal protective equipment clean and properly stored. | |

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 good practice advice on dust control by using water flooding and atomised water mists.

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.

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GOOD PRACTICES FOR INSTALLATION OF COUNTERTOPS

This task guidance sheet provides good practice guidance for work procedures, personal protective equipment and equipment dedicated to significantly reducing the level of respirable crystalline silica when cutting, grinding or polishing stone surfaces (e.g., engineered stone, natural stone or porcelain) at the installation site (e.g., consumer's home). These guidelines protect both the installer and anyone else in the area.

ACCESS

Restrict access to the work area to authorised personnel only.

GENERAL

- If no cutting, grinding, sanding or polishing of the countertops is performed during installation, no respirable crystalline silica should be released.

PRE-INSTALLATION

- Prepare all slabs in your plant, not at the installation site.
- Clean dust off the front and back of slabs before transporting them to the installation site.
- If significant cutting is required upon installation, return the slabs to the plant for re-cutting.
- Shut down and seal off the local heating/air-conditioning system.

TOOLS ON SITE

- If performing modifications at the installation site is unavoidable, work outdoors using water-integrated tools.
- If an outdoors area is not available, work indoors using tools with a dust collector connected to a vacuum cleaner with HEPA filter.

POST-INSTALLATION

- After installation clean the workplace using wet methods or HEPA filtered vacuum cleaner.

EXAMINATION AND TESTING

- Visually check the equipment and water supply for signs of damage before every use.
- Make sure that the equipment and water supply operates correctly.



- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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

- Remove dust in sealed sacks according to local regulations.
- Clean the equipment regularly according to the recommendations of the manufacturer.
- Clean slabs and floor with low pressure wet hosing or wet sweeping.
- Clean dry spillage with HEPA vacuum cleaning systems.
- **DO NOT clean up with a dry brush or using compressed air.**

TRAINING

- Give your employees information regarding the health effects associated with respirable crystalline silica.
- 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 procedures in the checklist below.



PERSONAL PROTECTIVE EQUIPMENT

- Refer to task guidance sheet **2.1.15** dedicated to personal protective equipment and to task guidance sheet **2.2.37** dedicated to respiratory protective equipment for the slab industry.
- Water-integrated rotating tools generate respirable crystalline silica-contaminated water mist, which may be dispersed and inhaled. For this reason, respiratory protective equipment may be necessary even when using water-integrated tools.
- Indicate areas where personal protective equipment must be worn.
- Use a half face respirator with P3 filter when fabricating with wet manual tools or tools with a dust collector connected to a vacuum cleaner with HEPA filter at the installation site.
- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Replace respiratory protective equipment at intervals recommended by the supplier.

EMPLOYEE CHECKLIST

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Fabricate all slabs in your plant. If significant cutting is required upon installation, return the slabs to the plant for re-cutting. | <input type="checkbox"/> Don't use dry tools! Dry fabrication generates very high levels of respirable crystalline silica. | <input type="checkbox"/> Use a half face respirator when performing any cutting, grinding, sanding, drilling or polishing of countertops at the installation site. | <input type="checkbox"/> Use, maintain and store any respiratory protective equipment provided in accordance with instructions. |
| <input type="checkbox"/> Make sure the installation site is well ventilated. | <input type="checkbox"/> Clean up spills straight away. Use vacuum or wet cleaning methods. Dispose of spills immediately. | <input type="checkbox"/> Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor. | <input type="checkbox"/> 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. |
| <input type="checkbox"/> At the installation site use wet manual tools or tools with a dust collector connected to a vacuum cleaner with HEPA filter. | | | |

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.

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 in the workplace.

GOOD PRACTICES FOR RESPIRATORY PROTECTIVE EQUIPMENT FOR THE SLAB INDUSTRY

This task guidance sheet provides good examples use of respiratory protective equipment (RPE) in a case by case approach in all parts of typical fabrication plants of slabs, installation sites and related work areas to increase worker protection from respirable crystalline silica.

ACCESS

Restrict access to the work area to authorised personnel only.

GENERAL

- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Choose the appropriate respiratory protective equipment according to the respirable crystalline silica level, in consultation with an occupational health and safety professional, and considerations in the “When to use” sections below.
- When it is necessary to use more than one item of PPE, make sure that these items are compatible with each other.
- Use respiratory protective equipment according to the supplier’s instructions.
- Keep records of use, training and maintenance.
- Use a properly fitting respirator (half face or disposable mask) that creates a tight seal.
- Perform a medical/occupational health assesment to ensure that fabricators are able to work with respiratory protective equipment.

Using respiratory protective equipment does not exempt the employer from controlling the level of respirable crystalline silica or from bringing it to below the required Occupational Exposure Limit.



GUIDANCE FOR EMPLOYERS ON CONTROLLING EXPOSURE TO RCS IN THE WORKPLACE



WHEN TO USE A HALF FACE RESPIRATOR

- When fabricating with wet manual tools in the fabrication plant.
- When standing close to locations where respirable crystalline silica is created.
- At the installation site if performing dust-producing modifications.



WHEN TO USE POWERED AIR PURIFYING RESPIRATORS (PAPR)

- If the fabricator has facial hair
- If the protection achieved with any other respiratory protective equipment is not sufficient
- If exposure levels are thought to be very high

In these cases, use a PAPR type TH3 equipped with a P3 filter. Always consult your personal protective equipment supplier in order to make sure that the protection factor is adequate.



WHEN TO USE A DISPOSABLE MASK

- Only in the case of short or occasional exposures to respirable crystalline silica (workers and visitors), e.g.:
 - when washing the floor and machinery with running water
 - near CNC machines that are water-connected to exhaust ventilation systems
- Masks marked with the letters NR (not reusable) are intended for single shift use. Masks marked with the letter R (reusable) are intended for more than single shift use, according to the supplier's instructions.
- Ensure that your disposable dust mask contains documentation that it conforms to standard EN 149:2001.



EXAMINATION AND TESTING

- For each work activity, make an assessment to determine how frequently respiratory protective equipment should be replaced in order to guarantee its effectiveness, as advised by the supplier.
- Visually check respiratory protective equipment daily for signs of damage. If used infrequently, check it before each use.
- Seek advice from the supplier on appropriate fit testing methods.
- Perform fit testing before first use to ensure that it creates a good seal and provides the required protection. This can be done using simple testing methods, e.g., a mist of sugar solution can be dispersed in the air to check if the operator tastes it. If so, there is evidence of leakage.
- Check effectiveness each time it is worn.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).

CLEANING AND HOUSEKEEPING

- Keep non-disposable items of respiratory protective equipment clean.
- Employers must provide clean storage facilities for respiratory protective equipment when not in use.
- Use wet cleaning methods.
- **Respiratory protective equipment should NOT be taken home.**
- **DO NOT clean up with a dry brush or using compressed air.**

MAINTENANCE

- Ensure equipment used in the task is maintained in efficient working order and in good repair as advised by the supplier.
- Replace respiratory protective equipment at intervals recommended by the supplier.

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 on the following page.

PERSONAL PROTECTIVE EQUIPMENT

- Refer to task guidance sheet **2.1.15** dedicated to personal protective equipment.
- Respiratory protective equipment should be selected that is compatible with other items of personal protective equipment, e.g., ear protection, goggles, welding visors.

EMPLOYEE CHECKLIST

- Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor.
- Make sure to use the right respiratory protective equipment for each task.
- Even if you do not normally wear respiratory protective equipment, it may be necessary for you to wear it temporarily in the event other control measures fail.
- Use, maintain and store any respiratory protective equipment provided in accordance with instructions.
- Adjust your respiratory protective equipment so that it fits you correctly.
- If you have facial hair, this could reduce the effectiveness of a dust mask. In this case you should use PAPR.
- When it is necessary for you to wear more than one item of personal protective equipment, ensure that all items are compatible with each other.

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 task guidance sheet provides good examples of how one specific sector chooses the type of mask appropriate for the task.

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

Depending on the specific circumstances of each case, the examples given here may not be relevant for the other sectors. Seek advice from an occupational health

professional to adapt to another sector.

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 in the workplace.

GOOD PRACTICES FOR MANUFACTURING OF STONE BY FABRICATORS: WATER-INTEGRATED MACHINERY TOOLS AT THE FABRICATION PLANT

This task guidance sheet provides good practice guidance for processing (e.g., cutting, grinding and shaping) slabs containing crystalline silica using water-integrated CNC (Computer Numerical Control) machines, manual saw and manual tools. Use of this equipment significantly reduces the level of respirable crystalline silica.

ACCESS

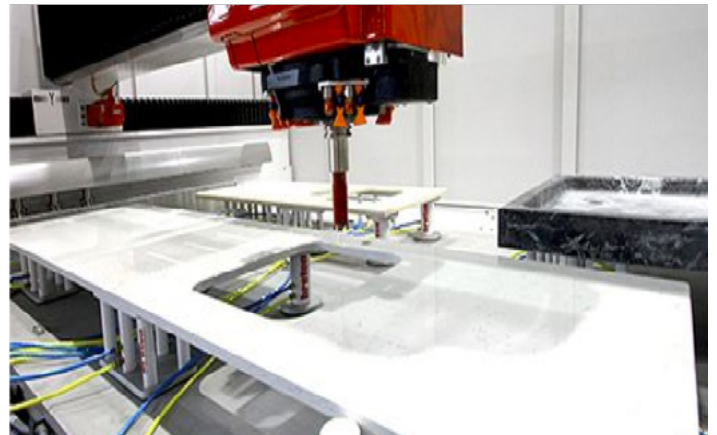
Restrict access to the work area to authorised personnel only.

GENERAL

- Dry cutting, grinding or polishing stone surfaces (e.g., engineered stone, natural stone or porcelain) generate very high respirable crystalline silica levels. Properly designed water-integrated tools and machinery significantly reduce the level of respirable crystalline silica and should therefore be used for all fabrication processes.
- It is also advisable to use water curtains as a measure to reduce or eliminate the dust.

CNC MACHINES

- CNC (Computer Numerical Control) machining, is a manufacturing process in which pre-programmed computer software dictates the movement of factory tools and machinery. These machines are used for automatic initial cutting of slabs.
- Use CNC machines such as waterjet cutters and automated sawing machines.
- Keep CNC safety doors closed to prevent dust dispersal and to distance the operator from the dust source.



MANUAL TOOLS

These tools are used for manual fabrication processes (e.g., drilling, cutting and polishing slabs) after initial cutting. When working with manual tools the fabricator is very close to the dust source. Therefore:

- Use only water-integrated manual tools. If it is not possible to use water-integrated tools at the installation site, follow the instructions in task guidance sheet **2.2.36**, Installation of Countertops.
- Control water spray using guards or plastic flaps.
- Set air and water pressure to achieve minimum dust generation.
- Use a half face respirator with P3 filter.

MANUAL SAWS

Even when equipped with water integration, manual saws used for automatic initial cutting of slabs (e.g., bridge saws) are less recommended because:

- the operator is close to the dust source.
- there are no safety doors.
- they are less accurate and slower than CNCs.
- worker exposure to respirable crystalline silica is generally higher than with CNCs.

When working with manual saws always use a half face respirator with P3 filter.

EXAMINATION AND TESTING

- Visually check the equipment and water supply for signs of damage before every use.
- Make sure that the equipment and water supply operates correctly.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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.

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 on the following page.



CLEANING AND HOUSEKEEPING

- Clean the equipment regularly according to the recommendations of the manufacturer.
- Clean slabs, floor and equipment (e.g., CNCs or manual saw) with low pressure wet hosing or wet sweeping.
- Change the water regularly if you have a closed water system (e.g., at the end of the day).
- Clean dry spillage with HEPA vacuum cleaning systems.
- **Do not clean up with a dry brush or using compressed air.**



GUIDANCE FOR EMPLOYERS ON CONTROLLING EXPOSURE TO RCS IN THE WORKPLACE

TRAINING

- Give your employees information regarding the health effects associated with respirable crystalline silica.
- 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.

PERSONAL PROTECTIVE EQUIPMENT

- Refer to task guidance sheet **2.1.15** dedicated to personal protective equipment and to task guidance sheet **2.2.37** dedicated to Respiratory protective equipment for the slab industry.
- Water-integrated rotating tools generate respirable crystalline silica-contaminated water mist, which may be dispersed and inhaled. For this reason, respiratory protective equipment may be necessary even when using water-integrated tools.

- Indicate areas where personal protective equipment must be worn.
- Use disposable masks with P3 filters near CNC machines that are water-connected to exhaust ventilation systems, or half face respirators with P3 filters when fabricating with manual saws and wet manual tools in the fabrication plant or at the installation site.
- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Replace respiratory protective equipment at intervals recommended by the supplier.

EMPLOYEE CHECKLIST

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Make sure the room is well ventilated and any water system is switched on and working. | <input type="checkbox"/> Don't use dry tools! Dry fabrication generates very high levels of respirable crystalline silica. | <input type="checkbox"/> If you think there is a problem with your water system, ensure additional control measures are taken to reduce exposure to respirable crystalline silica while the problem persists. | <input type="checkbox"/> Use appropriate respiratory protective equipment even when using wet machinery and tools. |
| <input type="checkbox"/> Use water-integrated machinery and tools to reduce the level of respirable crystalline silica. | <input type="checkbox"/> Clean up spills straight away. Use vacuum or wet cleaning methods. Dispose of spills immediately. | <input type="checkbox"/> Use, maintain and store any respiratory protective equipment provided in accordance with instructions. | <input type="checkbox"/> 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 |
| | <input type="checkbox"/> Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor. | | |

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.

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 in the workplace.

GOOD PRACTICES FOR WET CUTTING PROCESSES OF MASONRY UNITS STONES MATERIALS

This activity relates to fully and semi-automated wet cutting processes of calcium silicate units containing crystalline silica.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- Encapsulate the sawing line as much as possible.
- Make the enclosure deep enough to contain equipment and materials.
- Divide each encapsulation into sections to allow easy access for cleaning and maintenance.
- Machine controls should be located well away from sources of airborne dust generation.
- Work only with a connected water system as recommended.
- Ensure that water supplies are adequate and that they are maintained. Take precautions during cold weather against freezing.
- Ensure that all settings of the equipment and water supply are made in accordance with the instruction manual.
- The provision of appropriate drainage systems is essential.



MAINTENANCE

- Ensure equipment used in the task and building are maintained as advised by the supplier/installer in efficient working order and in good repair.

EXAMINATION AND TESTING

- Visually check all equipment for signs of damage at least once per month or, if it is in constant use, check it more frequently. If used infrequently, then check it before each use!
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- 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

- Clean your workplace on a regular basis.
- Use vacuum or wet cleaning methods.
- **DO NOT clean up with a dry brush or using 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

- 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.
- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean, when not in use.
- Replace the respiratory masks at intervals recommended by the manufacturer/supplier.

EMPLOYEE CHECKLIST

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Look for signs of damage, wear or poor operation of any equipment used. If you find any problems, tell your supervisor. | <input type="checkbox"/> 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. | <input type="checkbox"/> Do not clean up with a dry brush or using compressed air. | <input type="checkbox"/> 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. |
| | | <input type="checkbox"/> Use, maintain and store any respirator masks provided in accordance with instructions. | |

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.

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.

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