

Dust exposure when working with diamond drilling machines

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System description

Diamond drilling rigs are used to sink holes for sockets, switches and other electrical installations in walls. In addition, the devices are used for test core and feedthrough holes.

During these activities, harmful mineral dust is generated, which must be effectively extracted. This information only applies to the device configuration recommended by the manufacturer.

Limit values and classifications

Occupational exposure limit (AGW)

A dust 1.25 mg / m³

E-dust 10 mg / m³

Assessment value (BM)

Quartz 0.05 mg/m³

In Germany, a value of 0.05 mg/m³ applies to quartz (A-dust) as the assessment value (in German: "Bewertungsmaßstab"). The assessment value must be taken into account in the risk assessment and in order to control the effectiveness of the protective measures. The assessment value must be undercut.

Activities or processes in which employees are exposed to alveolar fraction of quartz dust are classified as carcinogenic according to TRGS 906.

Even if the assessment value is not reached, according to the current state of science, a cancer risk cannot be excluded. Therefore, even if the assessment standard is not exceeded, the exposure must be further minimized in the sense of the justification of the assessment value.

Hazardous substance measurements

When working **without** extraction, the AGW is always exceeded - sometimes by more than 100 times.

When using cut-off machines with suction and following the measures described here, the AGW for A and E dust are observed.

Health hazard

Working for many years under the influence of dust can damage the airways and lungs.

Quartz-containing parts of the dust can lead to pneumonia (silicosis); lung cancer can develop in individual cases.

Hygiene measures

Thoroughly clean the skin before every break and after the end of work!

Use skin care products after work (moisturizing cream).

Change clothes after work!

Store street and work clothing separately!

Organizational protective measures

Read the operating instructions!

Working with fresh air supply!

Open windows or doors.

Keep the workplace clean. Do not sweep dry, do not blow off with compressed air, but vacuum up dust!

Provide washing facilities on site.

Technical protective measures

Only operate **diamond drilling** machines with a connected dust extractor with disposal bag! Use only the suction hose specified by the manufacturer. Do not manipulate the suction hose.

Maintain the dust extractor regularly. Check the function and suction power during the work.

If rocks get into the suction hose, stop work and clean the suction hose immediately. Avoid kinking the suction hose.

Avoid creating dust when emptying the dust extractor!

Personal protective measures

Eye protection (frame glasses) and **hearing protection**!

Preventive occupational health care

Preventive occupational health care must be carried out in coordination with the company doctor.

First aid

After eye contact: Rinse out with water.

Disposal

Seal the contents of the construction deduster dust-tight and dispose of them (e.g. construction waste container).

Claim

Immediately report malfunctions / damage to devices for dust collection or dust precipitation to the supervisor and only continue working after they have been rectified.