

M7-EN.5 MATTER AND MATERIAL

M7-EN.5.1 Asphalt

M7-EN.5.2 Silica

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M7-EN.5.1 Asphalt

Working with asphalt includes spreading various types of road asphalt, spreading mastic asphalt, roof covering with bitumen products, bridge insulation and moisture insulation with bitumen products. If the contents in the insulation materials cause health or safety problems, they have to be replaced by less hazardous materials. If work with asphalt takes place, then safety instructions have to be prepared and communicated appropriately.

Risk factors

- Asphalt fumes
- Skin contact

Impact on human health

- Skin contact can cause eczema
- Asphalt fumes usually cause eye and respiratory tract irritation
- Hot asphalt can cause severe burns to the skin

Safety measures

- Work with asphalt must be carried out only by persons with appropriate training
- Avoid spraying or atomization/carburetion with adhesives/cements which contain organic solvents
- Always work at as low temperatures as possible in order to minimise the fumes. Observe the maximum temperatures.
- Use respiratory protection and other means of personal protection (i.e. gloves and long-sleeved shirts), where necessary
- Cleaning preparation and water should always be at hand
- Try to work upwind whenever this is possible
- Use ventilation on paving machines

M7-EN.5.2 Silica

A number of roadside repair or construction dusts (e.g. concrete and rock) contain silica. Exposure to silica can occur during:

- sand blasting

- rock drilling
- concrete drilling and grinding

Risk Factors

- Long-term exposure to silica leads to lung disease (silicosis) and increases the risk of cancer.

Safety precautions

- Use of ventilation and wetting in order to minimise airborne dust
- Use of toxic dust respirators

M7-EN.5.3 Wet Concrete

Risk Factors

- Contact with wet concrete can cause dermatitis and skin burns. Dermatitis can be either an irritation from chemicals in the concrete or an allergic reaction

Safety precautions

Workers at roadside services must:

- wear personal protective equipment (i.e. long-sleeved or gauntlet gloves, boots, eye protection, etc)
- keep their protective boots clean of concrete
- change immediately their gloves or boots if they become contaminated inside
- wash their hands with clean water (using a pH-neutral soap)

M7-EN.5.4 Lead

Lead can be found in paints during bridge renovations. Lead dust and fume can enter human body by inhalation or ingestion during sandblasting, welding, and cutting. Workers can carry lead dust at their houses when on clothes and may poison their families.

Risk Factors

- Lead can cause damage to the nervous and the reproductive system.

Safety precautions

Workers at roadside services must remember to:

- Remove paint before cutting or welding
- Use long handled torches
- Use local exhaust ventilation
- Wear a proper respirator
- Wash face and hands before eating, smoking, or drinking
- Have a shower and change clothes before leaving work
- Have medical examinations (i.e. blood level tests, etc) regularly

M7-EN.5.5 Other Health Hazards

Other health hazards include common substances like solvents and carbon monoxide (CO), or special products such as sealants and paints.

Safety Precautions

Workers must:

- Review the Material Safety Data Sheets before using a product
- Try to limit their exposure to hazards as much as possible
- Stay upwind of hazardous exposures
- Make sure hazard controls (e.g. fans) are working
- Wear personal protective equipment (e.g. respirators and skin coverings)
- Promptly report health complaints to their supervisors