Low-slope roofing—Hot asphalt

Explain dangers

Roofing asphalt is a petroleum-based product. It is not a single chemical, but a mixture containing many different chemicals.

During roofing projects, asphalt is heated in roofing kettles. This process can produce vapour emissions and odours from the sulfur compound. Roofers who are exposed to asphalt work may experience the following effects:

- Headache
- Eye, nose, throat, and skin irritation
- Nausea
- Fatigue and drowsiness
- Severe burns.

Identify controls

PLAN BEFORE WORK BEGINS

- Before starting work, check that a risk assessment for asphalt work has been done. Follow up with the assessment daily to make sure proper precautions are being taken.
- Place the kettle where the operator and workers will be least exposed to the fumes.
- Keep the kettle away from air intakes, doors, and windows.
- Discuss with the building owner whether air intake systems should be turned off and applicable air intake vents should be closed or covered.
- Use roofing equipment that has lids.

USE PERSONAL PROTECTIVE EQUIPMENT (PPE)

- The employer must ensure that the protective devices prescribed by law are provided to workers. When working with a roofing kettle, PPE should include a face shield and protective gloves.
- Workers should cover exposed skin at all times. That includes long sleeves and pants.
- Respiratory protection must be available at the jobsite upon request.

PRACTICE SAFE WORK PROCEDURES

- Follow all manufacturers’ recommendations and procedures for asphalt usage.
- Have an emergency plan in place and learn the roof’s escape routes.
- Keep flammable material, gases, and/or liquids away from heat sources. Have fire extinguishers (rated 4A40BC) and at least one first aid attendant with a heat/burn treatment kit and first aid information available.
- When using the kettle:
  - The kettle operator must be a competent worker in order to work with hot asphalt.
  - Make sure the kettle is in good operating condition before use. Report any defects to the foreperson or superintendent.
  - Set the kettle on firm, level ground to avoid spilling or tipping.
  - Place barriers and signs around the kettle to keep people at a safe distance.
  - Make sure the wheels are fully inflated and blocked to prevent rolling.
  - Ensure that the area around the kettles, tankers, and propane is well ventilated.
  - Put propane cylinders at least 3 m (10 ft) away from the source of flame or ignition on kettles or tankers.
  - Ensure the working temperature of the asphalt is between 190°C to 218°C and is never heated over 260°C to 274°C as there is a risk of reaching the flash point for bitumen and rubberized asphalts.
- When filling felt machines, mini-mops, and buckets:
  - Check pipe couplings and fittings lines for damage or leaks, and support these pipes.
  - Stand to the upwind side of filling lines.
  - Be careful with moisture in pipes and equipment. It can cause hot product to pop and splatter.

Demonstrate

Show your crew the safety data sheet (SDS) of the asphalt work material you will be using and review the procedures for safe handling and first aid.