

Roofing Operations: Health Hazards of ASPHALT to Building Occupants

BACKGROUND AND HEALTH HAZARDS

When asphalt is heated to its molten form during roofing or other activities, potentially harmful airborne emissions (fumes and vapours) can be generated. Inhaling asphalt emissions can result in headaches, dizziness, nausea, and lung irritation. Asphalt emissions may also irritate the skin, eyes, nose, and throat. Health effects are usually mild and temporary. Roofing workers must take appropriate precautions to protect themselves from overexposure. Building occupants, on the other hand, may experience discomfort due to asphalt's strong petroleum-type odour, but they are generally not at risk for serious health problems. Precautions should still be taken to minimize occupant discomfort and reduce the possible health risks for occupants with respiratory conditions.



BUILDING OCCUPANT EXPOSURE

Employers are responsible for ensuring the safety and health of all workers involved with the roofing work. Manitoba recognizes an occupational exposure limit (OEL) for airborne asphalt at 5 mg/m³ (milligrams per cubic meter). The OEL is a time-weighted average, meaning that most workers may be exposed to levels below 5 mg/m³ over an 8-hour workday and 40-hour workweek without experiencing adverse health effects.

While some roofing workers may experience overexposure (particularly those working near the asphalt kettle), occupants of the building being worked on are generally not exposed to significant concentrations of asphalt, and are not repeatedly exposed. Therefore, while building occupants may experience discomfort, the asphalt emissions generally do not pose a health hazard. However, some individuals with asthma or other bronchial conditions may have their conditions aggravated by the emissions.

WAYS TO REDUCE EXPOSURE TO OCCUPANTS

- Owners should notify building occupants, especially those with known respiratory conditions, prior to commencing roofing activities.
- Building occupants with respiratory conditions may wish to consider relocation during roofing activities. They should consult their physicians if they feel they are experiencing adverse health effects.
- If possible, schedule roofing activities for times when the building is empty.
- For schools, significant roofing activities should take place during the summer break.
- Close windows, and, if possible, have occupants avoid parts of the building that are downwind of the asphalt kettle.
- Keep the asphalt kettle downwind from the building's air intake and as far away from the intake as possible.
- When asphalt is being applied near air intakes, the intakes should be adequately sealed.
- Shut down general building ventilation systems. The ventilation system should be restarted when the roofing project has stopped for the day.
- If there are window air conditioners in the building, set the air conditioners to recirculate the air, rather than drawing air from outside the building.
- Ensure good communication between roofers, project managers, and building representatives.