

SAFE WORK PRACTICES

WELDING VENTILATION

**This information does not take precedence over OH&S. All employees should be familiar with the Saskatchewan Employment Act and the OH&S Regulations.*

1. Fumes and gases are released from welding rods and torches and coatings on the metal. They rise in a cloud or plume from the welding site.
2. Fumes and gases are toxic and can be harmful. Check regulations and standards for recommended personal protection. Mechanical ventilation is necessary unless the work being done is in the open air (outdoors).
3. Take advantage of any general ventilation such as open windows so that the fumes are blown away from your face. Keep your head out of the welding plume.
4. Local exhaust ventilation is better than general ventilation. It captures the fumes and gases at the source.
 - Locate exhaust openings as close as possible to the welding site.
 - Route exhaust from ventilation system where it cannot contaminate fresh air being drawn into the workplace.
 - Ensure local exhaust removal is positioned as close as possible to the work, and between the work and your face. This way the exhaust is pulled away before you can breathe it in.

Types of Local Exhaust:

1. **Freely Movable Hood:** Exhaust through flexible ducting. Provide an air velocity of at least 0.5 m/s (100 ft/min) across the welding site. Arrange work so that the fumes and gases are drawn away from your face.
2. **Down Draft Bench:** Bench with an open grid as the work surface. Air is drawn downward through the grid into exhaust ducting. Air speed should be great enough so that the fumes and gases do not rise into your breathing zone. Work pieces must not be so large as to cover too much of the ducting or the exhaust effect will be lost.
3. **Extractor Nozzles:** Fumes and gases from around the welding site are drawn through the extraction chamber and into the exhaust system.