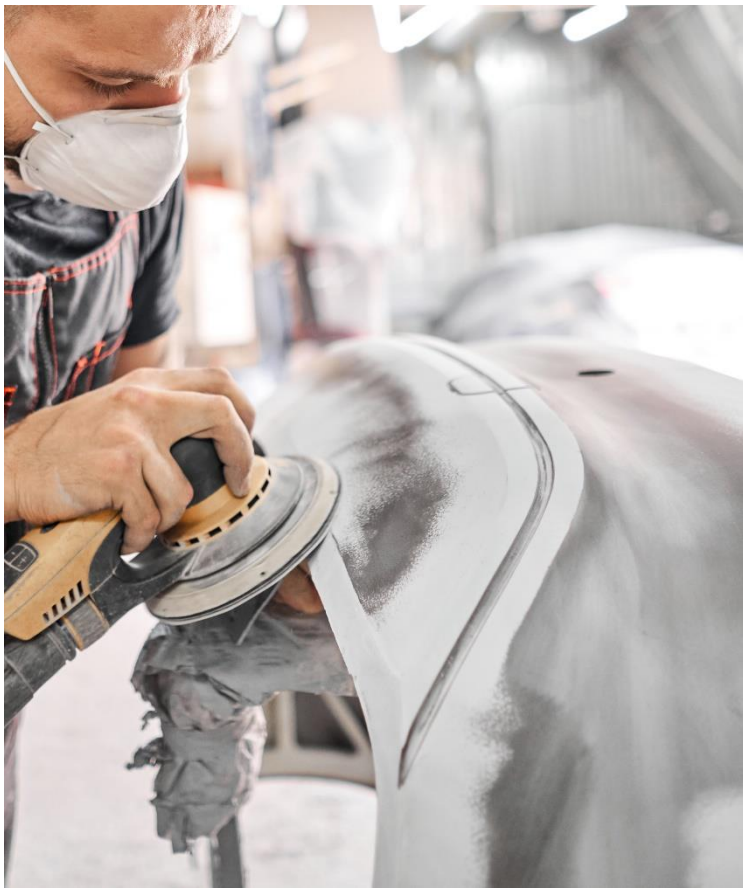
LOCAL VENTILATION SYSTEMS

Capturing hoods

Capturing hood is one of the three local ventilation system types This hood is located next to an emission source without surrounding (enclosing) it. It can be used if the process, source and contaminant cloud are outside the hood. A capturing hood has to generate sufficient suction airflow at and around the source to 'capture' and draw in the contaminant-laden air. A capturing hood may be appropriate when the contaminant cloud has no strong and predictable speed and direction. Capturing hood can be either fixed or moveable.



Types of capturing hoods

- **Fixed capturing hood:** This hood is located in close proximity of and directed at the source of emission. The working zone must be adjusted to match the capture zone of the capturing hood.
- **Movable capturing hood:** The design of the system does not prevent work being performed outside the capture zone of the system and worker behavior can influence the effectiveness of the system (e.g. arms), which makes this type of capturing hood usually less effective. The capture zone must be adjusted to the working zone.
- **On-tool extraction:** This LEV system is integrated in a process or an equipment that cannot be separated from the primary emission source

Effectiveness

Fixed	Movable	On-tool
Mean: 96%	**Mean: 74%**	**Mean: 93%**
80% – 99%	60% – 85%	80% – 99%

Resources

Controlling airborne contaminants at work: a guide to local exhaust ventilation (LEV). Third edition. Norwich: TSO, 2017.

Henk Goede, TNO (The Netherlands) et al., « A Review of Workplace Risk Management Measures for Nanomaterials to Mitigate Inhalation and Dermal Exposure»

Best Practices

1. Place the hood as close to the source as possible, less than one hood diameter away
2. The capture zone should be large enough to encompass the working zone and it should be defined, marked on the workstation
3. The shape of the hood should be similar in size and shape to the source and contaminant cloud
4. Provide a visible display of adequate workflow such as manometer on the hood duct
5. The use of a smoke generator can be a good way to check the good implementation of the receiving hood
6. Anticipate maintenance and cleaning
7. Train workers

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