

Welding Fumes: Verify Capture at the Work

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Why this matters

A running extractor does not prove that it captures fume where welding occurs. Position, material and nearby work can change exposure.

Objective: Identify the ventilation evidence required before welding and after repositioning.

Key hazards or failure points

Unknown coatings; misplaced hood; damaged duct; contaminated intake; nearby exposure; unsuitable respiratory protection.

Practical controls

- Identify base metal, consumable and coatings. Have the responsible technical person establish the applicable exposure controls before welding.
- Set up extraction according to the approved design and instructions. Keep discharge from contaminating intake air or exposing other workers.
- Use required respiratory protection under the employer program. Reassess ventilation when the work, position, enclosure or nearby activity changes.

Verify It in the Field

The welder compares material and process with the approved assessment; record unresolved coatings or changed consumables before work.

The designated verifier checks hood position, ducts and specified performance indicators by the approved safe method; record actual results against criteria.

The responsible technical person confirms the exposure assessment and any monitoring needed. Fan noise, visible airflow or absent odor cannot establish safe exposure.

Stop and reassess

Hold welding for unknown material, failed extraction, changed conditions or unresolved exposure. Stop safely and notify the responsible lead; reverify before resuming.

Ask the crew

1. What evidence shows this setup captures fume?
2. What changes when the weld moves?
3. Who else could receive the exhaust?

Use this HOP tool — Questioning attitude: Choose one claim about the ventilation, such as “the extractor is working.” Ask what observable evidence supports it and which approved criterion applies. Have the designated verifier provide the actual result. Record uncertainty and hold welding until the responsible person resolves it.

Sources: OSHA 1926.353: welding ventilation; OSHA 1926.55: airborne exposure. HOP concepts adapted from DOE-HDBK-1028-2009, Vol. 2 (June 2009). No claim to original U.S. Government work; no government endorsement implied.

Free next step: JHA/JSA planning and field-verification worksheet

Expanded guidance and separate forms: toddjeromejenkins.com/toolbox-talks/welding-fumes-local-exhaust-verification