



Reducing Toxins in Welding Fumes with Local Exhaust Ventilation (LEV)

Local Exhaust Ventilation for the Control of Welding Fumes in the Construction Industry – A Literature Review

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Overview

Existing scientific literature on the effectiveness of Local Exhaust Ventilation (LEV) to limit worker exposure to contaminants in airborne welding fumes, especially in construction, is extremely limited. A review of recently published studies, however, permits certain conclusions.

Key Findings

- Significant reductions in exposure to contaminants like manganese and hexavalent chromium are possible with proper use of LEV. These reductions can reach 50% or more bringing exposures below NIOSH recommended exposure limits and ACGIH threshold limit values.
- Effective use of LEV to control fume exposures can be more difficult in construction because of the mobility of the work, but it's possible as proven by cited studies. With LEV systems, workers must take care to reposition the fume exhaust hood to keep it as close to the welding fume source as possible
- Fume extraction guns – welding guns with built-in exhaust systems – can mitigate these problems. However, more study is needed to determine whether the added weight of the instrument or unintended interference with shielding gases interfered with the quality of the weld produced.

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See abstract:

<http://www.ncbi.nlm.nih.gov/pubmed/22459321>

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