



Sheet Metal Worker Safety Interventions and Adoption

Sheet Metal & HVAC Safety Intervention Adoption and Best Practices Research

Kristen Hurtado, Kenneth Sullivan. CPWR Small Study, 2023.

Overview

Sheet metal and heating, ventilation, and air conditioning (HVAC) workers are exposed to welding fumes and nanomaterials, causing health and safety concerns. The objectives of this project were to better understand existing interventions to mitigate welders' exposure to fumes and nanomaterials and the levels of adoption of those interventions. In the research, interviews and targeted national surveys with members of the leading professional and trade associations—the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) and the Mechanical Contractors Association of America (MCAA)—were conducted, and data was also collected from welders at firms in the southwestern U.S. with fewer than 10 employees. The results of this project can be used by companies to compare the interventions they provide, company-specific adoption levels, and to better direct what companies can do to mitigate welders' exposure.

For more information, contact:

Kristen Hurtado: Kristen.Hurtado@asu.edu

Read the report:

<https://bit.ly/3RiPdT5>

©2023, CPWR-The Center for Construction Research and Training. All rights reserved. CPWR is the research and training arm of NABTU. Production of this document was supported by cooperative agreement OH 009762 from the National Institute for Occupational Safety and Health (NIOSH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.

Key Findings

- The study developed a comprehensive list of welding safety interventions to mitigate fumes and nanomaterials, classified into five categories: general PPE, ventilation equipment; policies and procedures; materials and equipment; and other.
- Wet slurry vacuums to remove coatings, laser welders, fume extractor guns, third-party occupational employee health studies, and third-party fume studies were the least common safety measures companies provided.
- Workers perceive point of operation ventilation/welding fume extractors, wet slurry vacuums, and fume hoods as having the lowest levels of adoption. Job/task simplicity and personal preference (or physical discomfort) were the most common reasons for not using safety measures.
- Among welders employed by small companies in the Southwest, 57% said their company provided general PPE only (such as gloves or eye and ear protection), while 43% said their company did not provide any safety measures or equipment.
- These welders said these results probably differed from the survey's because contractors belonging to professional associations employ union workers who have documented safety requirements.
- Grinder machine safety, while not directly related to nanomaterials, emerged as a common concern, as safety protocols with this equipment in related welding operations are commonly not in place (guards removed, wrong size blade for the grinder, etc.).



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

WWW.CPWR.COM