



25.46 Metal Welding & Fabrication – Key Health Facts

How can welding & fabrication work affect my health?

Welding is a fabrication process that joins metals by melting their contacting surfaces and allowing them to fuse as they cool. It is most often achieved by the application of electrical arcs in process such as MIG, TIG and MMA welding. These processes may affect an employee's health in several ways, depending on the process used and the metals involved and include:



Workplace Exposure Limits

5 mg/m³ Welding fume
Workplace Exposure Limit, 8-
hour TWA.

80 dB(A) Noise Lower Action
Value. Hearing protection & training
must be provided.

85 dB(A) Noise Upper Action
Value. Protection enforced, Hearing
Protection Zones set up.

87 dB(A) Noise Exposure Limit
Value. Daily/weekly average incl.
protection.

2.5 m/s² (100 pts) Vibration
(HAV) Action Value. Employer
must actively reduce exposure.

5.0 m/s² (400 pts)
Vibration Limit Value.
Absolute daily
maximum; must
stop if
reached.



Welding flash ("Arc Eye") is a UV-induced sunburn on the eye that most welders will experience at some point. Some evidence also links welding UV exposure to cataracts.



All welding fume is carcinogenic and may cause lung or kidney cancer. Some metals including galvanised steel can cause Metal Fume Fever. Nickel and chromium in stainless fume can trigger industrial asthma, and gases/fine particles may irritate the airways.



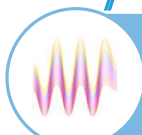
Dust can dry out skin and cause cracking. Unprotected UV exposure can also damage skin and, over time, increase the risk of skin cancer.



Vibration exposure during welding & fabrication can cause Vibration White Finger or Vibration-induced Carpal Tunnel Syndrome — disabling disorders of the nerves, joints and blood vessels.



Welding & fabrication is classed as "noisy work". Sound levels in production areas are often high enough to cause permanent hearing damage and tinnitus.



Welding sets generate strong EMFs that may interfere with pacemakers or hearing aids, and can cause dizziness, visual disturbance or local tissue heating.



Manual handling of heavy metal components causes up to a fifth of all 7-day+ workplace absences. Common injuries include Back Injuries | Sprains & Strains | Repetitive Strain Injuries | Hernias | Crushing Injuries.

Health Surveillance: Where residual risk remains after controls, your employer should arrange skin, respiratory, hearing and HAVS assessments. To confirm controls work and catch problems early.

