Workers Burned in Oxygenated Air



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Two men working for a municipality subcontractor died of burns received while installing a valve in a concrete sewage channel. The victims both had confined space safety training and were using a pneumatic hammer to chip the concrete channel wall.

The first man’s clothing abruptly caught fire. The second man jumped into the channel to help the first, but his clothing also caught fire. Co-workers shouted at them to “stop, drop and roll,? but the men suffered burns to 80 percent of their bodies. The men were transported to a burn center, where they died of their injuries.

The channel carried waste sewage, injected with 60 percent oxygen to aid in treatment. Excess oxygen was being released into the air, and the workers’ clothes became saturated. It appears the pneumatic hammer struck a spark from the concrete wall, which set the two men on fire. Because of the oxygen-rich atmosphere and clothing, the fire was extremely hot and fast.

There was no confined space entry program or rescue plan at the sewage plant, and no atmosphere test was conducted.

The host employer did not tell the contractor’s work crew what to expect in the channel nor what hazards might be present. Contractor’s employees should be briefed as new workers are briefed to raise their awareness of danger.

Source: California Fatality Assessment and Control Evaluation (FACE) Program, Case Report 94CA00202