



Failed Grating Results in Burns to Foot and Ankle

A USW member was preparing to de-isolate a feed from a weak liquor storage tank to a pre-evaporator feed tank. As he stepped on grating installed over a U-drain, a section of grating dislodged and his left foot fell into the U-drain about 18” or mid-way up his calf.

The East edge of the U-drain grating had previous chemical exposure and its integrity was compromised. This caused the grating to shift when it was stepped on. In the U-drain there was a diluted solution of black liquor and hot water flowing from a boil-out process.

The worker suffered first, second and third degree thermal burns to the top of his foot and ankle. After receiving immediate first aid from first responders and coworkers, he was quickly transported by ambulance to a medical burn center for further treatment and skin grafting.

Unfortunately, the USW has experienced many incidents with employers across industries, regarding U-drain covers and other grating mechanical integrity issues. Too often this hazard, and others, gets normalized.



Recommendations:

- Provide interim protection by flagging off the immediate area and/or place orange high-visibility cone over any and all grating subject to failure. Additionally, spray paint grating orange as a secondary provision should cones gets moved or flagging is inadvertently removed.
- When grating is removed to perform work, properly barricade the area and immediately replace when work is complete. Purchase and maintain an adequate amount of barricades and store them in user-friendly areas.
- Evaluate alternative materials for U-drain covers that will withstand the environment. All other covers will need evaluated.
- Maintain and inspect grating for missing sections, unsafe conditions (e.g. missing, corroded or bent, etc.) on a daily basis at the start of the shift.
- When auditing grating keep in mind that these surfaces are not exclusively used for walking, but also for bike, powered industrial truck, cart and truck traffic.
- Enter work orders for compromised grating and routinely check for completion.
- Utilize safety and health committees to perform proactive safety audits in the workplace.
- Audit the effectiveness of the work order system, periodic maintenance and staffing levels.
- Communicate all audit findings with workers and their representatives (at a minimum) and develop an action plan to address those items.
- Provide all workers with a Right-To-Act process including, but not limited to: procedures to report hazards; refuse unsafe or unhealthy tasks; and shut down any process without the fear of retaliation. All workers should be trained or retrained annually on the Right-To-Act process.
- Review Personal Protective Equipment (PPE) assessments and requirements for each job and tasks being performed.
- Provide workers with easy access to PPE at no-cost.



60 Blvd of the Allies
Pittsburgh, PA 15222
safety@usw.org
(412) 562-2581

This hazard alert is based on an actual incident, and reflects our best understanding of the incident at the time it was written. However, many incidents have multiple causes; this alert may not cover all of them. The purpose of the alert is to illustrate workplace hazards; it is not intended to be a comprehensive report on the incident.