



Attention: Fire departments, training academies, fire brigades, and emergency services

Thermal stress at live fires, including live-fire training exercises, can rapidly degrade the facepiece lens on firefighters' self-contained breathing apparatus (SCBA) and cause it to fail.

National investigations identified 7 fatalities, from 5 separate structural fire incidents between 2002 and 2011, where evidence indicated the polycarbonate facepiece lens underwent catastrophic thermal degradation while firefighters were still "on air". Victims included 5 career fire fighters, one volunteer firefighter, and one fire instructor.

Thermal stress is known to cause crazing, warping, bubbles, holes, gaps, discoloring, and other damage to SCBA facepiece lenses. Signs of crazing may include fine cracks. Damaged facepiece lenses must never be reused.

Thermal performance limitations of SCBA facepiece lenses need to get factored into fire safety planning, procedures, fire evaluations, equipment selection/use/care, and safety training. For example, evaluating fuel loading during training fires can help determine possible solutions to reduce heat flux exposure to fire fighters and to better manage firefighters' maximum exposure time and proximity to radiant heat sources.

To learn more about this see:

- [NFPA Safety Alert: SCBA facepiece lenses may undergo thermal degradation when exposed to intense heat](#)
- [NIST Technical Note 1724: Fire Exposure of Fire Fighter SCBA Facepiece Lenses](#)

If you have questions about this issue or would like more information, please contact the **Chief Deputy State Fire Marshal Chad Cross** with the **Washington State Fire Training Academy** by phone (425) 453-3000 or email chad.cross@wsp.wa.gov.

Visit L&I's [Firefighting Safety](#) webpage for training, videos, and other resources to help strengthen your overall safety program.

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Photo: L&I

Check the facepiece lens for **crazing (i.e., a network of fine cracks)** and other damage during SCBA inspections. Crazing is easier to see when the lens is backlit using a flashlight or other light source (see photo); Or shine indirect light through the lens and onto a wall or other flat surface while looking for shadows with a wavy or "cracked glass" pattern. **When damage is found, immediately remove the SCBA from service and replace the damaged facepiece lens.**

This bulletin was developed by L&I's Division of Occupational Safety and Health (DOSH) to alert employers, labor groups, and employees to potential hazards associated with work activities. This is not a rule and creates no new legal obligations. The information provided includes suggested guidance on how to avoid workplace hazards and describes relevant mandatory safety and health rules. DOSH recommends you also check related rules for additional requirements.

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