

Wildfire Smoke and Air Quality

About 8 minutes to deliver

Outdoor work in bad air is an exposure nobody used to plan for, and the number to act on is published free every hour.

Smoke from wildfires now reaches places that have never had a fire, sometimes for days, sometimes from a thousand miles away. Outdoor crews get the full dose of it because they are outside all day breathing hard.

WHAT IS IN IT

The part that matters is PM_{2.5} — particles small enough to go deep into the lungs and cross into the bloodstream. Smoke also carries carbon monoxide and irritant gases.

- Short term: stinging eyes, sore throat, cough, headache, chest tightness, shortness of breath.
- Anyone with asthma, COPD or heart disease is at real risk, and so is anyone pregnant. Those are the people who should be moved first, and they should not have to explain why.
- Do not judge it by how it looks. Haze thins out before the particle count does.

USE THE NUMBER

The AQI is published free and updated hourly, by location, at airnow.gov. A rough guide for people working outdoors and breathing hard:

- Under 100 — normal work.
- 101 to 150 — sensitive people move to lighter or indoor tasks. Everybody else, watch for symptoms.
- 151 to 200 — reduce heavy exertion for everyone, rotate people indoors, offer respirators.
- Over 200 — heavy outdoor work should stop. Over 300, outdoor work should stop.

Some states have a written rule with numbers like these. Everywhere else it is the general duty clause, and the number is still the right way to decide rather than arguing about the sky.

RESPIRATORS

- An N95 or better does work on smoke particles — that is exactly what it filters.
- A cloth mask, a surgical mask or a bandana does nothing here. They do not seal and they do not filter PM_{2.5}.
- Nothing filters carbon monoxide, so a respirator is not a way to work close to an actual fire.
- A seal is still a seal. No fit test and no facial hair means it leaks, the same as any other day.
- Voluntary use is allowed and is worth offering before it becomes mandatory — 1910.134(c)(2) permits it with the Appendix D information provided.

REDUCING THE DOSE

- Move the heavy work. Exertion is what drives the dose, because you breathe several times more air doing it.
- Shift the schedule. Smoke often clears overnight and builds through the afternoon.
- Indoor breaks with the doors shut and, where possible, a filter running.
- Vehicles on recirculate with the windows up.
- Watch each other and take symptoms seriously. Somebody coughing and short of breath is not "getting used to it".

ASK THE CREW

- What is the AQI right now, and has anyone looked today?
- Who here has asthma or a heart condition that this would hit first?
- Do we have N95s on site, and is anyone fit tested?

29 CFR 1910.134 · 29 CFR 1910.1000 · OSH Act § 5(a)(1)

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ATTENDANCE RECORD

Wildfire Smoke and Air Quality

About 8 minutes to deliver · 29 CFR 1910.134 · 29 CFR 1910.1000 · OSH Act § 5(a)(1)

Date

Job / site

Delivered by

Company

#	Print name	Signature	Date
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I delivered this talk and determined it was suitable for this crew and this work.

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