

BEST PRACTICES: SAFETY



Working Safely in Hot Weather Water, shade, and readiness are the keys

BY MOE DAVIS

[Editor's note: In March 2017, JLC Senior Editor Ted Cushman attended a training session presented by Moe Davis at the Green River Golf Club in Corona, Calif., sponsored by the Southern California Builders Safety Alliance. This article is adapted from that training session.]

I'm a Safety Director for Alliant Insurance Services, a national insurance broker. I'm based in Southern California, and I work with production builders in this region to help them train their supervisors, employees, and trade contractors in effective safety practices, including compliance with Cal/OSHA regulations.

For a couple of years now, I've been participating in the Southern California Builder Safety Alliance (SCBSA), a group made up of safety officers from some of the production builders in the area (see sidebar, page 62). In January and February of this year, parts of California were already starting to see hot weather, and Cal/OSHA

jobsite inspectors started to focus on heat-illness prevention. So SCBSA decided to refamiliarize its people with hot-weather safety.

Unlike most of the country, California enforces a specific rule to protect employees, including construction workers, working outside in hot weather. The basic rule kicks in when temperatures hit 80°F on the jobsite, and additional rules apply when it gets to 95°F. Failing to comply with Cal/OSHA heat illness-prevention rules can bring fines—or, in extreme cases, shut down your jobsite.

Federal OSHA regulations don't include a specific standard that addresses the risk of heat injury. But the "general duty" clause, which requires employers to provide a safe workplace, has been used in various states to penalize employers for exposing workers to unsafe conditions related to hot weather. And no matter what state you build in, the practices we're teaching here are good ways to keep yourself and your workers safe during a heat wave. In the next few pages, I'll take a look at the basic elements of hot-weather safety.



In hot weather, it's the employer's duty to provide workers with a shady place for rest breaks, and with ready access to clean, cool drinking water. There has to be enough water for every worker to consume a quart of water an hour throughout the working shift. In the example above, the employer has set up an insulated water jug with a paper-cup dispenser. On inspection visits, Cal/OSHA will check to see if the jugs are kept filled, so the author recommends designating someone to replenish the supply.

DEFINING HOT WEATHER

When the mercury tops 80°F, California worker safety rules require employers to take appropriate measures besides the usual requirement to provide drinking water. These include providing a shady rest area for breaks and meals, and having your supervisors and employees trained in recognizing the signs of heat illness. You also need to have a written plan for responding to either a minor heat illness or a life-threatening emergency.

When the temperature hits 95°F, an additional requirement for “high heat procedures” kicks in. In that case, supervisors have to conduct daily pre-shift meetings to review high-heat safety risks and procedures, and they need to monitor employees during the shift for symptoms of heat illness. Supervisors have to be in regular communication—either by direct line of sight or at least by phone or radio. Another option is to set up a formal “buddy system” in which employees keep an eye on each other for signs of heat exhaustion or heat stroke.

WATER AND SHADE

When a person is working hard in hot weather, the body cools itself by sweating and evaporation from the skin. The body loses water, and blood volume decreases. So we need to replace that water. In hot weather, supervisors should constantly remind workers to drink plenty of water—before they start, while they're working, and during breaks. Under high-heat conditions, those rest breaks should be more frequent.

How much water? The rules require employers to supply enough water for every employee to drink a quart an hour for the whole working shift, free of charge. For an 8-hour day, for example, that means two gallons per worker.

You have lots of choices for how you supply the water: You can set up a large container with paper cups, install a drinking fountain, or give each worker his or her own water container. If you do supply individual containers, they have to be labeled with the worker's name. And there has to be an easy way to replenish the supplies



Every contractor or subcontractor with employees on a site is required to supply water for its own employees. That's not the developer's responsibility. But developers or general contractors are free to supplement the employer-supplied water if they choose to do so. Here, the author takes a drink from a water fountain set up by Shea Homes, the developer and prime contractor on this site. Shea routinely makes water fountains available to all the workers on sites they control.

when they run low. I was on site when a client of mine was cited by Cal/OSHA for an empty water dispenser: The inspector picked up the jug and shook it, and there was nothing in there but ice. One good solution I've seen is to hang a sign on the water spigot, and designate one employee to check the water jug and top it off each hour, checking off the sign each time.

Workers need periodic breaks to cool off, and the employer has to provide a shaded area for that purpose. There has to be enough shade to shelter all the workers who might require a rest break at the same time. The employer should also provide seating; workers should not have to sit on the hot ground.

And the shade has to be effective: If there's enough sunlight coming through the shading fabric to cast a shadow in the shelter, it's not enough shade. In the language of the standard, the shade has to be "as close as practicable" to the work area. For employees working on a roof, the shelter might have to be down on the ground. But you don't want it to be a half-mile down the road.

PLANNING FOR EMERGENCIES

Heat illness is no laughing matter. It can be deadly. The effects can proceed rapidly from the minor discomfort of heat fatigue, easily treatable with good hydration and a rest break, to the life-threatening condition of heat stroke, requiring immediate first aid and a quick call to emergency services.

In the case of an emergency, you don't want your people having to figure out what to do on the spot. You want them trained in advance. Designate one person ahead of time to call emergency services. And make sure that the person knows how to give directions to the jobsite. In our market here in Southern California, a lot of the work is happening on new developments, and it can take years before some of these new streets and cul-de-sacs show up on Google Maps. Even if the street is marked with a street sign, the ambulance driver may not be able to find it. When you're working in that environment, you should identify the nearest cross street that is in Google Maps, in advance. When you call emergency

TEAMING UP FOR SAFETY

This March, on a visit to Southern California, I met up with Shea Homes safety officer Rod Plunkett over breakfast at the Green River Golf Club, in Corona, Calif.

I'm not a golfer, but we weren't there to play golf. Plunkett had invited me to hear Moe Davis teach a class on safe practices for hot-weather construction. Plunkett and Davis are founding members of the Southern California Builders Safety Alliance (SBCSA), a group of safety officials and other executives from some of California's top builders (who, as it happens, are also some of the USA's top builders). In that capacity, Plunkett has spent a lot of time on the jobsite, and he has a few stories of his own to tell about hot weather.

Plunkett recalled the time a Cal/OSHA inspector quizzed a worker on a Shea jobsite. "It was one of the plasterers," said Plunkett. "He was hosing the building down to get ready to put the color coat on. And Mike Alvarez from OSHA asked him, if he needed to replenish his drinking water, did he know where he could get more water. And the guy, standing there with the hose in his hand with water coming out of it, could not figure it out." (For the record: Stucco, like any cement product including concrete and masonry mortar, requires potable water.)

If understanding is a big problem, so too is motivation. The inspiration for the SBCSA, Plunkett explained, came in a conversation between him and Davis. "Moe Davis is the insurance broker for Pardee Homes," said Plunkett, "and he does safety inspections and training for them too. His company was our insurance broker for some years too, and he and I are good friends. Well, a few years ago there was a shortage of stackers—guys framing roofs and rolling trusses. So the stackers were coming to the jobsite and saying that if we wanted them to do fall protection, they would walk across the street where some other company was building. And everybody needed the labor, so people were turning a blind eye to safety, and doing whatever they had to, to get the labor on their site."

"So Moe and I were talking," said Plunkett. "And we said, if we're working on the same side of the street and we both tell the piece workers, 'We're sorry, this is OSHA's minimum standard and you are required to meet it,' wouldn't it be cool if they did go across the street and the other builder said the exact same thing? If the trades knew that all the builders were consistent, and they always had to perform to the same minimum OSHA standards, there wouldn't be any games being played."

Mitch McKibben, a consultant from Cal/OSHA, introduced Plunkett and Davis to Pulte Homes manager Brian

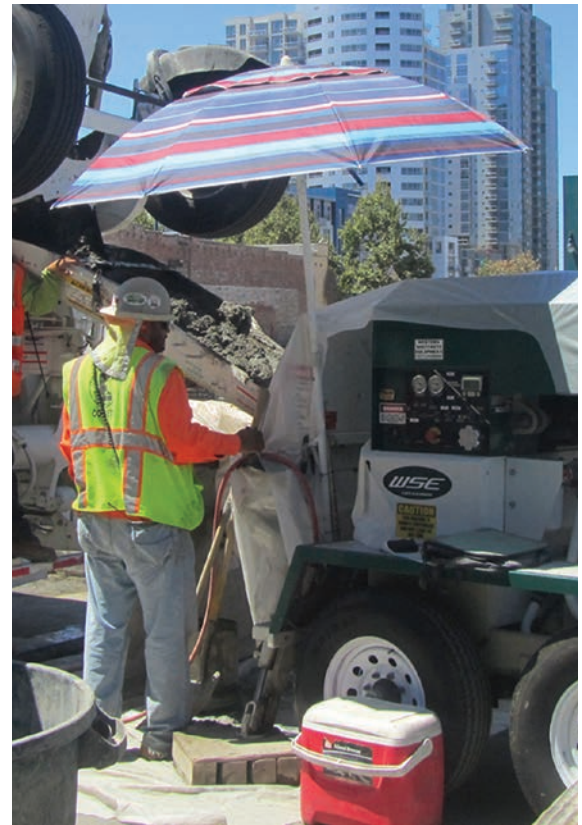
Rusaw (now working for CalAtlantic Homes). "I invited Brian Rusaw to a Shea Homes safety council meeting, and after the meeting Moe and I told Brian about our idea, and he said he was in. So then we had Alliant, Pardee, Shea, and Pulte." That was the beginning; since then, the Safety Alliance has grown. The roster currently includes representatives from Beazer Homes, CalAtlantic Homes, K. Hovnanian Homes, Pardee Homes, Shea Homes, Toll Brothers, Warmington Residential, Brookfield Residential, Meritage Homes, Richmond American Homes, The New Home Co., and Griffith Co. (developers of a safety management software tool called Safety Mojo).

"We took a couple of years to find our footing," said Plunkett. But now, the group has a focused program. Each quarter, it sends two-person teams out to member jobsites to assess safety compliance in a particular phase of the job. One person makes observations; the other, armed with a tablet computer, enters data into Safety Mojo software. Back at the office, the group crunches the collected numbers from all the member sites, searching for trends and patterns.

Cal/OSHA's early emphasis on heat injury prompted the Safety Alliance to conduct a special training on that topic in March. But the group's own jobsite audits this spring focused on fall safety. "Through all of our observations," said Plunkett, "everything was pointing to scaffolding as the top issue." So in late May, the group invited builders, scaffold erectors, and all the trades that use scaffolding on the site back to the golf club for an industry-wide training session with a focus on scaffolding rules. Look for more on that topic in *JLC* this summer.

Ted Cushman is a Senior Editor at JLC.

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— Rod Plunkett**



As with every OSHA standard, training and communication are big factors in Cal/OSHA's enforcement of the heat illness-prevention rule. Above left, an employer has posted warnings about heat illness alongside warnings about other jobsite hazards. Shade for workers should be located as close to the work area as is feasible (above right).

services, send a ground guide to that location to meet the ambulance and bring the responders to the injured person.

RECOGNIZING TROUBLE

The best way to respond to a heat illness is to see it coming and prevent it. The California standard requires employers to train their supervisors and workers to identify dangerously hot weather, to recognize the signs of heat illness, and to take appropriate steps to prevent and treat the conditions. Employees should be trained to notice when another worker is going from bad to worse.

Acclimatization is important in the early summer, when hot weather first occurs. And here in California, a person might be working in 70°F weather on the coast, drive inland for an hour, and find themselves in the desert working at 105°F on the same day. It can take the body a couple of weeks to adjust to a change like that.

Heat fatigue is a relatively mild condition that occurs when a worker isn't acclimatized to the heat or isn't drinking enough water.

The signs include discomfort, impaired performance on skilled tasks, inability to concentrate, and a feeling of weakness and tiredness. No medical treatment is required, but rest and hydration breaks are recommended while the worker adjusts.

Heat exhaustion is more severe; the signs include dizziness, faintness, nausea, headache, and heavy sweating. Workers with heat exhaustion should be moved to a cool shaded area, cooled off with fans and a water spray, and provided with cool water to drink.

Heat stroke is a medical emergency requiring immediate first aid and a call to emergency services. The key signs include hot, dry skin and elevated body core temperature, because the body's cooling mechanism (sweating) has failed. Confusion and disorientation are also signs of heat stroke. Move the victim to a cool, shady location, cool them with cold water and ice on the armpits or groin, remove excess clothing, and dial 911 immediately.

Moe Davis is a safety director at Alliant Insurance Services.