

A Shotcrete feature:

# SAFETY SHOOTER

## Scaffolding by the Pros?

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I just had a professional scaffolding contractor set up one of our shotcrete jobs. I thought that because I was hiring a firm specializing in scaffolding, I would have a clean and safe workplace for the shotcrete crew.

The job was a large basement at Fresno State University in California (refer to Fig. 1). The job required approximately 2000 lineal ft of 20 ft (6 m) high scaffolding. I ordered 4 ft (1.2 m) walk-through scaffolding set 5 ft (1.5 m) down from the top of the wall. I requested that the scaffolding be set 20 in. (508 mm) off the existing form already put in place by our carpenter crew. Reinforcing bar also had been placed by our reinforcing bar crew

prior to erection of the scaffolding. (*Tip: never erect scaffolding before reinforcing bar. It only gets in your way*). The finished wall thickness was to be 10 in. (254 mm). Setting the scaffolding at 20 in. (508 mm) off the existing form would leave 10 in. (254 mm) from the edge of the scaffolding to the newly placed shotcrete wall. At first glance the scaffolding looked good—fully planked, ladders, and guard rails installed. I started to walk the job and climbed the scaffolding to observe our wireman setting grade. He was standing between the newly erected scaffolding and the reinforcing bar for the shotcrete wall (refer to Fig. 2). This looked very dangerous, and I decided to investigate. We measured the scaffolding offset from the wall and found it was 29 in. (737 mm) instead of the 20 in. (508 mm) requested. Nine inches (229 mm)



Fig. 1

may not seem like a lot, but remember, the shotcrete wall was not in place yet so the gap between the existing wall and scaffolding was more than 19 in. (483 mm) in some locations, creating a hazardous work place, especially without the use of a safety harness. The other concern on this job was the installation of solid-brace scaffolding at the base (refer to Fig. 3) instead of 4 ft (1.2 m) walk-through scaffolding, making it hard to properly place the shotcrete and impossible for continuous work. Without the specified scaffolding the shotcrete pump would have to be shut down while moving between scaffolding supports.



We called the scaffolding contractor back to the site and had him move all the scaffolding to the requested 9 in. (229 mm) offset needed to make the job safe for the shotcrete crew (refer to Fig. 4). Figure 5 shows the ladder needed for the shotcrete crew to climb the scaffolding. Note the guard rail at top used for the material hose—all rails needs to be secured properly.

Hiring a scaffold specialty contractor is an important step in creating a safe, efficient work site. Never assume, however, that the scaffolding will be erected properly. As President Ronald Regan said when discussing a disarmament treaty with the former Soviet Union, “Trust, but verify.”

