



OSHA Fall Protection Rules for Construction Electricians

The Occupational Safety and Health Administration (OSHA) issues fall-protection rules for workers in the construction industry, including installation electricians. While construction electricians may not face the same risks as electrical workers in other fields — linemen, for instance, or wind-turbine maintenance techs — wiring a new construction often requires electricians to work at height.

The risks of such work are well documented. Fatal workplace injuries resulting from falls, slips, or trips [grew by more than 25 percent](#) between 2011 and 2016, with a 6 percent increase in 2016 alone. Meanwhile, between 2003 and 2016, [more than half of the fatalities](#) associated with electrical work occurred in the construction industry. Following OSHA standards about working at height should help employers to keep employees safe during electrical installations in new construction projects.

Here are the main OSHA regulations that can help keep construction electricians safe when working from height:

OSHA Fall Protection Standards

[Title 29 Code of Federal Regulations \(CFR\) Subpart M](#) covers fall protection in the construction industry. It consists of standards 1926.500 through 1926.503, as well as five appendices, designated A through E. Here are the highlights:

- [Section 1926.500](#) is titled "Scope, application, and definitions applicable to this subpart." It largely consists of strict legal definitions of the terms used within Subpart M as a whole. For instance, within this standard, a *hole* is defined as any gap in a walking/working surface with a dimension of at least 2 inches, an *opening* consists of a gap in a vertical wall or partition that's at least 30 inches high and 18 or more inches wide. (Think of a window; employees can easily fall through such spaces.)
- Standard number [1926.501](#) instructs employers to provide fall-protection systems for employees who work at a height of 6 feet or more. These systems may consist of guardrails, personal fall-arrest equipment, or appropriate safety nets. Note that this is a more lenient standard than those governing general industry, where the height limit that triggers the fall-protection requirement is just 4 feet.
- OSHA standard [1926.502](#) describes minimum specifications for fall-protection systems.
- Meanwhile, standard [1926.503](#) describes the elements of an OSHA-compliant training program for fall prevention, including key concepts and documentation of the training through written certificates.

Appendices to the OSHA Fall Protection Standards

Appendices A through E of Subpart M provide additional guidance for compliance with the standards described above. Note, however, that these appendices are *non-mandatory*. Whereas OSHA standards carry the weight of law, an appendix is designed to help employers comply with those rules, and does not constitute federal law in and of itself.

These are the appendices OSHA provides to further clarify the standards set forth in Subpart M:

- [1926 Subpart M Appendix A](#) clarifies a rule set forth in 1926.501(b)(10). This section allows employers to limit fall-protection equipment to a simple safety monitoring system, but only where employees are working on a low-sloped roof with a width of 50 feet or less.

As the appendix points out, however, many roofs are not simple rectangles, leading to some confusion in the measurement of roof width. This appendix provides guidance, including illustrated figures, on acceptable ways to measure roof width to determine where safety monitoring alone is sufficient to comply with the OSHA standards.

- [1926 Subpart M Appendix B](#) gives employers a starting point for designing OSHA-compliant guardrail systems. The technical requirements of such systems are listed in standards 1926.502(b)(3), (4), and (5).

These standards require guardrail systems to withstand a test load force of at least 200 pounds in a variety of configurations. The Administration provides the guidelines in Appendix B in order to increase the likelihood that constructed guardrails will pass these load tests, preventing costly and time-consuming reconstruction.

- [1926 Subpart M Appendix C](#) provide specific test procedures that employers can use to ensure compliance with standard 1926.502(d), which describes minimum requirements for personal fall-arrest systems.
- Similarly, [1926 Subpart M Appendix D](#) describes tests employers can administer to gauge compliance with 1926.502(e), the standard that covers personal fall arrest systems.
- [Appendix E](#) of standard 1926 Subpart M provides a complete sample fall protection plan. According to regulation 1926.502(k), certain employers can use such written protocols in place of conventional defenses against falling. Appendix E demonstrates what an OSHA-compliant fall protection plan might look like.

Together, these regulations and appendices give employers a clear picture of their legal responsibilities as they relate to fall protection.

OSHA Scaffolding Regulations

When construction electricians must work at height to complete an installation, employers should also be aware of [29 CFR Subpart L](#), which addresses scaffolding and other elevated work platforms. The code lists Subpart L rules in standards 1926.450 through 1926.454. Appendices A through E provide further clarification of the standards.

- Standard number [1926.450](#) provides the scope of the regulation, along with legal definitions for terms used within its pages. According to section (a), these rules only apply to scaffolding used in a workplace, and specifically does not cover suspended personnel platforms on cranes or derricks.
- Technical specifications for the design and build of scaffolding systems can be found in standard number [1926.451](#). Highlights include minimum load limits (four times the intended load), platform widths (at least 18 inches), and stability (“unstable objects shall not be used as working platforms”).

- Electricians who use [Forklift Work Platforms](#) or [Picking Work Platforms](#) to access ceilings should pay close attention to a specific standard within 1926.451: 1926.451(c)(2)(v), which states that, “Forklifts shall not be used to support scaffold platforms unless the entire platform is attached to the fork and the forklift is not moved horizontally while the platform is occupied.” With the right equipment, then, it is possible to use forklifts to access high areas during an electrical installation, as long as the forklift remains rooted in place as long as workers are elevated on the forks.
- Standard [1926.452](#) lists the requirements for particular types of scaffold systems, including “pole scaffolds,” which are almost entirely made of wood; and “tube and coupler scaffolds,” which combine fabricated tubing, connecting pieces, and platform planks.
- Aerial lifts include elevating work platforms like cherry pickers, boom lifts, and mechanical ladders. Rules governing use of this equipment are listed in standard 1926.453. Most notably, the OSHA regulations require all such equipment to comply with American National Standards publication ANSI A92.2-1969, “Vehicle Mounted Elevating and Rotating Work Platforms.” The latest version of this standard is available for a fee [here](#).
- Standard number [1926.454](#) clarifies requirements for staff training in the use and construction of scaffold systems. The original training rule is listed in standard [1926.21\(b\)\(2\)](#), and this later guidance adds specific details.



Figure 1. Forklift Work Platform

Appendices to the OSHA Scaffolding Regulations

As noted above, appendices to OSHA standards are not mandatory. Still, these five resources provide detailed guidance that can help electrical firms remain compliant when their employees work on scaffolds.

- [Appendix A of standard 1926 Subpart L](#) provides detailed guidance on specifications for proper scaffolding systems. Tables provide information on everything from platform load limits to the design of rails, toeboards, and post materials.
- For now, employers can skip Appendix B. It’s being held in reserve until OSHA can complete its “criteria for determining the feasibility of providing safe access and fall protection for scaffold erectors and dismantlers.” However, this Appendix has been “in development” [since at least 1997](#), and remains incomplete and unposted.
- Appendix C provides the [American National Standards Institute publications](#) that, if correctly implemented, guarantee compliance with OSHA standards.
- Electricians charged with setting up training programs for building and dismantling scaffolding will find [Appendix D](#) particularly helpful. This resource lists specific topics that such training programs should include.

- Appendix E provides a list of visual references for builders and users of scaffold. Nine detailed figures demonstrate the rules contained within OSHA standards. These include examples of outrigger scaffolds, tube and coupler diagrams, and annotated precautions for suspended scaffold platforms.

Electricians spend a lot of time working on ladders, scaffolds, and other platforms. By following the OSHA fall protection rules outlined above — and with the help of these Appendices — electrical contractors can create a safer, more productive working environment on every job.

References:

[“29 CFR 1926 Subpart L - Scaffolds.”](#) *OSHA*. Occupational Safety and Health Administration, U.S. Department of Labor, n.d.d Web. 26 Sept. 2018.

[“29 CFR 1926 Subpart M - Fall Protection.”](#) *OSHA*. Occupational Safety and Health Administration, U.S. Department of Labor, n.d. Web. 26 Sept. 2018.

[“5,190 fatal work injuries in the United States during 2016.”](#) *BLS*. Bureau of Labor Statistics, U.S. Department of Labor, 22 Dec. 2017. Web. 26 Sept. 2018.

[“Workplace Fatalities and Injuries 2003 - 2016.”](#) *ESFI*. Electrical Safety Foundation International, 5 Mar. 2018. Web. 26 Sept. 2018.

