ELECTRICAL POWER CORD BASICS
You may not think much of taping up a dinged extension cord, but this common practice is not only dangerous, but it also could set you up for a hefty fine if an OSHA compliance officer sees it lying around or used on a roof.

Here are some roof reminders about electrical power cords:

- Splices to extension cords are not allowed, but OSHA will look more kindly on it if the splice is done by an electrician and covered with cord shrink-wrap rather than duct tape. Splices shall have the same mechanical properties as the original cord.

- Extension cords should be three-wire, made with at least 12-gauge wire.

- Ground prongs on any extension cords should never be removed or used with prong removed.

- Do not use homemade junction boxes for power distribution. Roofers work in wet environments and all electrical should be water proof.

- Romex cable or other home wiring shall never be use to make your own extension cords.

- Extension cords should not exceed 100 foot in length when operation hot air welding equipment.

- Do not hot-wire portable electrical cords from compressors or other roofing equipment into service panels on roofs.

- All temporary power must have ground fault circuit interruption (GFCI) protection.

- Check the polarity of all outlets in use. GFCI outlets won't do their job if polarity is reversed. A simple pocket polarity checker is sold for under $10.00.

- Never drive over electrical cords with roofing equipment.

- Electrical cords should never be dragged through asphalt or roofing mastics. Asphalt & Coal-tar-pitch is not compatible with many single-ply roofs and contaminated cords should not be used on single-plys.

- Electrical cords should be cleaned and inspected on a frequent basis. Cords that are severely damaged by cuts, tears, stress damage or have flat or twisted spots should be replaced.

- Always store electrical cords out of the weather including sunlight when not in use. Never leave cords out overnight, they will absorb moisture and the GFCI’s will not work.

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QUIZ:

1. The best way to prevent damage to electrical cords is to not drag or pull them across the roof.
   a. True
   b. False

2. Electrical cords at a minimum should be
   a. Two wire type 25 feet in length maximum
   b. Three wire type, no more than 150 feet in length
   c. Two wire type 100 feet in length
   d. Three wire type, no more than 100 feet in length

3. GFCI’s are __________
   a. required on all roofing job sites where electrical is used.
   b. not required except where voltage exceeds 120 volts.
   c. designed to replace all circuit breakers.
   d. required on all generators
   e. All of the above

4. Asphalt and Coal-tar-pitch do not affect electrical cords.
   a. True
   b. False

5. Electrical cords should be inspected on a daily basis before cords are used.
   a. True
   b. False

NAME: ______________________________________ DATE: __________
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Quiz Answers

1. a. True; Most damage occurs from dragging or pulling, yanking cords across the roof.

2. d. Three wire type no more than 100 feet in length. Note: depending on size of cord, amperage is greatly reduced over 100 feet, causing heat guns or electrical tools to cycle (low amperage) and burn out the tools.

3. a. required on job sites where electrical is used.

4. b. False; asphalt and Coal-tar-pitch are corrosive and will damage cords.

5. a. True; Cords should be inspected before they are used.