OSHA Training Toolbox Talk: Basic Electrical Safety – What Are Listing & Labeling Requirements?

[Reference 1910 Subpart S / 1926 Subpart K]

It is not unheard of for someone, be it accidentally or intentionally, to utilize an electrical device or component for a purpose for which it is not designed. But how do we know what we can use them for, and conversely, what we cannot? According to OSHA electrical safety standards, we must only use electrical devices and components according to their "*listed instructions*".

Most electrical devices and components are tested for very specific purposes by an independent testing lab, such as the one at Underwriters Laboratories, also known as UL. If approved by the testing lab, the device gets labelled and specific instructions for its proper use are listed by the lab. But here are a couple of examples of UL listed electrical equipment being misused on the jobsite:

- **Power Strips** – These devices are actually called "*relocatable power taps*" in the UL book. Sometimes power strips are equipped with an internal breaker that serves as a surge protector. The instructions listed in the UL White Book for power strips and surge protectors states they are *only* intended for indoor use, and never for use on construction sites and similar locations. They are intended to be directly connected to a permanently installed branch-circuit receptacle outlet only, and not intended to be series connected (aka daisy chained) to other relocatable power strips or to extension cords. In addition, they are not intended to be permanently secured to building structures, tables, work benches or similar structures, nor are they intended to be used as a substitute for fixed wiring (*see handout for some examples of misuse*). Last but not least, they are only rated for 20 amps or less of power in total, meaning they are typically intended for use only with a few smaller appliances (such as computers and printers) and not for connecting to higher amperage tools or appliances like microwave ovens and heaters (or refrigerators, or hammer drills, or grinders).

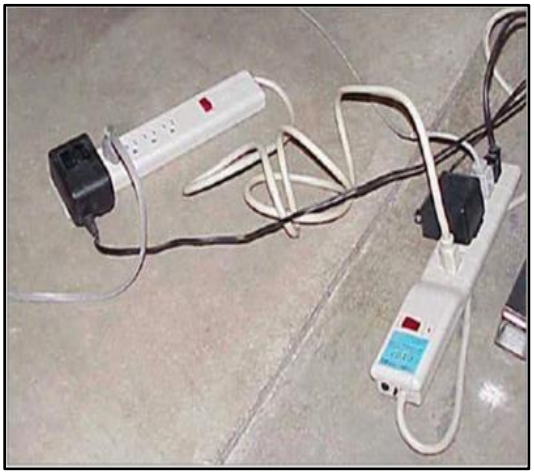
- **Electrical Outlet Boxes** – It is not uncommon to find a standard metallic electrical outlet box, like those you normally see affixed to the wall for power cords to plug into, attached to the end of an extension cord being used on a construction site, in a manufacturing shop, or even in an office or warehouse (*see handout for examples*). But according to the instructions found in the Underwriters Laboratories White Book, a standard metallic electrical outlet box must be utilized and installed in accordance with Article 314 of The National Electrical Code. That NEC code states that standard metallic outlet boxes are to be mounted onto a solid structure or similar surface (like a wall or electrical chase-way), or as part of an approved pendant system. But nowhere does that code discuss attaching a standard metallic outlet box onto the end of an electrical cord to provide temporary power on the job site. So don't do that!

These are only two examples of electrical equipment or devices being used for purposes for which they are not intended, per their listing instructions. Can anyone think of some other example of electrical devices being misused at the jobsite? If you do see such a thing, please notify your supervisor or safety rep so the hazard can be corrected as quickly as possible.

Thank you for attending today's OSHA training toolbox talk. Please be sure to sign your name on the training certification form so you will get credit for being here.

MISUSE OF ELECTRICAL DEVICES

(Electrical outlet boxes used for temporary power supply)



(Power strips permanently mounted / daisy chained)

OSHA SAFETY TRAINING CERTIFICATION FORM

Toolbox Topic Covered: Basic Electrical Safety – What Are Listing & Labelling Requirements?

Company Name: _____ Date: _____

Training led by: _____

PRINT NAME	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____