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THE SHOCKING TRUTH

The rapid growth of 12 volt outdoor lighting using plastic stakes should make safety a great concern to consumers. Plastic ground stakes used to support 12 volt metal outdoor lighting fixtures are a devastating accident waiting to happen!

My transformer campaign for fire prevention a few years back has been credited with forcing the industry to change transformer design to a safer design in use today. I am compelled to take the industry to task for the use of plastic stakes. Yes, they are cheaper also durable. The problem with using plastic is it's insulating qualities. Placing a metal electrical fixture in a plastic stake isolates the fixture from the earth (electrical ground). In the event that a live current carrying wire touched the metal fixture the entire fixture would become a source for a severe electrical shock.

Being deeply involved in the industry for almost a half century gives me the knowledge and experience to speak out. I'm concerned about the future of our industry. However, I am more concerned about the possibility of a single fatal accident caused by using a plastic stake.

How could this happen you ask? After all we are only dealing with 12 volts and UL says that 15 volts or less is OK. The heart of any 12 Volt system is the transformer, the item that reduces 120 Volt household electricity to a safe 12 Volt. The transformer is an electrical device containing two coils of copper wire, one for the 120 Volt while the other is isolated for the 12 Volt.

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In the event of a lighting strike or power surge causing one of the 120 Volt wires (within the transformer) to touch one of the 12 volt wires the transformer could continue to provide 12 Volt for the fixtures. However from the 12 volt wires to ground (earth) the voltage would be a deadly 120 Volt.

Should the installing mechanic accidentally remove a small section of insulation from the 12 Volt wire allowing the bare wire to touch the metal fixture support, instantly the fixture becomes electrified with 120 Volt to ground. The 12 Volt lamp will continue to burn even though the fixture surface is charged with deadly 120V to ground making it possible for the unsuspecting to receive a deadly shock.

Because the accidentally skinned wire is touching the metal fixture stem the metal parts become dangerously charged with 120 Volts. Should a person not knowing the danger of this 120 Volt be kneeling on the wet ground ( knees touching the wet ground) use the 12 Volt fixture as an assist to "getting up" they would be subject to a full 120V AC, far greater than the deadly 100 MiliAmps, the minimum for possible electrocution.

Had a metal spike been used the scenario would be entirely different, it would have been SAFE! When the skinned wires from the fixture were inserted into the metal spike and then placed in the ground (earth), as the electricity was applied to the fixture immediately a fuse, circuit breaker or the GFCI would have interrupted this dangerous 120 Volt.

I invite you in public service, professionals that are installing 12V AC outdoor lighting, Wholesale/retail businesses that are selling 12V (low voltage) outdoor lighting, please look at the enclosed CD of a real live demonstration. This will show you the need for 12V AC installations either existing or new to be grounded at each individual fixture, either by metal spike or some other approved method. We do not need one single person maimed or killed "because it is cheaper". This is the "Shocking Truth".

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