

Lamp Wiring Tips

The following article has been provided by Tony Caplin who has a business making table lamps for sale to the general public. He has given us authority to print, to hopefully, clear up all the uncertainty regarding selling to the public. His website is www.lampmaker.co.uk He sells lamp accessories as well as turned lamps. Give it a look.

Since January 1996 all items supplied to the public which are subject to EU directives, are required to carry CE marks. **This is the maker's statement that the item complies with the directives, and are therefore safe.** This is the law and applies to every maker, be they a one-man woodturner or pottery business or an importer of millions of products. Even if you use approved components, and just thread them through a piece of pottery, wood, metal or glass and put a plug and lamp fitting on, it is you that the law applies to. It is the maker of the lamp who is responsible; after all you can't sue the cable manufacturer if the lamp was not wired correctly, causing an accident. You may be thinking to yourself, "Oh! I know how to wire a lamp, this is all nonsense." It isn't, working late into the night, watching TV whilst rushing to wire the last 20 lamps for tomorrow's craft fair or a shipping date, it is not impossible to make mistakes, I know I have been there.

Follow these tips and you may be able to convince those seemingly idle questions from someone looking closely at your lamps. They may not be just another customer; the Trading Standards Officers are known to target craft and other fairs.

Design your lamps to be stable when fitted with a suitable shade. I use a 15 degree wedge to test mine. **Regulation:** An appliance shall not tip over when subject to a 6 degree tilt when carrying a suitable shade.

Use the correct size of cable. **Regulation:** Lamps over 1 Kilogram must be fitted with cable which has a conductor cross-section of 0.75mm. Those under 1kilogram can have 0.5mm cable fitted but not more than 2metres in length.

To prevent cables being damaged by sharp edges. **Regulation:** Plastic grommets must be fitted where the cable comes into contact with metal or ceramic edges.

To prevent the cable being pulled loose, fit a cable clamp. [Regulation:](#) Cables must be anchored to at least one part of the lamp and be able to resist a pull of 60 Newtons. With pot lamps the clamp can be loose inside.

Preventing lamp fittings becoming loose. Super glue the nipple to the lamp, just threading it into the wood is not enough, and a spot of glue on the thread of the fitting will stop that from coming loose. [Regulation:](#) Lamp fitting should resist 2 Newton meters of torque. In other words if it comes loose when given a hard twist, "It is no good."

Electrical testing, here we have a problem. Most craftsmen are not in a position to test lamps to the required specification; in fact most electricians and electrical shops are not equipped to test to the required standard. I use a Clare tester costing over £1000. It flash tests up to 4000 volts and continuity checks to less than half an Ohm resistance. The bare minimum you should do is to test the lamp with a bulb in, operating the switch. If it is a brass fitting you must also check that the earth cable is continuous. This may be done using a cheap meter designed for fuse testing and testing between the earth pin and the brass fitting. This testing is hardly ideal but it will probably show up most problems.

To be fully covered get your lamps tested by an approved PAT (Portable Appliance Test) tester, you can find them in the Yellow Pages, it should only cost a few pounds each.

If you do not you will probably be voiding your **Product Liability Insurance**, assuming you have some.

A couple of faults were found, using my equipment that would not be shown up in the above simple test. On one occasion the alarm went when the nipples had been fitted with too much metal protruding from the wood. This had damaged the cable enough for 4000v to arc between two of the conductors. Alerted by this, all lamps in the batch were stripped down to find that a couple of other lamps had damaged cables, but not enough to fail a simple resistance and continuity test, they were all reassembled correctly. This was in the days before we needed to fit cable protection grommets. Recently a lamp failed because a small strand of brass swarf, left from when the thread in the lamp holder had been cut, caused the flash test to show an error warning. This would not have shown up with a simple bulb test but the strand could easily have fallen across two terminals later on.

Make sure that your component supplier gives you parts that comply with BS and EU standards, check for the following marks.

Cable, close inspection will reveal BS6500 or <HAR> impressed into the outer insulation, sometimes it may be on the core insulation.

Approved plastic bayonet lamp-holders (known as Class II fittings) requiring only two-core cable will have BS 5042 moulded into them.

Brass bayonet holders (Class I fitting) are not marked so it is more important that you purchase them from a reliable source. Your supplier should be able to assure you that they are BS 5042 compliant. Plugs will have ASA or BS 1363 moulded into them. They must only have 3amp fuses fitted in the plugs.

All lamps should carry the following labels:

- CE labels to show you are compliant.
- Plug wiring label is still necessary unless you buy leads ready fitted to moulded plugs.
- The model number of the lamp and its test date, which can be checked in the event of a problem.
- Source label i.e. your address label.
- Size label stuck to the Bulb lamp holder.