OakleaWoodcrafts

Guide

Electrical Wiring of Portable Luminaries,

Table and Standard lamps fall into that bracket, and if supplied to the public are subject to many rules and directives and are therefore required to carry CE marks.

1. CE Marking on a product is a manufacturer's declaration that the product complies with the **essential requirements** of the relevant European health, safety and environmental protection legislation, in practice by many of the so-called **Product Directives.***

   ***Product Directives** contains the "essential requirements" and/or "performance levels" and "Harmonized Standards" to which the products must conform. Harmonized Standards are the technical specifications (European Standards or Harmonization Documents) which are established by several European standards agencies (CEN, CENELEC, etc).
   CEN stands for European Committee for Standardization.
   CENELEC stands for European Committee for Electrotechnical Standardization.

2. CE Marking on a product indicates to governmental officials that the product may be **legally placed on the market** in their country.
3. CE Marking on a product ensures the **free movement of the product** within the EFTA & European Union (EU) **single market** (including totally 30 EEA* countries), and
4. CE Marking on a product permits the **withdrawal of the non-conforming products** by EEA customs and enforcement/vigilance authorities.

Therefore applying the CE mark is the maker's statement that the item complies with the directives, and are therefore safe and fit for purpose.

The law 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.

- Design your lamps to be stable when fitted with a suitable shade.

Regulation:

- An appliance shall not tip over when subject to a 6 degree tilt when carrying a suitable shade.

We use a 45 degree rule, that is to say if a lamp was to be pushed lightly from the top to about 45 degrees, it must return to the upright position when released. If your design fails this then weight must be added to the base.

Regulation:

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

Use the correct size of cable

Regulation:

- To prevent cables being damaged by sharp edges

Plastic grommets must be fitted where the cable comes into contact with metal

Regulation:

- Cables must be anchored to at least one part of the lamp and be able to resist a pull of 60 Newtons.

to prevent the cable being pulled loose, fit a suitable restraining cable clamp

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."

Prevent lamp fittings becoming loose. Super glue or use a suitable all thread adhesive on the nipple and holder of the design, 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.

Electrical testing.

This can be programmatic for most craftsmen who 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.
We use a very expensive Clare Tester, which enables flash testing up to 4000 volts and continuity checks to less than half an Ohm resistance.

The bare minimum you should consider is to test the lamp with a bulb in, operating the switch, this will only tell you that the lamp works. If a brass fitting is used you must also check that the earth cable is continuous.

Using this type of metre enables the testing of fuse 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

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

Your ultimate aim is to have all your products legally label, which should be the following:-

- CE labels to show you are compliant. This can be on the underside of the lamp

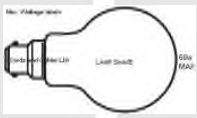
CE

- 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 identification label.

- Size label stuck to the Bulb lamp holder.



Finally keep good records