

*W*hat does CFL stand for?

CFL stands for Compact Fluorescent Lamp.

*W*hy are CFLs called lamps instead of bulbs?

For lighting manufactures, the word lamp is associated with a device that generates light while connected to electric power. Most people would call this a “bulb” which is how we also use the term, The device that most would call a lamp, is called a fixture or luminaire in the lighting industry. As an example, A table lamp that is technically a portable fixture or portable luminaire.

*W*hat is CCT?

This refers to the color of a lamp, known as Correlated Color Temperature.

As a point of reference, candles have a CCT estimated at 1700K. Most incandescent lamps used in homes today have a CCT that has a range between 2700K-3000K.

The sun has a CCT of 5800K, while a blue sky has a CCT of 6500K. As the CCT increases, the color of the light source will move from a reddish to bluish in color.

CFLs are made with CCT ranging from 2700K (incandescent lamp) to 6000K, bluer than the sun; but it is hard for the average consumer to understand what CCT lamp they are purchasing.

Some manufacturers use names like natural white or so, white instead of the actual CCT.

Other manufacturers print the CCT on the carton or box, while others print on the base of the lamp in small numbers such as 3000K. Our default color temperature is 2700k.

*W*hat is a medium socket?

Most CFLs have an Edison screw base on the bottom.

These are commonly known as medium socket screw-base CFLs. The power supply used to operate the CFL, called a ballast in the United States, is enclosed in the plastic shell of the CFL located between the glass part that creates the light and the Edison screw base. Screw-base CFLs are also called self-ballasted CFLs because the ballast is integrated into the lamp as a non-removable part.

## *W*hat are Pin-Base CFLs?

Pin-base CFLs have small plastic bases with 2 or 4 pins that each have a diameter of about 0.1 inches. The base does not contain a ballast. Pin-base CFLs are designed to be used with separate ballasts that are mounted in special fixtures designed for pin-base CFLs. For us, these have been almost completely replaced by GU24 Sockets

## *W*hat is a GU24 socket?

The GU24 socket and base system is designed to replace the Edison socket and base in energy efficient lighting fixtures. The Energy Star program requirements for residential lighting fixtures, Version 4.0 require that residential lighting fixtures cannot use the standard Edison screw base, even if they do not have a built-in ballast. The same requirement is included in California's energy efficiency standards for residential and nonresidential buildings, known as Title 24. This requirement is designed to insure that fixtures that receive Energy Star qualification cannot be operated with an incandescent bulb. The GU24 socket was designed to be compatible with these energy efficiency regulations.

CFLs with a GU24 base are designed to be connected directly to the power line, so they are functionally equivalent to screw-base CFLs instead of pin-base CFLs. Unfortunately, Energy Star refers to CFLs with the GU24 base as self-ballasted pin base lamps, a designation that may lead to some confusion with pin-base CFLs that do not have an integral ballast. Some manufacturers are also making modular ballasts with a GU24 base on one end and a socket for a pin based CFL on the other. These modular ballasts can be used to adapt normal pin-base CFLs to fixtures that have the GU24 socket, therefore reducing the amount of material that must be thrown away when the lamp fails.

## *C*an dimmers work on CFLs?

Most screw-base CFLs do not work with dimmers designed for use with incandescent bulbs. These CFLs will have a label on the bulb and/or the packaging stating "not for use with dimmers". However, certain special screw-base CFLs are designed to work with standard incandescent lamp dimmers. These CFLs will be labeled "dimmable" or similar language on the lamp and/or the packaging. Due to small differences between different brands of dimmers, not all dimmable CFLs work with all types of incandescent dimmers.

# CFL *Facts and Myths*

## *D*o CFLs contain mercury?

Yes, all CFLs contain a very small amount of mercury, typically about 5 mg, which is 1/6000th of an ounce (mass). If all the mercury were concentrated in one droplet, that droplet would have a diameter of only 1.1mm, which is 0.042 inches. Typical mercury-based fever thermometers contain 0.5 to 3 grams of mercury, which is 100-600 times as much mercury as a CFL that has 5mg of mercury.

## *C*an disposal of mercury-based products be harmful to the environment?

Yes, mercury is classified as a hazardous material by the US Environmental Protection Agency and the CFLs should be recycled instead of being thrown out with the normal trash. However, in many cases use of CFLs will offset mercury that would otherwise be introduced into the environment from other sources. For example, coal contains mercury and this mercury is released into the environment when coal is burned to produce electricity. In general it takes more mercury to power an incandescent bulb throughout its lifetime than does the equivalent Fluorescent.

## *W*hat should I do if I break a CFL?

Energy Star has created a fact sheet that provides recommendations for cleaning up a broken fluorescent lamp. These recommendations will be updated periodically by Energy Star. My fixture has a tag that warns not to use lamps larger than 60 wa°. Can I use a CFL that says it is equivalent to a 100-wa° incandescent lamp? Yes, the power limit listed on the tag is designed to prevent overheating of the fixture. Since a CFL that provides the same light as a 100-wa° incandescent lamp will use only about 23-wa°, it can safely be used in your fixture. However, the life of CFLs is reduced when they are operated at elevated temperatures. While the 23-wa° CFL will not overheat the fixture, the fixture may cause the lamp to operate at a high enough temperature to reduce its life. If the fixture is small, or is totally enclosed, you may want to use only lower power CFLs in that fixture.

## *C*an CFLs be used in totally enclosed fixtures?

Yes, but with some qualification. The life of CFLs will be reduced if they are operated at a higher than normal temperatures. Therefore, they can be used in totally enclosed fixtures, including vapor-tight fixtures, as long as you do not use a high power CFL, and the temperature outside the fixture is not too high.

ARKANSAS LIGHTING

S T A Y I L L U M I N A T E D