

What Is Compact Fluorescent

New lighting systems have not used magnetic ballasts since the turn of the century; however, some older installations still remain. Fluorescent lamps with magnetic ballasts flicker at a normally unnoticeable frequency of 100 or 120 Hz (twice the utility frequency – the lamp is lit on both the positive and negative half-wave of a cycle). This flickering can cause problems for some individuals with light sensitivity and are associated with headaches and eyestrain. Such lamps are listed as problematic for some individuals with autism, epilepsy, lupus, chronic fatigue syndrome, Lyme disease, and vertigo. Newer fluorescent lights without magnetic ballasts have essentially eliminated flicker. ba3e1d5e11 Extended lamp life (internal electrodes are the most limiting factor in lamp life, since their metal content gets sputtered onto the lamp ends every time they are turned on) ba3e1d5e11 Cassette tapes come in two forms, either containing content as a pre-recorded cassette (such as a Musicassette), or as a fully recordable "blank" cassette. Both forms have two sides and are reversible by the user. Although other tape cassette formats have also existed—for example the Microcassette—the generic term cassette tape is normally used to refer to the Compact Cassette because of its ubiquity. ba3e1d5e11

Compact disc It employs the Compact Disc Digital Audio (CD-DA) standard and is capable of holding uncompressed stereo audio. In later years, the technology was adapted for computer data storage as CD-ROM and subsequently expanded into various writable and multimedia formats. The compact disc (CD) is a digital optical disc data storage format co-developed by Philips and Sony to store and play digital audio recordings. By 2007, over 200 billion CDs (including audio CDs, CD-ROMs, and CD-Rs) had been sold worldwide. First released in Japan in October 1982, the CD was the second optical disc format to reach the market, following the larger LaserDisc (LD). It employs The compact disc (CD) is a digital optical disc data storage format co-developed by Philips and Sony to store and play digital audio recordings ba3e1d5e11

The Compact Cassette format was initially developed for dictation purposes. When Dolby B noise-reduction technology started to become commonplace in the mid-1970s, reducing tape hiss, the cassette became suitable for high fidelity audio, leading to it being widely adopted by the music industry. From 1983 to 1991, the cassette tape was the most popular audio format for new music sales in the United... ba3e1d5e11 Early experimental incandescent lamps employed wire leads which had to be connected to screw terminals, but this... ba3e1d5e11 Two systems are common: plasma lamps, in which microwaves or radio waves energize a bulb filled with sulfur vapor or metal halides, and fluorescent induction lamps, which are like conventional fluorescent lamp bulbs that induce current with an external or an internal coil of wire via electromagnetic induction. ba3e1d5e11

Grow light Outdoor conditions are mimicked with varying colour temperatures and spectral outputs from the grow light, as well as varying the intensity of the lamps. spectrum is recommended for flowering, and cool blue spectrum is recommended for vegetative growth. the germination/vegetative phase or the flowering/fruiting phase), and the photoperiod required by the plants, specific ranges of spectrum, luminous efficacy and color temperature are desirable for use with specific plants and time periods. g. Depending on the type of plant being cultivated, the stage of cultivation (e. Grow lights either attempt to provide a light spectrum similar to that of the sun, or to provide a spectrum that is more tailored to the needs of the plants being cultivated (typically a varying combination of red and blue light, which generally appears pink to purple to the human eye). Usable life span for compact fluorescent grow lights is about A grow light is an electric light that can help plants grow ba3e1d5e11

Fluorescent lamps and health Protection Agency (EPA), the amount of mercury contained in a compact fluorescent lamp (about 4-5 mg) is approximately 1% of the amount found in a single dental Fluorescent lamps have been suggested to affect human health in various ways ba3e1d5e11

Compact fluorescent lamp The lamps use a tube that is curved or folded to fit into the space of an incandescent bulb, and a compact electronic ballast in the base of the lamp. Compact fluorescent lamp (CFL) examples A compact fluorescent lamp (CFL), also called compact fluorescent light, energy-saving light and compact fluorescent A compact fluorescent lamp (CFL), also called compact fluorescent light, energy-saving light and compact fluorescent tube, is a fluorescent lamp designed to replace an incandescent light bulb; some types fit into light fixtures designed for incandescent bulbs ba3e1d5e11

Individuals with high flicker fusion threshold are particularly affected by these obsolete, electromagnetic ballasts: their EEG alpha waves are markedly attenuated and they perform office tasks with greater speed and decreased accuracy. Ordinary people have better reading performance using frequency (50-60 Hz) electromagnetic ballasts than electronic ballasts, although the effect was large only for the... ba3e1d5e11

Incandescent light bulb ban a safety hazard in some applications. A compact fluorescent lamp (CFL) uses a fluorescent lamp tube which is curved or folded to fit into the space of Incandescent light bulb bans have been enacted by several governments that prohibit the manufacture or importation of incandescent light bulbs for general lighting in favor of more energy-efficient alternatives. The regulations are generally based on efficiency, rather than use of incandescent technology ba3e1d5e11

Compared to general-service incandescent lamps giving the same amount of visible light, CFLs use one-fourth to one-third the electric power, and last eight to fifteen times longer. A CFL has a higher purchase

price than an incandescent lamp, but can save over five times its purchase price in electricity costs over the lamp's lifetime. Like all fluorescent lamps, CFLs contain toxic mercury, which complicates their disposal. In many countries, governments have banned the disposal of CFLs together with regular garbage. These countries have established special collection systems for CFLs and other hazardous waste. The most common type of sockets for mains electricity are Edison screws, used in continental Europe and North America, while bayonet mounts dominate in the Commonwealth countries, except Canada, and in the automotive industry. Fluorescent lamps typically require a two-pin, unthreaded socket. In 2009, the European Union and several other nations began the process of banning incandescent bulbs. In the early to mid 2010s, the bans continued in various other nations. In 2023, the United States banned most general service incandescent lamps, but had exclusions for specific bulb implementations.

Induction lamp Eliminating the internal electrodes provides two advantages:. This is in contrast to a typical gas-discharge lamp that uses internal electrodes connected to the power supply by conductors that pass through the lamp envelope. with sulfur vapor or metal halides, and fluorescent induction lamps, which are like conventional fluorescent lamp bulbs that induce current with an external The induction lamp, electrodeless lamp, or electrodeless induction lamp is a gas-discharge lamp in which an electric or magnetic field transfers the power required to generate light from outside the lamp envelope to the gas inside

Fluorescent lamp current through the lamp, but the initial cost is offset by a much lower running cost. Fluorescent lamps convert electrical energy into visible light much more efficiently than incandescent lamps, but are less efficient than most LED lamps. Compact fluorescent lamps (CFL) made in the same sizes as incandescent A fluorescent lamp, or fluorescent tube, is a low-pressure mercury-vapor gas-discharge lamp that uses fluorescence to produce visible light. The typical luminous efficacy of fluorescent lamps is 50–100 lumens per watt, several times the efficacy of general lighting incandescent bulbs with comparable light output, which is on the close order of 16 lm/W. An electric current in the gas excites mercury vapor, to produce ultraviolet and make a phosphor coating in the lamp glow

Lightbulb socket Many of the later standards conform to a general coding system in which a socket type is designated by a letter or abbreviation followed by a number. There are many different standards for lampholders, including early de facto standards and later standards created by various standards bodies. T10, T12) or G5 bi-pin socket (T4, T5). Other sockets are used for compact fluorescent lamps. Some of the above base styles are now obsolete. The trend A lightbulb socket, lightbulb holder, light socket, lamp socket or lamp holder is a device which mechanically supports and provides electrical connections for a compatible electric lamp base. Sockets allow lamps to be safely and conveniently replaced (re-lamping)

The principle of operation remains the same as in other fluorescent lighting: electrons that are bound to mercury atoms are excited to states where they will radiate ultraviolet... == Typical use == Not all lamps require a socket; for example, some miniature lamps have wire leads suitable for direct connection to screw terminals or other wires, and some reflector lamps provide screw terminals for electrical connections. According to the inverse-square law, the intensity of light radiating from a point source (in this case a bulb) that reaches... == Flicker effects ==

Fluorescence The color of the light emitted depends on the chemical composition of the substance. This distinguishes them from the other type of light emission, phosphorescence. Fluorescent materials generally cease to glow nearly immediately when the radiation source stops. When exposed to ultraviolet radiation, many substances will glow (fluoresce) with colored visible light. Phosphorescent materials continue to emit light for some time after the radiation stops. Fluorescent lights were first available Fluorescence is one of two kinds of photoluminescence, the emission of light by a substance that has absorbed light or other electromagnetic radiation. phosphor systems used in many compact fluorescent lamp and traditional lamps where better color rendition is a goal

== History == Standard CDs have a diameter of 120 mm (4.7 in) and typically hold up to 74 minutes of audio or approximately 650 MiB (681,574,400 bytes) of data. This was later regularly extended to 80 minutes or 700 MiB (734,003,200 bytes) by reducing the spacing between data tracks, with some discs unofficially reaching up to 99 minutes or 870 MiB (912,261,120 bytes) which falls outside established specifications. Smaller variants, such as the Mini CD, range from 60 to 80 mm (2.4 to 3.1 in) in diameter and have been used for CD singles or distributing device drivers...

Cassette tape Invented by Lou Ottens and his team at the Dutch company Philips, the Compact Cassette was introduced in August 1963, and Philips freely licensed the patented format to other manufacturers from 1966. cassette tape, officially named the Compact Cassette, and also known as audio cassette, or simply tape or cassette, is an analog magnetic tape recording The cassette tape, officially named the Compact Cassette, and also known as audio cassette, or simply tape or cassette, is an analog magnetic tape recording format for audio recording and playback

Ability to use higher-efficiency light-generating substances that would react with internal metal electrodes in conventional fluorescent lamps Grow lights are used for horticulture, indoor gardening, plant propagation and food production, including indoor hydroponics and aquatic plants. Although most grow lights are used on an industrial level, they can also be used in households. Objections to banning incandescent light bulbs include the higher initial cost of alternatives, lower quality of light of fluorescent lamps, and concerns of government overreach. Bodies such as the European Commission's Scientific Committee on Emerging and Newly Identified Health Risks, as well as some psychiatrists, have expressed concern about the health and psychological effects of fluorescent lighting and blue light, stating they disrupt sleep, circadian rhythm and melatonin production compared with incandescent bulbs. Additional objections focus on the potentially hazardous materials... Fluorescence occurs when a photon from incoming radiation is absorbed by a molecule, exciting it to a higher energy level, followed by the emission of light as the molecule returns to a lower energy state. The emitted light may have a longer wavelength and, therefore, a lower photon energy than the absorbed radiation. For example, the absorbed radiation could be in the ultraviolet region of the electromagnetic spectrum (invisible to the human eye),

while the emitted light is in the visible region. This gives the fluorescent... ba3e1d5e11 This difference in duration is a result of quantum spin effects. ba3e1d5e11 Fluorescent lamp fixtures are more costly than incandescent lamps because, among other things, they require a ballast to regulate current through the lamp, but the initial cost is offset by a much lower running cost. Compact fluorescent lamps (CFL) made in the same sizes as incandescent lamp bulbs are used as an energy-saving alternative to incandescent lamps in homes. ba3e1d5e11 In the United States, fluorescent lamps are classified as universal waste. The United States Environmental Protection Agency recommends that fluorescent lamps be segregated from general waste for recycling... ba3e1d5e11

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