

Let there be light: Once reserved for only kitchens and basement workshops, fluorescent lighting has adapted designer features and can be seen throughout new houses. This bathroom in a model at Meadowbrook subdivision in Canton combines natural lighting with overhead soffit lighting to create a warm effect.



Flourescent lighting grows softer

(AP) — A fluorescent light bulb generates about four times as much light per watt as a standard incandescent light bulb. This makes fluorescents by far the most economical light source for the home today.

Once used only in kitchens and workplaces because of their harsh light, today's fluorescents produce light in a wide range of whites and colors. Bulbs come in many shapes and sizes with socket pins to fit fluorescent fixtures or screw-type bases to replace incandescent bulbs.

Because of the power surge needed to start a fluorescent, frequent turning on and off of a fixture wastes power and shortens tube life. When leaving a room for a short time, it is usually best to leave the lamp on.

The ordinary fluorescent fixture consists of a bulb and a ballast in a metal channel. The bulb is an airtight glass tube with cathodes — metal conductors of electricity — at either end. It holds argon gas and mercury vapor and the interior is coated with phosphor, a substance that can be electrically stimulated to emit light.

The ballast is a transformer that boosts 120-volt house current to the 300-plus volts needed to light the bulb when you turn the fixture on, then it reduces voltage to the level needed to keep the bulb lit. When the switch is turned on, power flows between the cathodes, heating the gases and phosphor so they glow or "fluoresce."

Older fixtures (and many small modern ones) have a separate, small, silver-color, cylinder-shaped starter built into the fixture to preheat the

gases. Another fluorescent fixture is an instant-start style preferred by industrial users for its low maintenance. However, bulb life is only about 9,000 hours.

In contrast, most homes have rapid-start fixtures whose bulbs may last 20,000 hours. As the name implies, the instant start goes on immediately; the rapid-start flickers for two or three seconds before lighting completely. The older starter-types take 16 to 20 seconds to light properly. Fluorescent bulbs give off less light at temperatures below 60 degrees. If the fixture is to be located in an unheated garage or basement, install a cold-rated ballast.

The light output of fluorescent bulbs decreases with time.

Blackening at the ends of a tube means that it's worn out; replace it. If only one end of the tube is discolored, remove it, turn it over, and reinstall it. Replace an old or burned-out bulb with a new one of the same type (double-pin or single-pin), length and wattage.

Double-pin rapid-start and older starter-type bulbs are interchangeable. Instant-start bulbs have single pins. If the bulb is missing from a fixture, check the ballast to find the right size.

Dispose of old bulbs carefully. The gases and phosphor aren't poisonous, but the bulb may explode if broken, sending glass fragments flying. Never throw a fluorescent bulb into a fire or incinerator.

Fluorescent problems are rare and usually easy to fix. A starter is inex-

pensive to replace, but a ballast costs so much that when one fails, it's often more economical to buy a new fixture.

If a fluorescent lamp fails to light, check for a blown fuse or tripped circuit breaker in the main panel. If the tube still doesn't light or if it flickers or blinks, turn off power to the fixture and twist the tube slightly back and forth to make sure it's firmly seated in the sockets.

If that doesn't work, give the tube a quarter turn toward you and pull it out, handling it carefully. Use long-nose pliers to straighten a bent tube pin. Spray the socket contacts and the pins with electric contact cleaner. Clean a dirty tube with a damp cloth; let it dry before reinstalling it. Tighten the socket screws; replace broken sockets.

To reinstall the tube, line up the pins with the socket slots, push the tube in, and give it a quarter turn. Still no light? Install a new tube of the same wattage and type. A new tube may flicker for an hour or two at first. If flickering lasts longer or if the new tube doesn't light, replace the starter with a new one of the same wattage. Rapid- and instant-start fixtures don't have starters.

If the ends of a tube glow but the center does not, replace the starter. If the lamp still doesn't work, hums loudly, or repeatedly blows a fuse on a circuit that isn't overloaded, the ballast may be defective.

Replace the ballast with a new one of the same type and wattage or with a low-noise type; or replace the fixture.

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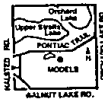
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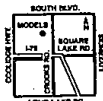
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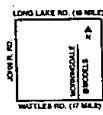
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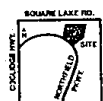
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