HOMEOWNER REPAIR GUIDE

LIGHT BULB FAILURE

For do-it-yourself repairs

Why do some light bulbs burn out more quickly than others? When you purchase light bulbs, the package generally indicates an average life expectancy for the bulbs it contains. A typical 75-watt incandescent light bulb, for example, is rated for 850 to 1000 hours. If the light is on for 10 hours a day, that means the bulb should last about three months.

There are a number of reasons why bulbs can fail sooner than expected.

CAUSE	WHAT TO LOOK FOR AND WHAT TO DO
Heat	Most of these reasons are related to heat – a bulb in a tightly enclosed fixture will burn out more quickly than one in an open fixture, where the heat can flow away from the bulb. Recessed lighting fixtures are often covered by insulation, which may block ventilation and cause heat to build up around the bulb, shortening its life. If the average life of your bulbs is clearly less than the manufacturer's rated life, then you may have a heat problem.
Corroded socket	Bulbs can also fail if the light fixture socket is corroded. Again, the problem is heat; when corrosion prevents an effective connection to the bulb base, the base heats up, leading to bulb failure. If the metal parts of the socket are not clean and shiny, replace the socket or (if the socket cannot be removed/replaced) the entire fixture.
Vibration	Vibration can also shorten the life expectancy of a bulb. A filament that bounces around – in an out-of-balance bathroom or ceiling fan, in a fixture near a door that is frequently slammed, or in a room where children often jump around – will break more quickly than filaments not subject to that kind of stress. You can buy special shock-resistant bulbs (also called "rough service" bulbs) for this situation.
Flickering	Flickering, which looks like a light being turned on-and-off constantly, is caused by intermittent electrical contact. It will also reduce how long a bulb will last. The flickering can be caused by a bad light socket, or a poor electrical connection somewhere in the wires leading to the light (usually right at the fixture), or a bad switch.
Over-voltage	Lastly, though it doesn't occur much in the Heights area, you may have an over-voltage problem. You can test the voltage with an inexpensive multimeter from Harbor Freight or Radio Shack. If you find that your voltage is 125V or higher, you should talk to the power company about it. 7 or 8 extra volts on a 120V line will cut your bulb life in half.

SWITCH TO A COOLER BULB

You might also consider switching to a cooler bulb. A 13- to 20-watt compact fluorescent bulb will generate a lot less heat than a 75-watt incandescent bulb does, and the fluorescent bulb is rated for 7,000 hours and more.

A BAD NEUTRAL CONNECTION IS DANGEROUS

If you can't locate the cause of the flickering, and it affects all or many lights, you could have a bad neutral connection – a dangerous situation. If your lights get quite noticeably brighter or dimmer as larger appliances (such as washing machines or dishwashers) cycle, it can be another indication of a neutral problem (minor changes in intensity are normal). If you suspect this problem, have an electrician check it out.

If you have a slight over-voltage, you can buy special 125V or 130V bulbs (sometimes sold as "long-life" bulbs), though they can be hard to find. They're not a good deal unless your voltage is high, however – they cost more per unit of light overall. With normal voltage, compact fluorescent bulbs are your best option to save costs.

Home Repair Resource center

Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.

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