



## Dave Windsor's 'Alaska Real Estate'

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# Don't Be Shocked By This

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A Ground Fault Circuit Interrupter (GFCI) protects you from an accident where you, the human being, might 'ground' an electrical circuit with your body.

The most likely case is where an electrical current may come in contact with water and you are personally connected to the water at the same time – e.g. your electric toaster falls into the kitchen sink while you are washing dishes.

This is why all kitchen counter top outlets, and even some island outlets near the counter, must have GFCI protection, as well as all bathroom and home exterior outlets. Should you or your children create a grounding from an electric current, the circuit will shut off in 1/40000<sup>th</sup> (one forty thousandth) of a second. Good news for people

using electric hair dryers in the bathtub.

An 'arc' of electricity is a different story. An electrical arc is an interruption of the normal flow of electricity in a circuit which can cause a fire. Natural arcs occur whenever a light switch is turned on or off, but other arcing (e.g. a shorting between wires) can be very dangerous and is not protected by a conventional circuit breaker.

An AFCI (Arc-fault Circuit Interrupter) is, in effect, a newer type of circuit breaker, required in all new construction since 2002, and now in all homes since 2010. A home inspection should raise this issue if your electrical panel does not meet the code.

An AFCI is not necessary on a circuit which already has a GFCI but is required

on all other household circuits. In summary, the primary purpose of a GFCI is to protect people personally contacting an electrical circuit. An AFCI is primarily designed to prevent an electrical fire.

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