

## Federal Pacific Electric (FPE) / Federal Pioneer or Stab-lok Panels

**Why they're unsafe:** FPE electric panels' circuit breakers fail to trip when they should (when there's a short circuit or circuit overload).

There are also many reports that FPE circuits in the off position still send power to the circuit. This can cause electrocution when working on a circuit you believe to be off

Electricians and electrical inspectors found as many as 60% of all Federal Pacific Electric panels sometimes failed to provide proper protection to homeowners. Experts say that certain panels could appear to work fine for years, but after one overcurrent or short circuit, they could overheat and become fire hazards.

### Federal Pacific Electric Panel Boxes Have 3 Reported Major Faults:

1. Federal Pacific Electric panels may not pass updated safety codes.

It is possible that the breakers would not properly trip and protect an electrical system from overheating.

2. Federal Pacific Electric panels may have been created with significant design flaws.

Certain breakers have loose connections rendering them useless. Should an overcurrent occur, the breakers could melt instead of trip.

3. Federal Pacific Electric panels may have manufacturing defects.

The materials used to construct the breakers may be weak. As a result, the breakers may not trip, and the panel could be susceptible to catching on fire.

Below is a picture of a Federal Pacific Electric panel. The homeowner reportedly heard a loud pop followed by a sizzle noise and a burning smell. She called an electrician; this is what was found.

The homeowner had no way of knowing that too many electrical devices were plugged into one room. The devices required more electricity than the circuit could provide. The wiring severely overheated. Normally, a breaker would trip to cut off electricity and prevent a fire. The panel's breakers did not trip. Two breakers burned, as well as a bus bar.



Burned breakers

Burned bus bar



Federal Pacific Electric panels cannot always be counted on to protect homes from over-currents or short circuits that could result in a fire.

## Expert Opinion on Federal Pacific Electric (FPE) Circuit Breaker Panels

*“The presence of a Federal Pacific panel in a home should be classified as a ‘Safety Defect’. The Federal Pacific breakers are primary safety devices of questionable operating reliability. The breaker’s function is to stop certain electrical sequences that could lead to fire in the building. If an electrical fire hazard develops somewhere in the building, the breaker is supposed to trip and minimize the possibility of fire ignition. If the breaker is defective, fire is more likely to result.”*

*“There is no question that the Federal Pacific Stab-Lok® panels should be replaced. There is no practical and safe alternative.”*

Dr. Jesse Aronstein BME, MSME, PhD  
Consulting Engineer Specializing in Mechanical and Materials Engineering  
Federal Pacific Electric Stab-Lok Electric Panels and Circuit Breakers: Information for Inspectors and Homeowners

## Examples of Damage Created by Federal Pacific Electric (FPE) Panels:

The e-mails below were sent to Dr. Jesse Aronstein from homeowners and electricians regarding their experiences with Federal Pacific Electric panels. Aronstein included 50 of these accounts in a letter to the U.S. Consumer Product Safety Commission. Here are excerpts from several of those emails:

*E-Mail 8/7/99 “Last month a co-worker was responding to an apartment maintenance request... He found the breaker on... and no lights... Thinking that there was a loose connection at the first fixture he returned to the shop for a ladder. What we didn’t know was that the problem was a short and that the Federal Pacific breaker had failed to trip. We never had a chance to return with the ladder, the fire department interrupted our repair. Nobody was at home so nobody was hurt. Five homes were left uninhabitable and the damages will probably reach \$500,000...”*

*E-Mail 7/12/02 “We had a fire in my home Tuesday due to over-current and Federal Pacific Electric Stab-Lock Panel 100amp service. The panel failed to trip and fire occurred within a wall. We have been in this home one month. The home was inspected and we were given no warning about Federal Pacific Electric panels...”*



# Stab-lok

For more information, contact MCC Electric at [www.mccelectric.ca/contact-mcc](http://www.mccelectric.ca/contact-mcc) or **(506)651-5168**