

2024 ARC-FAULT CIRCUIT INTERRUPTER & GROUND-FAULT CIRCUIT INTERRUPTER PERFORMANCE SURVEY

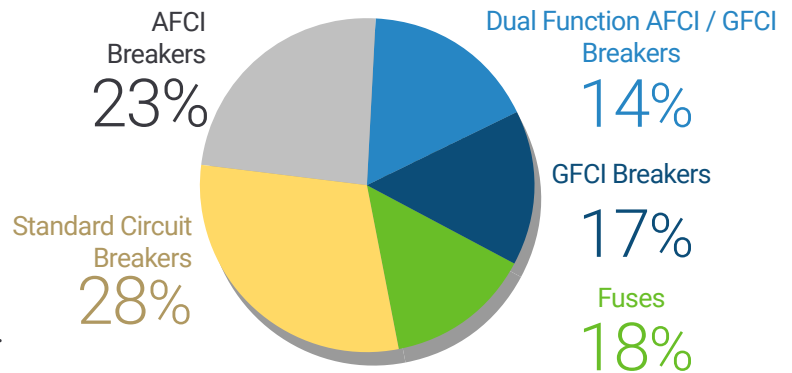
In 2024, the Electrical Safety Foundation surveyed occupations with electrical contracting, electrical design, electrical engineering, and electrical planning to gain an understanding of the performance of safety devices required in the National Electrical Code. The survey was conducted in California with a focus on Arc-Fault Circuit Interrupters (AFCI) and Ground-Fault Circuit Interrupters (GFCI).

Key Findings

54% ...of electrical contractor service calls involved tripped breakers or fuses.

74% ...of contractors saw evidence of dangerous arcing when responding to an AFCI related service call.

Percent of tripped breakers by breaker type or fuse



Tripping Causes

The majority of circuit breaker trips were caused by the device working as intended. These trips prevented a serious problem that could have resulted in loss of life or property.



AFCI Breaker

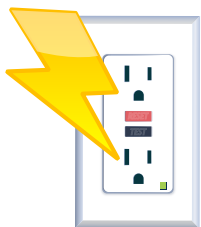


GFCI Breaker



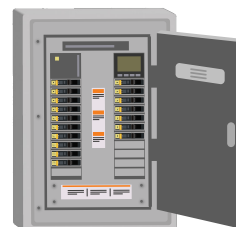
Dual Function Breaker

Common Mistakes Encountered While Checking up on Tripped Overcurrent Protection



Inadequate Circuit Protection

Only 56% of contractor service calls involved circuits with the correct type of protection installed.



Overloaded Circuits

There is a need for additional circuits to prevent overloaded circuits.



Wiring Issues

Contractors frequently encountered low quality wires, poorly maintained wiring, and inadequate wiring.



Surge Protection

Contractors mentioned the need for surge protective devices to protect electronics.