

NFPA 70®-2020 Edition
National Electrical Code®
TIA Log No.: 1537

Reference: 210.8(A)(7), Exception (new)

Comment Closing Date: October 27, 2020

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1. *Revise section 210.8(A)(7) to read as follows:*

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. ...

(A) Dwelling Units. ...

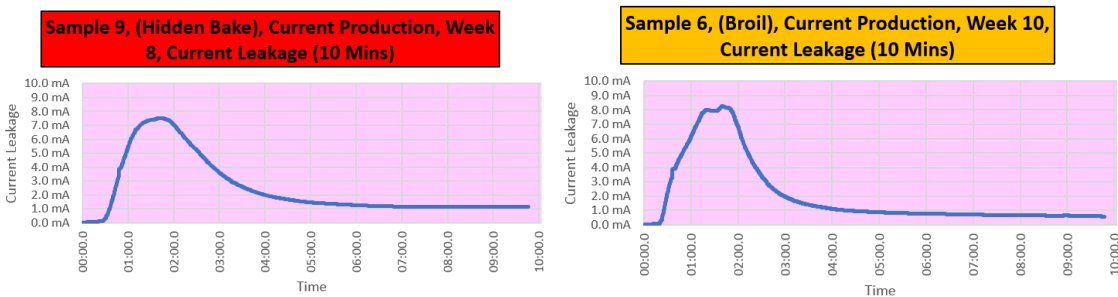
(7) Sinks – where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink

Exception to (7): For receptacles rated 30 through 50 amperes that are supplied by single-phase branch circuits rated 150 volts to ground or less, this requirement shall become effective January 1, 2023.

...

Substantiation: While this expanded GFCI protection for greater than 125 Volt receptacles is in the 2020 NEC, all product standards for cooking products connected to these outlets have not been harmonized with this protection (UL 858/CSA C22.2 # 61). Until the UL product standard is harmonized, designers, installers, AHJs, and consumers are forced to choose between a compliant or an operational installation. The purpose of this proposed TIA is not to eliminate the GFCI protection but just postpone the effectivity of the Higher Voltage receptacles. This will provide time for the NEC, Product Standards, and product certification to be harmonized. While some products covered by this new requirement will work, there is no assurance without leakage current limitations and associated text, that all listed (certified) products will operate.

Data shows the range incompatibility issue exists with multiple range manufacturers and multiple breaker manufacturers. The issue is shown in the graphs below. At the initial start-up of the range there is moisture in the elements, the moisture causes leakage current. The moisture is driven off as the element heats up the first time and will not be re-introduced when in the home. The initial spike is above the leakage current limit for a break and will cause the breaker to trip. See the graphs below from the initial runs on a bake and a broil element.



The leakage current is back within acceptable limits within 4 to 5 minutes and will stay there when in operation after this initial startup. The range safety standard does not currently measure leakage current above 125 Volts(see clause 55).

Currently, repair or installer personnel are resetting the 240 Volt breaker 8 to 10 times (or more) in the home because the GFCI can't be replaced and the element has to get up to temperature to

drive the moisture away. This extra attention in resetting breakers is not sustainable upon installation as there are millions of new ranges produced every year that would have to have this additional time spent upon installation. This non-compatibility can be addressed but it will take time to align the standards and certify new products to those new standards.

While adoption of the 2020 NEC and use of 210.8 (A).7 is currently limited, interoperability of listed equipment above 125 Volts has already been identified.

Emergency Nature: The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification of the action.

Without this TIA, designers, installers, AHJs, and consumers are forced to choose between a compliant or an operational installation. While lack of harmonization will not impact every installation, current product standards do not prohibit leakage current for home appliances from exceeding the Class A GFCI trip levels. This incompatibility is happening in a very large number of installations and is causing extreme economic duress by those involved to resolve this for a new homeowner.