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Electric Ready Requirements

Overview

Please refer to Chapter 10.1 of the *2022 Single-family Residential Compliance Manual*.

What's New for 2025

Electric-readiness requirements in the 2025 Energy Code remain largely unchanged with only the removal of the 10 AWG copper wire requirement in section 150.0(n)1Ai to allow for flexibility in compliance. For information on battery energy storage ready requirements, please reference Chapter 7 of the 2025 Single-family Residential Compliance Manual.

Mandatory Requirements Section 150.0(n) and Section 160.0(t-v)

Electric readiness requires the following for the applicable gas appliances listed in Table 10-1: Summary of Electric Readiness Requirements.

Table 10-1: Summary of Electric Readiness Requirements summarizes the electrical capacity, panel, and other requirements for electric- readiness for each gas appliance installed in a new single family building. There are no electric ready requirements for additions or alterations. There are no performance or prescriptive electric ready requirements for single family buildings.

These requirements are for newly constructed buildings and are not applicable to additions or alterations. Moreover, these requirements are not applicable when electric equipment is installed.

Table 10-1: Summary of Electric Readiness Requirements

Gas or Propane Equipment Installed	Electrical Capacity requirements for new circuit (amps, volts)	Panel requirements	Other Requirements
Water heater Section 150.0(n)	1. If within 3 feet of the water heater, 125V, 20 amp receptacle with 120V/240V, 3-conductor wire, branch circuit rated at 30 amps minimum. Unused conductor shall be labeled and electrically isolated. OR 2. If more than 3 feet	1. Reserved space (labeled "For Future 240V use") for single pole circuit breaker adjacent to 125V, 20A circuit breaker. OR 2. Reserved space (labeled "For Future 240V use") for double pole circuit breaker	A designated space for a future HPWH (2.5 ft x 2.5 ft wide x 7 ft high) Condensate drain no more than 2 inches higher than the base of installed water heater to allow for natural drainage without pump assistance

	from the water heater240V, 30 amp dedicated circuit		
Furnace Section 150.0(t)	240V, 30 amp	Reserved space for double pole circuit breaker	n/a
Range Section 150.0(u)	240V, 50 amp	Reserved space for double pole circuit breaker	n/a
Clothes dryer Section 150.0(v)	240V, 30 amp	Reserved space for double pole circuit breaker	n/a

Source: California Energy Commission

Water Heater

Please refer to Chapter 10.3.1 of the *2022 Single-family Residential Compliance Manual*.

Designated Space

Please refer to Chapter 10.3.1.1 of the *2022 Single-family Residential Compliance Manual*.

Electrical Requirements

The goal of this requirement is to allow easy installation of a HPWH, which typically require a 240V circuit, when the existing gas water heater is replaced.

If the designated HPWH space is within 3 feet of the gas water heater, a dedicated 125- volt (V), 20 amp electrical receptacle shall be installed that is within 3 feet of the water heater and accessible to the water heater with no obstructions. The wiring to this dedicated receptacle shall be connected to a 120/240V, three conductor, branch circuit rated at 30 amps minimum. The ends of the unused conductor must be labeled as "spare" and be electrically isolated.

Additionally, a reserved single pole circuit breaker space must be placed in the electrical panel next to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use."

If the designated HPWH space is more than 3 feet from the gas water heater, a 240V branch circuit must be installed rated at a minimum of 30 amps with no obstructions, in addition to a dedicated space in the main service panel for a future double pole breaker that will serve the future HPWH. The dedicated space in the panels shall be identified as "Future 240V Use". The circuit shall be dedicated to future electric replacement equipment and cannot be used for other appliances.

Condensate Drain

Please refer to Chapter 10.3.1.3 of the *2022 Single-family Residential Compliance Manual*.

Hot and Cold Water Supply

Please refer to Chapter 10.3.1.4 of the *2022 Single-family Residential Compliance Manual*.

Space Heater

Please refer to Chapter 10.3.2 of the *2022 Single-family Residential Compliance Manual*.

Cooktops

Please refer to Chapter 10.3.3 of the *2022 Single-family Residential Compliance Manual*.

Clothes Dryer

Please refer to Chapter 10.3.4 of the *2022 Single-family Residential Compliance Manual*.

Gas Uses not Covered by Electric Ready Requirements

Please refer to Chapter 10.3.5 of the *2022 Single-family Residential Compliance Manual*.

Compliance and Enforcement

This section describes compliance documentation and field verification requirements related to electric readiness. When a building permit application is submitted to the enforcement agency, the applicant also submits plans and energy compliance documentation.

Example 10-1 – HPWH Ready:

Question:

I am installing a propane water heater in a garage and the designated future HPWH location is in the same space, do I need to install a dedicated 125V, 20 amp electrical plug connected to a 3-conductor 10 AWG wire?

Answer:

Most modern efficient gas water heaters require 125V, 20 amp power to operate. The electric ready requirement is designed to easily convert the installed 120V electrical circuit to 240V, capable of powering a HPWH. If the installed gas water heater does not have an electrical connection, a dedicated 240V, 30 amp circuit can be provided at the designated HPWH location, along with dedicated space in the main panel for a double pole breaker. A 10 AWG wire is not required, but the branch circuit must be rated at 30 amps minimum.

Example 10-2 – HPWH Ready:

Question:

I am installing a split-system HPWH. The storage tank is in an interior closet and is separate from the compressor and evaporator, which is located outside, do I need to meet the electric ready requirements for water heating?

Answer:

No. If a HPWH is being installed, either split-system or integrated, the electric ready requirements do not apply. They only apply when a gas water heater is being installed.

Example 10-3 – HPWH Ready:

Question:

I am installing a 120V HPWH, do I need to meet the electric ready requirements for water heating?

Answer:

No. If a HPWH is being installed, regardless of the voltage, the electric ready requirements do not apply. They only apply when a gas water heater is being installed.

Example 10-4 – Electric Cooktop Ready:

Question:

If I am installing a gas range, do I need to meet the electric ready requirements for cooktops?

Answer:

Yes. Because your range includes a gas cooktop, the electric ready requirements need to be met.

Example 10-5 – Electric Clothes Dryer Ready:

Question:

If I am providing both gas piping and a dedicated electrical circuit for the potential for either a gas or electric dryer to be installed by the homeowner, do I need to meet the electric ready requirements at the dryer location?

Answer:

If you are installing a dedicated 240V, 30 amp or greater plug for an electric dryer, in addition to a gas stub-out for a gas dryer, you are meeting the electric ready requirements for clothes dryer.