

MECHANICAL CODE DISCUSSION

Ignition Source Elevation



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LAST WEEK I RECEIVED a call from a general contractor friend with a water heater question, following a failed plumbing inspection on a new home. The inspector listed on his report, *the water heater must be raised up 18 inches off the garage floor*. As I have received similar calls over the past few years, it is time to review the ignition source elevation section in the Fuel Gas Code, required to minimize the potential hazards created by heavier than air gasoline and other fumes in a garage. From the 2015 International Residential Code (and IFGC):

G2408.2 (305.3) Elevation of ignition source.

Equipment and appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor in hazardous locations and public garages, private garages, repair garages, motor fuel-dispensing facilities and parking garages. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

Exception: Elevation of the *ignition source* is not required for *appliances*

that are *listed* as flammable-vapor-ignition resistant.

Further the commentary states: *In the context of this section, a source of ignition could be a pilot flame, burner, burner igniter or electrical component capable of producing a spark.*



If installed in a garage, residential equipment or appliances which have an open flame or electrical components that may produce a spark, must be raised up, locating the ignition source at least 18" off the floor. There is an exception where the appliance is flammable-vapor-ignition-resistant

(FVIR), a feature provided typically on all residential water heaters, starting back in 2004.

Going back to 2004, Questar posted Consumer Information on the new FVIR water heaters, including the following FAQ discussion:

What does FVIR mean?

Flammable Vapor Ignition Resistant (FVIR) water heaters incorporate design features that make them resistant to igniting flammable vapors such as gasoline, cleaning solvents, and paint thinner outside of the water heater.

How does an FVIR water heater work?

FVIR water heaters are designed to keep burning vapors inside the combustion chamber of the water heater until they burn out. A sensor inside the water heater will detect if it has ignited a flammable vapor from outside of the water heater and shut off the flow of gas to the burner and pilot light.

How can I tell if my water heater is FVIR?

Each manufacturer will have its own particular label for indicating if the model is FVIR. In general, water heaters manufactured to the American National Standard ANSI/CSA Z21.10.1 are required to be FVIR listed.



Meet and Get to Know: JANECE HOLMES



JANECE HOLMES

Q. Tell us about your company?

A. The Ogden Weber Technical College has offered a variety of hands-on technical education since 1971. We offer convenient schedules, competency-based learning, and training opportunities in high-demand fields. We serve over 6,000 students annually.

Q. What is your position within the company?

A. I am an Administrative Assistant and Apprenticeship Programs Coordinator.

Q. If you weren't with the Technical College, where would you like to be?

A. Probably working in a school district helping in an office of a school.

Q. What was your most unusual work experience?

A. Working during a pandemic has been most unusual work experience to date to say the least. I don't think anything can top it EVER.

Q. What are your favorite aspects of your job?

A. Working with a lot of different students and faculty. We are lucky enough to have quite a diverse demographic at our college. Usually my job is different every day.

Q. What is a motto that you live by?

A. Is it really worth getting that upset about in the end.

Q. If you could travel anywhere in the world, where would you go?

A. Somewhere tropical.

Q. What is your favorite hobby and when did you last do it?

A. Playing games with a group of friends. (I did it) Last weekend.

Q. What is your hidden talent?

A. It's not much of a talent but I am double jointed at the wrist and elbow.

Q. Do you have a favorite movie?

A. To name one is very hard. I love Patch Adams, Green Mile, and Pretty Woman.

Q. If you could invite any three people to dinner (dead or alive), whom would you invite and why?

A. Robin Williams, John Candy, Betty White. I just feel like they could bring a lot of humor and share some great life lessons and experiences.

Q. If you won a \$50,000,000 lottery, what would you do?

A. Pay off bills for my family and then travel the world.

Q. People would be surprised to know...

A. I've lived in Utah since I was 9 and have never been to any national parks in southern Utah.

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For further information please see: https://www.questargas.com/ForEmployees/ggcOperationsTraining/Water%20Heaters/Misc_FVIRWaterheaterRequirements.pdf

The manufacturers specifications and installation instructions will also specify the water heater is FVIR listed.

Summarizing:

Water heaters listed to ANSI/CSA Z21.10.1 are FVIR listed and may be located at the garage floor, while furnaces with open burners or relays located within 18" of the floor must be elevated to a minimum 18".

Please continue to reach out to me with your comments or question. Stay healthy and be safe —Brent ■

