



**Flammable Vapor Ignition Resistant
 ANSI Standard Z21.10.1-2001; Part 2.35**

The entire U.S. water heater industry is gearing up for the most extensive product-design change in storage tank-type water heaters since Edwin Ruud invented the product more than a century ago. This design change will incorporate a revolutionary new technology — called “flammable vapor ignition resistance,” or FVIR — that will effectively counter the problems caused by improper storage or use of gasoline and other flammable liquids near gas-fired water heaters in the home.

Effective July 1, 2003, residential gas-fired water heaters with storage capacities of 30, 40 or 50 gallons must meet a new American National Standards Institute (ANSI) Standard: ANSI Z21.10.1-2001. (The standard applies to both natural gas and liquid propane units.) *Any conventional, atmospheric-type water heater with a storage capacity of 50 gallons or less that is produced on or after the effective date must be designed so it cannot ignite flammable vapors caused by spilled gasoline outside the unit.* The new ANSI FVIR Standard will not affect the current installed base of residential gas-fired water heaters, or any unsold water heaters manufactured prior to July 1, 2003, regardless of size or Btu-per-hour input.

FVIR Implementation Schedule

Phase	Gallon Capacity	Type	Production Date
I	30, 40, 50	Conventional	JULY 1, 2003
II	30, 40, 50	Power Vented	JULY 1, 2006
III	Remaining Product	Remaining Product	JULY 1, 2007

The new ANSI standard says in part:

"The design of the water heater shall be such that it shall not ignite flammable vapors outside the water heater created by the spilling of both winter and summer blends of gasoline onto the floor of the test room described in the following [omitted] method of test. This provision shall not apply to water heaters for installation in recreational vehicles only. The gasoline shall be tempered to 70 +- 20F (210C +- 10C)."

A bench standard that requires protection of the water heater from lint, dust, and oil, or LDO, was attached to the flammable vapor standard. It says in part that the water heater must pass a 20-plus hour LDO test. To pass:

- The water heater must endure the entire test and continue to burn clean (carbon monoxide levels must stay below 400 parts per million) or -
- The water heater must shut down safely prior to producing high levels of carbon monoxide.

Exhibit D

Flammable Vapors Label

The label illustrated below shall appear on water heaters that do not comply with section 2.34, [Flammable Vapors Ignition Resistance](#). Specifications for this label are shown below. Additional information may be included on this label by adding length or width to the specified label size.

A water heater which is not equipped with a continuous pilot shall substitute the following words in the top of the second column to read as follows: "1. which can come on at any time and."

The illustration of the water heater may be altered to more closely resemble the actual appearance of the water heater.

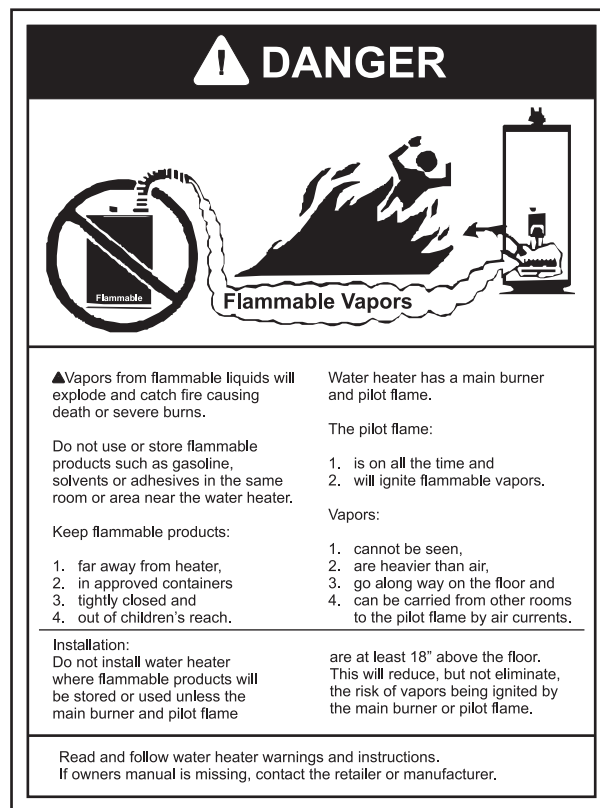


Exhibit D (1)

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