

March 10, 2008

Attention Building Officials, Builders, Installers, and partner Contractors;

This letter is the official position on Rinnai tankless water heaters as it relates to Ontario Building Code Article 7.6.5.1 and the maximum temperature of hot water supplied by fittings to fixtures in residential occupancies.

In order to meet the requirements of this OBC mandate, a Rinnai tankless water heater DOES NOT require a master mixing valve given one of the two following conditions are met:

- a) The internal dips switches are set as per the attached letter from Rinnai Applications Engineering, thus limiting maximum water temperature to 49°C.
- b) The controller supplied with every Rinnai tankless water heater is either disconnected or not installed altogether, limiting maximum water temperature to 49°C.

As per the comments below from Danny Hui and Alek Antoniuk of the Ministry of Municipal Affairs & Housing, the above conditions satisfy the Ontario Building Code and its intent to limit how water delivery to 49°C (120°F).

Should anyone have any questions regarding these options or the code itself, please contact me at your earliest convenience.

Sincerely,

Adam Wills
RWD Sales Manager
Redmond/Williams Distributing
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(888) 571-2627

A tankless water heater must be provided with a controller capable of setting to 120 deg output in order to meet the intent of building code requirement. For remote tankless water heaters, defaults to 120 deg max output is required or an additional temp mixing valve may be necessary.

I do not have any objection to the proposed guideline (i.e everyone has tried their best to ensure hot water protection). This is based on the fact that, people can always remove any protecting valve when inspectors, you and I were not there.

Thanks!

Danny Hui, P.Eng.
Building Code Advisor
Building Services Specialist
Ministry of Municipal Affairs & Housing
Tel: (416) 585-7368

The OBC was amended by O. Reg. 23/04 to require the maximum temperature of hot water supplied by fittings to fixtures in residential occupancies not to exceed 49 0 C. This requirement is found in Article 7.6.5.1, which states:

- (1) Except as provided in Sentences (2) and 7.6.5.3.(1), the maximum temperature of hot water supplied by fittings to fixtures in a residential occupancy shall not exceed 49C.
- (2) Sentence (1) does not apply to hot water supplied to installed dishwashers or clothes washers.

Where a hot water tank is replaced in an existing residential building, this code amendment requires upgrading of the water distribution system to limit hot water temperature to not more than 49⁰C at specified plumbing fittings. A common method of complying with this requirement has been the installation of a master mixing valve immediately downstream of the hot water tank. We are aware of the installation and temperature control difficulties that may arise during the replacement of certain hot water tank configurations and, therefore, acknowledge that the master mixing valve solution may not be the most appropriate compliance solution in every situation. Sentence 7.6.5.1.(1) is a performance requirement that does not preclude the use of other means of compliance. Other options for compliance may include:

Point of use mixing valves:

The OBC was amended in 1993 to require pressure balanced or thermostatic mixing in showers and combined shower/bathtubs. One may wish to consider installing point of use thermostatic mixing valves on the remaining fixtures that require temperature control. Point of use mixing valves are particularly suited in situations where there is substantial heat loss in the hot water distribution piping between the hot water storage tank and the fixture.

TAFR valves:

Temperature actuated flow reduction (TAFR) valves may be installed by the homeowner and are intended for use on individual fittings. These valves will automatically reduce water flow when the outlet temperature exceeds 49 0 C. TAFR valves are particularly suited for some retrofit installations.

Tankless water heater with max +/-1⁰C temperature control:

The advantages of an instantaneous water heater include:

- Maintain accurate water temperature continuously
- Eliminate the need for mixing valves
- Provide hot water on demand
- Potentially save energy by avoiding hot water storage

Please call me at your convenience if you have any questions.

Sincerely,

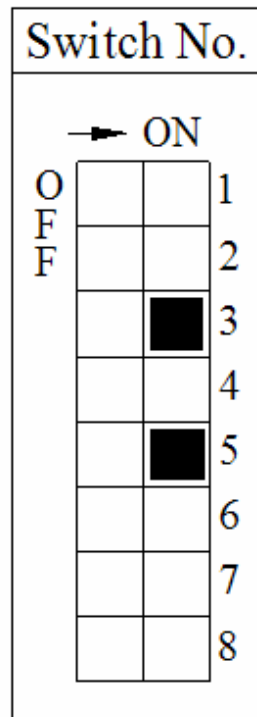
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February 7, 2008

RE: 120°F limit for Rinnai Tankless Water Heaters
Attention: Adam Wills, Redmond Williams

The following dip switch changes will allow a maximum water temperature of 120°F. This change applies to the Rinnai residential water heaters model R85i and R53i (natural and propane gas) with a MC-91 controller. This dip switch change does still allow the temperature of the water to be adjusted below 120°F.

Set dip switch 3 and 5 to the on position to set the water temperature to a 120°F maximum setting.



WARNING DO NOT adjust the other dip switches unless specifically instructed to do so.

Thanks,
Jason Siler
Applications Engineering Manager
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Fax: 678-829-1666