

# Questions and Answers Questions et réponses



Ministry of  
Municipal Affairs

Ministère des  
Affaires municipales

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## **Building Code Changes: Plumbing Fixtures and Hot Water Temperature** (Regulation 23/04)

### **1. What changes have been made to the Building Code?**

Changes to the Building Code are to Parts 3, 7 and 9. The changes introduce new provisions for plumbing fixtures and maximum hot water temperature.

#### Plumbing Fixtures:

The Building Code has been amended to permit plumbing fixtures with a smoke developed classification of over 300 provided that such fixtures:

1. Are installed in sprinklered buildings, other than those used for care and detention occupancies.
2. Are installed in buildings used for residential occupancies, and the plumbing fixture is located in a room where the wall surfaces have a smoke developed classification not more than 200. In such cases, the fixture may have a smoke developed classification of not more than 500. The same applies to care and detention occupancies provided the building is sprinklered.
3. Consist of therapeutic bathing systems installed in care and detention occupancies, provided that the room does not open directly into patients' or residents' rooms and the room including the fixture is sprinklered.

#### Hot Water Temperature:

The Building Code has been amended to specify that the maximum hot water temperature supplied to fixtures in residential occupancies shall not exceed 49 degrees Celsius. This requirement exempts dishwashers and clothes washers.

In addition, existing requirements related to hot water control found in Sentences 3.17.4.17.(1) and 9.31.4.3.(2) have been consolidated in Part 7 of the Code.

**PLUMBING FIXTURES**

**2. What is the impact of the new requirements for smoke developed classification (SDC) and flame spread ratings (FSR) for plumbing fixtures?**

The SDC and FSR requirements can be summarized in the following table:

<b>SMOKE DEVELOPED CLASSIFICATION AND FLAME SPREAD RATING OF PLUMBING FIXTURES</b>					
<b>ONTARIO BUILDING CODE - PART 3</b>					
<b>TYPE OF BUILDING</b>	<b>OCCUPANCY CLASSIFICATION</b>		<b>Maximum SDC</b>		<b>Maximum FSR</b> Sentence 3.1.13.3.(2)
			<b>Sprinklered Building</b>	<b>Non-Sprinklered Building</b>	
High Buildings	Any Group A occupancy		NO LIMIT	300	200
	Group B occupancy	Maximum SDC of room walls is >200	300	300	
		Maximum SDC of room walls is #200	500	300	
		Therapeutic bathing system in a sprinklered room that does not open directly into patients' or residents' sleeping rooms	NO LIMIT	NO LIMIT	
	Group C occupancy	Maximum SDC of room walls is >200	NO LIMIT	300	
		Maximum SDC of room walls is #200	NO LIMIT	500	
	Any Group D, E, F occupancy		NO LIMIT	300	
All Buildings, except High Buildings			NO LIMIT	NO LIMIT	

This table is prepared for convenience only, for accurate reference please refer to the Ontario Building Code as amended by O. Reg. 23/04

### **3. When do the new requirements for plumbing fixtures come into effect?**

The provisions for plumbing fixtures come into effect immediately, upon the filing date (February 20, 2004).

## **HOT WATER TEMPERATURE**

### **4. When do the new requirements for hot water temperature come into effect?**

Provisions regarding hot water temperature will not come into effect until September 1, 2004 and do not apply to projects where:

1. A building permit has been issued by that date; or
2. The working drawings, plans and specifications are substantially completed before September 1, 2004, and a building permit application has been submitted before December 1, 2004.

### **5. What are the options for complying with the new regulation in new residential buildings?**

Some common options for compliance with the requirements of Article 7.6.5.1. include:

- Installation of pressure-balanced or thermostatic-mixing shower valves for shower heads and an anti-scald device at each hot water faucet, or
- Installation of an anti-scald mixing valve at the outlet of the water heater to lower the temperature to 49°C, or
- Installation of a water heater with an integral anti-scald device.

Temperature control is not required for water supplied to an installed dishwasher or clothes washer.

### **6. Does water temperature control apply to existing buildings?**

Part 11 of the Ontario Building Code applies when a domestic water heater is replaced or an existing plumbing system is extended or materially altered. Sentence 11.3.4.1.(1) requires the new or altered plumbing to comply with Part 7 of the Ontario Building Code.

**7. How will the new requirement apply to the replacement of an existing domestic water heater when no other work is proposed?**

The replacement of a domestic water heater constitutes a material alteration to the plumbing system. Therefore, the installation should be carried out to ensure that the temperature of the hot water at the existing taps does not exceed 49<sup>0</sup>C. Some common options to achieve this include:

- Installation of pressure-balanced or thermostatic-mixing shower valves for shower heads and an anti-scald device at each hot water faucet, or
- Installation of an anti-scald mixing valve at the outlet of the water heater to lower the temperature to 49<sup>0</sup>C, or
- Installation of a water heater with an integral anti-scald device.

**8. How will the new requirement apply where the water distribution system is extended?**

Where an existing plumbing system is extended, the maximum temperature of the hot water supplied by the faucets or shower heads in the extended part of the plumbing system shall not exceed 49<sup>0</sup>C. Some common options to achieve this include:

- Installation of pressure-balanced or thermostatic-mixing shower valves for shower heads and an anti-scald mixing valve at each hot water faucet that is part of the new extension, or
- Installation of an anti-scald mixing valve at the outlet of the water heater or upstream of the new extension, or
- Installation of a water heater with an integral anti-scald device.

**9. How will the new requirement apply to the replacement of an existing hot water faucet when no other work is proposed?**

Where a faucet or shower control valve is replaced in an existing system, the temperature of the hot water supplied by that faucet or shower head shall not exceed 49<sup>0</sup>C. If the existing domestic water distribution system does not contain a master thermostatic mixing valve, this may be accomplished by installing an anti-scald device upstream of each new faucet or shower control valve. If one expects to replace several faucets at the same time, it may be more economical to:

- Install an anti-scald mixing valve at the outlet of the water heater to lower the temperature to 49<sup>0</sup>C, or

- Install a water heater with an integral anti-scald device.

**10. How will the new requirement apply to maintenance work on an existing water distribution system, such as the repair of a faucet?**

Routine maintenance is not addressed by Part 7 of the Ontario Building Code.

**11. Can the temperature requirements of the new regulation be met by setting the thermostat on the water heater to 49°C?**

Designers and installers of a water distribution system (including hot water storage tanks) need to take into account the types of water heaters and the number of dwelling units served by each water heater in order to select the appropriate water storage temperature to ensure the safe operation of the water storage tank and to limit the potential growth of bacteria. Designers and installers should reference the manufacturer's installation manuals to address the unique characteristics of electric, gas-fired and oil-fired water heaters and select the recommended temperature settings.

**12. How can I get further information on the Building Code changes?**

Contact the Building and Development Branch, Ministry of Municipal Affairs

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