Scalding is a Thing of the Past

Electric Tankless Water Heaters with Integrated Code-Compliant Mixing Valves Provide Safe Hot Water On Demand

Water temperatures over 120 degrees at the point of use are considered hazardous with extremely higher temperatures causing serious second or third-degree burns. Simply buying a mixing valve and plumbing it into an existing water heater doesn't always meet the current codes. With the latest advancements in water tempering technologies and devices that are installed and maintained properly, scald injuries can be prevented.

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Eemax™
Hot Water Solutions Made Easy

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Scalding can result from a variety of factors. In some cases, water heater thermostats are faulty, or set too high. In others, temperature regulating valves at the hot water source are either malfunctioning or missing altogether.

Scalding injuries are tremendously painful, and the scarring can last for years. Victims of these potentially life-altering injuries may suffer pain and scarring coupled with anxiety, depression, or other psychological symptoms – meaning that the cost of an employee scald can be high. Workers compensation pays only a portion of lost wages. Some workers may not be able to return to their pre-injury job, and therefore, employers bear the costs associated with lost productivity, reduced competitiveness, employee rehiring and retraining, as well as possible increases in workers compensation premiums.

Tank Scald Hazards

Water heater tanks are normally set to temperatures around 140°F to prevent development of harmful bacteria, such as Legionella, in the water supply. However, at a temperature of 131°F, a child can be scalded in less than 4 seconds. In fact, any temperature over 106°F may cause damage to human skin.

Large tank-based water heater can limit the precision of the water temperature control. Consumers, and even installers, may assume that water heaters can be controlled with accuracy from the thermostat setting alone, like the thermostat on heating and air conditioning systems. Setting a tank-based unit at 120°F doesn't necessarily mean that the water temperature will not exceed that temperature. Temperatures over 120°F at the point of use are considered dangerous.

With a storage tank, it is possible to experience multiple intermittent short draws of hot water usage. When cold water gets introduced at the bottom of the water heater, the thermostatic control senses the cold water, automatically turning the burner on. This can cause overheating of the water at the top of the tank. This scenario is called thermal layering, which can result in temperatures in excess of 140°F at the top of the storage tank. When a person turns on the water, and adjusts it to a comfortable temperature, unexpectedly, the water temperature could suddenly spike to a scalding level. It is for this reason that plumbing codes have added language mandating that the thermostatic control on the water heater not be used as the final temperature control to prevent scalding and thermal shock. [1]

Eemax has integrated an ASSE 1070-2004 code-compliant mechanical mixing valve into its AccuMix electric tankless water heaters.

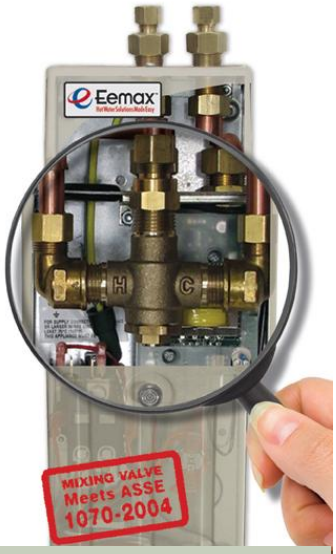
To learn more, visit www.eemax.com/AccuMix

Thermostatic Mixing Valves, installed at the point of use, maintain and limit the mixed hot water to a desirable selectable temperature, helping to prevent painful scalding injuries.

Knowing the Code

Confused by plumbing codes? Over time, plumbing codes have changed and what may have worked before, might not work with new water heaters on the market. Simply buying a mixing valve and plumbing it into an existing water heater doesn't always meet the latest codes. The American Society of Sanitary Engineering (ASSE) Scald Awareness Task Group was formed to educate and give guidance to the general public and plumbing industry on scalding hazards associated with hot water at the point of use.

Section 413.1 of the Uniform Plumbing Code is entitled "Limitation of Hot Water Temperature for Public Lavatories" -- which states -- "Hot water delivered for public-use lavatories shall be limited to a maximum temperature of 120°F. The water heater thermostat shall not be considered a control for meeting this provision." UPC 413.1, when used as the basis for the municipal building code, is the actual standard which must be met from a regulatory standpoint.



No threat of scalding or temperature spikes, AccuMix is the first ever thermostatic temperature controlled heater with a code-compliant integrated mixing valve.

In contrast, ASSE 1070-2004 is a standard that applies to mechanical mixing valves to ensure that they comply with UPC 413.1. It states: "Water Temperature Limiting Devices shall control & limit the water temperature to fittings for sinks, lavatories, or bathtubs and are intended to reduce the risk of scalding. They are intended to supply tempered water to plumbing fixture fittings, or be integral with plumbing fixture fittings supplying tempered water. The device shall be equipped with an adjustable and lockable means to limit the setting towards the hot position." [2]

In essence, the mechanical mixing valve should be thought of as a cooling device, mixing enough cold water into a stream of hot water to lower the output at the tap to less than 120°F. The mixing valve serves as a safety mechanism in a public lavatory to prevent the possibility of scalding.

A Simple & Safe Solution

In order to meet the provisions of UPC 413.1, Eemax has added an ASSE 1070-2004 code-compliant mechanical mixing valve to their AccuMix Series of Electric Tankless Water Heaters. The new AccuMix heaters feature an internally calibrated valve and circuit board which work together to prevent issues during the installation process. With AccuMix, the temperature of the heater is factory pre-set to 105^0F for hand-washing applications.

Commercial buildings need to meet the latest plumbing codes, however, not all locations are currently being policed for the code. As time goes by, the code will become more enforced. AccuMix features internal set-up with fewer connections and simplified fittings, cutting down on installation time. AccuMix, with ASSE 1070-2004 integrated mixing valves,

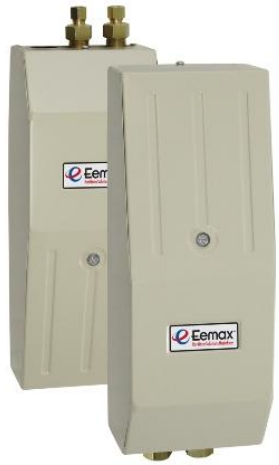
provides a safe plumbing code-compliant public hand washing experience. Now with AccuMix, scalding is definitely a thing of the past.

AccuMix Features:

- Code-compliant mechanical mixing valve
- No scalding or temperature spikes
- Factory temperature set to 105°F
- Internal piping, fewer connections, simplified fittings
- Compatibility with all sensor and non-sensor faucets
- ADA compliant

To learn more, please visit www.eemax.com/AccuMix.

AccuMix shown installed at the point of use under a hand washing sink



For constant, safe, hot water output, AccuMix is the ideal solution in single and multi-lavatory hand washing applications in stores, restaurants, medical environments, office buildings, factories, and more.

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[1] "Understanding Potential Water Heater Scald Hazards" a white paper by the ASSE Task Group: http://www.asse-plumbing.org/WaterHeaterScaldHazards.pdf.

[2] Uniform Plumbing Code, http://www.iapmo.org

Established in 1988, Eemax, Inc., has quickly emerged as the market leader in electric tankless heaters for use in commercial, industrial, and residential applications. Eemax products activate instantly and deliver an endless supply of hot water at a preset temperature to any point of use with 99% energy efficiency. Eemax products are made in the USA, are lead-free and ruggedly constructed to last for decades. The company produces green products that save water, conserve energy, and reduce costs. Visit www.eemax.com for details.

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