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ASSE International

Performance Requirements for

Water Heaters with Temperature Limiting Capacity

An American National Standard

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Foreword

This foreword shall not be considered a part of the standard; however, it is offered to provide background information.

ASSE standards are developed in the interest of consumer safety. ASSE International considers product performance standards to be of great value in the development of improved plumbing systems.

The working group that developed this standard was set up within the framework of the Product Standards Committee of ASSE International.

This standard is intended to provide a level of scald protection consistent with the current ASSE 1070 / ASME A112.1070 / CSA B125.70 requirements for temperature limiting devices. The technology of heater controls has come a long way over the past several years regarding precise modulation of heat output that directly resembles, improves, or outperforms other devices due to transient temperature drops. A downstream mixing valve would no longer be necessary.

Recognition is made of the time volunteered by members of this working group and of the support of manufacturers who also participated in meetings for this standard.

This standard does not imply ASSE International's endorsement of a product which conforms to these requirements.

Compliance with this standard does not imply acceptance by any code body.

It is recommended that these water heaters be installed in accordance with the manufacturer's installation instructions and consistent with local codes. Where there is a conflict with codes and installation instructions, the more stringent requirements should be followed. These water heaters should be installed by properly licensed, qualified and properly trained professionals.

This standard was promulgated in accordance with ASSE's procedures accredited by the American National Standards Institute (ANSI).

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Performance Requirements for Water Heaters with Temperature Limiting Capacity

Section I

1.0 General

1.1 Application

Water heaters with precise output temperature control under varying flow conditions are used to provide tempered water to the user. As such, they need to limit the maximum temperature of the water in order to minimize the risk of scalding.

1.2 Scope

1.2.1 Description

Water heaters covered by this standard have a cold water inlet connection, a means of heating the water, a means of controlling the water temperature, a means of limiting the temperature to a maximum of 120 °F (48.9 °C), and have an outlet connection to connect to downstream fixture fittings.

This water heater is intended to supply tempered water at point of use in order to reduce and control the risks of scalding. This water heater is not intended to limit thermal shock. This water heater is not a substitute for an automatic compensative valve complying with ASSE 1016 / ASME A112.1016 / CSA B125.16.

1.2.2 Connections

Pipe threads and other connections shall comply with the local plumbing codes.

1.2.3 Maximum Working Pressure

The maximum working pressure of the water heater shall be at least at least 150 psi (1034 kPa).

1.2.4 Minimum Flow Rate

The manufacturer shall designate the minimum rated flow rate of water heaters other than those integral to plumbing supply fittings that have a maximum flow rate. The flow rates for water heaters designed into fixture fittings shall be in accordance with ASME A112.18.1 / CSA B125.1.

1.2.5 Maximum Flow Rate

The maximum flow rates of the water heater at given temperature rises shall be included in the manufacturer's literature.

1.2.6 Water Heater Standards

Electrical controls shall comply and be categorized as protective controls with Class B or Class C control functions as defined per UL 60730-1 and UL 60730-2-9, or comply with the applicable requirements of UL 353, UL 795, or UL 873.

Note: An informative list of water heater standards is given in Appendix B.