

## New ASSE 1070 Sets Safety Standard for Sink, Lavatory and Bathtub Tempering

This past February the ASSE Board approved standard 1070-2004 entitled Performance Requirements for Water Temperature Limiting Devices. The standard was developed for thermostatic devices that “control and limit the water temperature to fittings for fixtures such as sinks, lavatories or bathtubs and are intended to reduce the risk of scalding”. The 1070 standard will be used to measure minimum acceptable performance levels for tempering valves that are currently listed under the bath ASSE 1016 and/or 1017 standards.

Key performance criteria for ASSE 1070-2004 includes:

- Adjustable and lockable temperature adjustment with outlet to include the range of 105.0°F to 110.0°F.
- **Life Cycle Test:** 100,000 cycles at 3 – 5 cycles per minute
- **Temperature Regulation Test:** 20% pressure increase on HW and CW, 20% pressure decrease on HW and CW, 25°F temperature increase from 140°F to 165°F. Test above at manufacturer’s minimum stated flow, typically at 0.5 – 1.0 gpm to accommodate water conservation
- Maintain  $\pm 7^\circ\text{F}$
- **Cold Water Failure Test:** 20% of manufacturer’s minimum stated flow or 0.2 gpm; whichever is greater before 120°F

Standard	ASSE 1016 - 1996	ASSE 1017 - 2003	ASSE 1070 - 2004
Title	Individual Thermostatic, Pressure Balancing and Combination Pressure Balancing and Thermostatic Control Valves for Individual Fixtures	Temperature Activated Mixing Valves for Hot Water Distribution Systems	Water Temperature Limiting Devices
Type	Point of Use	Distribution	Either
Application	Bath and Shower	at Hot Water Source	Sinks, Lavatories and Baths
Types	P, T, T/P	T	T
Valve Outlet Range	full cold to minimum 105 °F	minimum adjustable range of 105 ° - 120°F	shall include the range of 105 ° - 110°F
Temperature Regulation	+3°F	$\pm 3$ to $\pm 7^\circ\text{F}$ (dependant on valve capacity)	+7°F
Test- Pressure	P = 50% up/down T = 20% up/down T/P = 50% up/down	none	20% up/down
Test- Temperature	P = none T = 25 °F increase T/P = 25 °F increase	25°F increase	25°F increase
Minimum Flow Test	no	yes - manufacturers minimum advertised flow **	yes - manufacturers minimum advertised flow
Cold Water Failure	P, T, T/P < 0.5 gpm within 5 seconds before 120 °F	none	0.2 gpm or 20% of minimum flow, whichever is greater before 120 °F
Life Cycle Test	P = 100K cycles T = 20K control dial, 80K sensor T/P = 20K control dial, 80K sensor	none	100K sensor

P = Pressure Balancing

T = Thermostatic

T/P = Combination Thermostatic and Pressure Balancing

\*\*ASSE 1017-1998 does not have this requirement

Basic performance and test criteria vs. ASSE 1016 and ASSE 1017:

For more information on ASSE 1070-2004 please visit [www.asse-plumbing.org](http://www.asse-plumbing.org)