

The History of Plumbing...so far!

The creation of modern plumbing with its delivery of clean water and removal of waste is credited with being one of the single most important inventions ever. Toilets, and the delivery of clean water into homes, are widely acknowledged to have saved more lives than anything else in the world, including modern medicine and vaccines.



312 BC Roman aqueducts carry 1.2 billion liters of water a day a distance of 57 miles in order to bring fresh water to Rome.

Boston builds the USA's first city waterworks system to be used by fire brigades. *Historical Note: most of the pipes at this time were built from hollowed out trees.*



1804 Philadelphia becomes the first city to switch entirely to cast iron pipes to create their intricate new system of water delivery, making them a global leader in plumbing.

1854 Cholera outbreak occurs due to a contaminated well in England.

1855 Chicago becomes the first large American city to build a comprehensive sewer system.

1868 The New York Metropolitan Board of Health forms in response to a growing demand for government study into the cause of serious health outbreaks and rapid spread of disease. Their studies will confirm the link between contaminated water and the spread of disease leading to a call for better sanitation.



1870 Private homes begin to see the first installation of water heaters; although understanding on proper temperatures and safety guidelines will follow much later.

1883 Today's 'National Association of Plumbing, Heating, Cooling Contractors (PHCC)' then known as the 'National Association of Master Plumbers,' holds their first official meeting.

1920's Tank type water closets emerge onto the market using 5 to 7 gallons of water per flush, reducing previous water consumption by 30-50%.



1926 The International Association of Plumbing and Mechanical Officials (IAPMO) is founded. They begin writing a model code to protect the health of people from inept plumbing practices.

1954 The Sanitary Brass Institute and the Tubular Plumbing Goods Institute combine to form the Plumbing Brass Institute (PBI).

1969 PBI gets approval for the standard on fixture fittings known as ANSI A112.18.1 helping to regulate industry standards.

1973 American Society of Sanitation Engineering (ASSE) issues standard ASSE 1016 for compensating shower valves to help increase safety.



1975 PBI changes its name to Plumbing Manufacturers Institute (PMI).

1978 California issues a new law requiring toilets to use no more than 3.5 gpf.

1988 USA passes the Lead Contamination Control Act.

1989 The American Society of Mechanical Engineers issues new standards conformance to ASSE 1016 for compensating shower valves to create harmony in the industry and in North America.



1992 Congress passes the Environmental Policy Act of 1992 (EPAct'92) to conserve water mandating maximum water consumption for toilets at 1.6 gpf, urinals at 1.0 gpf, faucets at 2.5 gallons per minute (gpm) and 2.5 gpm for showerheads. President George H. W. Bush signs it into law.

1994 The International Code Council (ICC) is established as a non-profit organization dedicated to developing a single set of comprehensive and coordinated model construction codes, including the International Plumbing Code (IPC).

2005 EPAct'92 is revised to lower faucet flow rates to 2.2 gpm from 2.5 gpm.

2005 The United Nations (UN) declares 2005-2015 the International Decade for Action, "Water for Life" with a focused list of goals to raise awareness and support of better sanitation and world issues relating to water and plumbing.

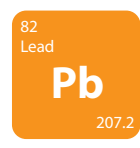


2006 EPA launches the voluntary WaterSense program providing performance standards for water conserving fixtures and establishing High Efficiency plumbing products; PMI becomes a WaterSense Partner.

2007 EPA WaterSense issues high efficiency specifications for toilets and lavatory faucets.

2007 PMI supports California efforts to encourage and provide for the gradual conversion to WaterSense plumbing fixtures for toilets and urinals through the passage of a new law, AB 715, mandating that all toilets and urinals sold in the state must be WaterSense certified by 2014.

2008 PMI advocates passage of the Vermont Act 193 on lead and NSF/ANSI 61 adds Annex G which further regulates the allowable lead content in potable water fittings.



2009 PMI works with the Alliance for Water Efficiency, IAPMO, ICC and PHCC to form the Plumbing Efficiency Research Coalition (PERC) dedicated to developing research projects to support the development of water efficiency and sustainable plumbing products, systems and practices.



2010 PMI changes its name to Plumbing Manufacturers International to reflect its expanded scope.

2011 PMI recognizes the important role certifiers, suppliers, and other industry groups play in the plumbing manufacturing industry, by creating its Allied Member category of membership.

2011 PMI signs a MOU with the International Association of Plumbing and Mechanical Officials (IAPMO).

2011 PMI works with Louisiana state legislature to ensure lead-free legislation (HB 471) conforms to provisions in the California law in the spirit of harmonization. Louisiana Governor signs HB 471 into law, effective January 1, 2013.

2012 PMI joins other industry organizations in forming the Get The Lead Out of Plumbing Consortium to provide education on the new Federal Lead Law being enacted in 2014.



2012 PMI joins ASPE and IAPMO in founding the Plumbing Industry Leadership Coalition (PILC). 11 other organizations sign on: AWE, ARCSA, American Supply Association (ASA), Copper Development Association, ICC, MechanicalHub, PHCC, United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of US, Canada and Australia, and the Water Quality Association.

2014 PMI signs a MOU with the American Society of Plumbing Engineers (ASPE).

2014 PMI works with state legislators as California AB 715 and Texas HB 2667 on water efficiency go into effect.

2014 PMI co-convenes the 4th International Emerging Technology Symposium along with ASPE, CIPH, IAPMO, Mechanical Contractors Association of America, Plumbing Contractors Association, PHCC, United Association and the World Plumbing Council.

2014 PMI continues to work with local, state and federal policymakers, industry leaders and professionals to achieve their vision of "Safe, responsible plumbing. Always."

Present

- 1700 BC Plumbers construct an elaborate system of sewage disposal and drainage, the first of its kind, and create the first flush toilet in Crete.
- 1596 Queen Elizabeth I installs the first flushing toilet in England, invented by her godson Sir John Harrington... hence the nickname, "the John".
- 1775 Alexander Cummings receives the first patent for a flushing toilet.
- 1829 Boston's Tremont Hotel offers indoor plumbing; the first hotel to do so.
- 1848 England passes the National Public Health Act which includes notes on water safety and will be adapted for countries around the globe.
- 1860 Louis Pasteur, the "father of microbiology" and the inventor of the vaccine, uncovers the link between bacteria and disease.
- 1869 Chicago amazes the world with the installation of the first city water tower.
- 1880's High Tank water closets enter the market using a whopping 10 gallons of water per flush!
- 1890 The world's first drinking water treatment systems are built in Massachusetts to reduce turbidity and microbial contamination.
- 1906 William E. Sloan invents the flushometer valve that uses pressure from the water supply system to discharge water for waste removal from toilets and urinals as opposed to using gravity.
- 1926 A tragic outbreak of dysentery, leading to nearly 100 deaths during the World's Fair in Chicago is traced to a faulty plumbing system that leaked contaminated water.
- 1933 Alfred M. Moen invents the single handle mixing faucet.
- 1937 Paul C. Symmons invents the first compensating shower valve to guard against thermal shock.
- 1939 1954 - Plumbing Brass Institute's (PBI) first president, Arthur H. Goepel, appoints the first plumbing standards committee for fixture fittings. *Historical Note: PBI, later renamed Plumbing Manufacturers Institute, is today's Plumbing Manufacturers International (PMI).*
- 1954 The US passes the Safe Drinking Water Act.
- 1974 The first 3.5 gallons of water per flush (gpf) toilet is introduced; previous versions used between 5.0 to 10.0 gpf or more!
- 1977 USA amends the Clean Water Act to expand on the Federal Water Pollution Control Act of 1948.
- 1984 The National Sanitation Foundation (NSF) forms NSF 61 joint committee with the American National Standards Institute (ANSI) to test all fixtures that come in contact with potable water.
- 1988 The NSF/ANSI 61 standard is officially published.
- 1990 NSF/ANSI-14 is adopted as a standard regulating plastic piping components.
- 1991 The US Environmental Protection Agency (EPA) promulgates the Lead Copper Rule. The first domestic set of lead-free plumbing products are introduced.
- 1993 Building Officials and Code Administrators (BOCA) Plumbing Code now makes shower compensating valves required.
- 1994 EPAct '92 officially goes into effect.
- 1998 PMI reorganizes into a focused, self-managed, independent association.
- 2003 PMI signs a MOU with the US Department of Commerce.
- 2005 PMI signs a Memorandum of Understanding (MOU) with the UK's Bathroom Manufacturers Association (BMA).
- 2006 California enacts AB 1953 which mandates lead content in plumbing fixtures be <0.25%.
- 2006 The World Health Organization publishes a guide, *Health Aspects of Plumbing*, noting that "sustainable health, especially for children, is not possible without access to safe drinking water and basic sanitation facilities."
- 2007 PMI signs a MOU with Plumbing Products Industry Group of Australia.
- 2007 NSF/ANSI 61 adds Annex F further reducing the allowable lead content in potable water fixtures.
- 2008 PMI launches www.SafePlumbing.org to provide safe, reliable information about the plumbing industry.
- 2008 California enacts PMI-sponsored SB 1334 to add 3rd party certification to water conserving plumbing fittings, and SB 1395 requiring state testing and evaluation.
- 2008 PMI signs MOU with the Canadian Institute of Plumbing and Heating (CIPH).
- 2009 EPA WaterSense issues an official specification for urinals.
- 2010 EPA WaterSense issues an official specification for showerheads.
- 2010 NSF/ANSI 372 is published, issuing new standards for testing procedures to test for lead in potable water system components.
- 2011 PMI spearheads introduction and passage of "Reduction of Lead in Drinking Water Act" (P.L.111-380) to harmonize certain state lead laws by reducing lead content in certain plumbing fixtures from 8% to a maximum of 0.25% weighted average, and provide a 36 month implementation period. President Obama signs the law to take effect January 4, 2014.
- 2011 NSF implements the Dezincification Standard.
- 2012 Georgia signs a comprehensive water efficiency law, the "Water Stewardship Act" (SB 370), which requires higher efficiency standards for toilets, faucets and urinals. It is the first state to require sub-metering of multi-unit residential, commercial and industrial buildings, effective July 2012.
- 2012 PMI efforts at state harmonization continue as Maryland and Vermont pass laws that reduce the allowable lead content of plumbing fixtures.
- 2013 PMI signs a MOU with the American Rainwater Catchment Association (ARCSA).
- 2013 EPA WaterSense releases a PMI supported specification on commercial pre-rinse spray valves.
- 2014 The Federal Law "Reduction of Lead in Drinking Water Act" reducing lead content in plumbing fixtures from 8.0% to maximum 0.25% weighted average goes into effect.
- 2014 President Obama signs the "Water Resources Reform Development Act" to address water infrastructure issues.
- 2014 In consultation with PMI, Colorado adopts high efficiency plumbing standards (SB 14-103), the "Phase in High Efficiency Water Fixtures Options," which requires the use of WaterSense fixtures for all tank-type toilets, urinals, faucets and showerheads. Colorado Governor signs the law, effective September 1, 2016.

