



LEED ND: Built Project | v3 - LEED 2009

# Building water efficiency

GIBC3 | Possible 1 point

Glossary

## Intent

To reduce effects on natural water resources and reduce burdens on community water supply and wastewater systems.

## Requirements

For nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more:

Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 40% less than in baseline buildings. The baseline usage is based on the requirements of the United States Energy Policy Act of 1992 and subsequent rulings by the Department of Energy, the requirements of the Energy Policy Act of 2005, and the fixture performance standards in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance. Calculations are based on estimated occupant usage and include only the following fixtures and fixture fittings (as applicable to the project scope): water closets (toilets), urinals, lavatory faucets, showers, kitchen sink faucets, and pre-rinse spray valves.

The water efficiency threshold is calculated as a weighted average of water usage for the buildings constructed as part of the project based on their conditioned area. Projects may also follow the LEED for Multiple Buildings and On-Campus Building Application Guide alternative calculation methodology to show compliance with this credit.

Commercial Fixtures, Fittings, and Appliances	Current Baseline (Imperial Units)	Current Baseline (Metric units)
Commercial Toilets	1.6 gallons per flush (gpf)* Except blow-out fixtures: 3.5 (gpf)	6 liters per flush (lpf) Except blow-out fixtures: 13 lpf
Commercial Urinals	1.0 (gpf)	4 lpf
Commercial Lavatory (Restroom) Faucets	2.2 gallons per minute (gpm) at 60 pounds per square inch (psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 0.5 (gpm) at 60 (psi)** all others except private applications 0.25 gallons per cycle for metering faucets	8.5 liters per minute (lpm) at 4 bar (58 psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 2.0 lpm at 4 bar (58 psi), all others except private applications 1 liter per cycle for metering faucets
Showerheads	2.5 (gpm) at 80 (psi) per shower stall ****	9.5 lpm at 5 bar (58 psi)

For projects with commercial pre-rinse spray valves, the flow rate must comply with the asME a112.18.1 standard of 1.6 gpm or less.

Residential fixtures, fittings, and appliances	Current baseline (imperial units)	Current baseline (metric units)
Residential toilets	1.6 (gpf)***	6 liters per flush (lpf) Except blow-out fixtures: 13 lpf
Residential lavatory (bathroom) faucets	2.2 (gpm) at 60 psi	4 lpm 8.5 lpm at 4 bar (58 psi), private applications only (hotel or motel guest rooms, hospital patient rooms)
Residential kitchen faucet		2.0 lpm at 4 bar (58 psi), all others except private applications 1 liter per cycle for metering faucets
Residential showerheads	2.5 (gpm) at 80 (psi) per shower stall****	flow rate ≤ 6.1 lpm (no pressure specified; no performance requirement)

\* EPAct1992 standard for toilets applies to both commercial and residential models.  
 \*\* in addition to Epact requirements, the american society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (2.0 lpm at 4 bar (58 psi)) (asME a112.18.1-2005). this maximum has been incorporated into the national uniform plumbing Code and the international plumbing Code.  
 \*\*\* EPAct 1992 standard for toilets applies to both commercial and residential models.  
 \*\*\*\* residential shower compartment (stall) in dwelling units: the total allowable flow rate from all flowing showerheads at any given time, including rain systems, waterfalls, bodysprays, bodyspas and jets, must be limited to the allowable showerhead flow rate as specified above (2.5 gpm) per shower compartment, where the floor area of the shower compartment is less than 2,500 square inches (1.5 square meters). for each increment of 2,500 square inches (1.5 square meters) of floor area thereafter or part thereof, an additional showerhead with total allowable flow rate from all flowing devices equal to or less than the allowable flow rate as specified above must be allowed. Exception: showers that emit recirculated nonpotable water originating from within the shower compartment while operating are allowed to exceed the maximum as long as the total potable water flow does not exceed the flow rate as specified above.

The following fixtures, fittings, and appliances are outside the scope of the water use reduction calculation:

- a. Commercial steam cookers.
- b. Commercial dishwashers.
- c. Automatic commercial ice makers.
- d. Commercial (family-sized) clothes washers.

- e. Residential clothes washers.
- f. Standard and compact residential dishwashers.

AND

For new single-family residential buildings and new multiunit residential buildings three stories or fewer, 90% of buildings must use a combination of fixtures that would earn 5 points under LEED for Homes 2008 WE Credit 3, Indoor Water Use.