| v3 - LEED 2009

Water use reduction

WEc3 | Possible 4 points

Glossary

Intent

To further increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirements

Employ strategies that in aggregate use less water than the water use baseline calculated for the building (not including irrigation). The minimum water savings percentage for each point threshold is as follows:

% Reduction	Points
30%	2
35%	3
40%	4

Calculate the baseline according to the commercial and/or residential baselines outlined below[1]. Calculations are based on estimated occupant usage and must include only the following fixtures and fixture fittings (as applicable to the project scope): water closets, urinals, lavatory faucets, showers, kitchen sink faucets and pre-rinse spray valves. [Europe ACP: Water Use Baseline]

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) 2.0 lpm at 4 bar (58 psi), all others except private applications 1 liter per cycle for metering faucets
Residential kitchen faucet		
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:

- Commercial Steam Cookers
- Commercial Dishwashers
- Automatic Commercial Ice Makers
- Commercial (family-sized) Clothes Washers
- Residential Clothes Washers
- Standard and Compact Residential Dishwashers

Alternative Compliance Paths (ACPs)

Europe ACP: Water Use Baseline

Projects in Europe may use the values defined by European Standards.

LEED 2009 BD+C Supplemental Reference Guide with Alternative Compliance Paths for Europe