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## LEED BD+C: Schools | v4 - LEED v4

# Indoor water use reduction

## Required

1 result in All .

## Intent

To reduce indoor water consumption.

## Requirements

### Building Water Use

For the fixtures and fittings listed in Table 1, as applicable to the project scope, reduce aggregate water consumption by 20% from the baseline. Base calculations on the volumes and flow rates shown in Table 1.

All newly installed toilets, urinals, private lavatory faucets, and showerheads that are eligible for labeling must be WaterSense labeled (or a local equivalent for projects outside the U.S.).

Table 1. Baseline water consumption of fixtures and fittings

Commercial Fixtures, Fittings, and Appliances	Current Baseline (IP Units)	Current Baseline (SI units)
Water closets (toilets)*	1.6 gallons per flush (gpf)	6 liters per flush (lpf)
Urinal*	1.0 (gpf)	3.8 lpf
Public lavatory (restroom) faucet	0.5 gpm at 60 psi all others except private applications	1.9 lpm at 415 kPa, all others except private applications
Private lavatory faucet*	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Kitchen faucet (excluding faucets used exclusively for filling operations)	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Showerhead*	2.5 gpm at 80 psi per shower stall	9.5 lpm at 550 kPa per shower stall

\* WaterSense label available for this product type

gpf = gallons per flush

gpm = gallons per minute

psi = pounds per square inch

lpf = liters per flush

lpm = liters per minute

kPa = kilopascals

### Appliance and [process water](#) use

Install appliances, equipment, and processes within the project scope that meet the requirements listed in the tables below .

Table 2. Standards for appliances

Appliance	Requirement
Residential clothes washers	ENERGY STAR or performance equivalent
Commercial clothes washers	CEE Tier 3A
Residential dishwashers (standard and compact)	ENERGY STAR or performance equivalent
Prerinse spray valves	≤ 1.3 gpm (4.9 lpm)
Ice machine	ENERGY STAR or performance equivalent and use either air-cooled or closed-loop cooling, such as chilled or condenser water system

gpm = gallons per minute

lpm = liters per minute

Table 3. Standards for processes

Process	Requirement
Heat rejection and cooling	No once-through cooling with potable water for any equipment or appliances that reject heat Equip with:
Cooling towers and evaporative condensers	<ul style="list-style-type: none"> <li>makeup water meters</li> <li>conductivity controllers and overflow alarms</li> <li>efficient drift eliminators that reduce drift to maximum of 0.002% of recirculated water volume for counterflow towers and 0.005% of recirculated water flow for cross-flow towers</li> </ul>

In addition, water-consuming appliances, equipment, and processes must meet the requirements listed in Tables 4 and 5.

Table 4. Standards for appliances

Kitchen equipment	Requirement (IP units)	Requirement (SI units)
Undercounter	≤ 1.6 gal/rack	≤ 6.0 liters/rack
Stationary, single tank, door	≤ 1.4 gal/rack	≤ 5.3 liters/rack
Dishwasher	Single tank, conveyor	≤ 1.0 gal/rack
	Multiple tank, conveyor	≤ 0.9 gal/rack
Food steamer	Flight machine	≤ 180 gal/hour
	Batch	≤ 6 gal/hour/pan
	Cook-to-order	≤ 10 gal/hour/pan
Combination oven	Countertop or stand	≤ 3.5 gal/hour/pan
	Roll-in	≤ 3.5 gal/hour/pan

Table 5. Standards for processes

Process	Requirement
Discharge water temperature tempering	Where local requirements limit discharge temperature of fluids into drainage system, use tempering device that runs water only when equipment discharges hot water OR Provide thermal recovery heat exchanger that cools drained discharge water below code-required maximum discharge temperatures while simultaneously preheating inlet makeup water OR If fluid is steam condensate, return it to boiler
Venturi-type flow-through vacuum generators or aspirators	Use no device that generates vacuum by means of water flow through device into drain