



LEED O+M: Schools | v4 - LEED v4

Cooling tower water use

Possible 3 points

Glossary

Intent

To conserve water used for cooling tower makeup while controlling microbes, corrosion, and scale in the condenser water system.

Requirements

Establishment

For cooling towers and evaporative condensers, conduct a potable water analysis within five years of submission for certification, measuring at least the five control parameters listed in Table 1.

Table 1. Maximum concentrations for parameters in condenser water

Parameter	Maximum level
Ca (as CaCO ₃)	1000 ppm
Total alkalinity	1000 ppm
SiO ₂	100 ppm
Cl ⁻	250 ppm
Conductivity	2000 µS/cm

ppm = parts per million

µS/cm = micro siemens per centimeter

Calculate the number of cooling tower cycles by dividing the maximum allowed concentration level of each parameter by the actual concentration level of each parameter found in the potable makeup water. Limit cooling tower cycles to avoid exceeding maximum values for any of these parameters.

Table 2. Points for cooling tower cycles

Cooling tower cycles	Points (except data centers)	Points (data centers)
Maximum number of cycles achieved without exceeding any filtration levels or affecting operation of condenser water system (up to maximum of 10 cycles)	2	2
Achieve a minimum 10 cycles by increasing the level of treatment in condenser or make-up water OR Achieve the number of cycles for 1 point and use a minimum 20% recycled nonpotable water	3	4

Performance

None