

The impact of water on ice machines

No great restaurant experience is complete without a fountain beverage made with great-tasting water and ice. Ice is 100% water. It is such a key component of foodservice that it is valuable to understand how water quality impacts not just the quality of the ice, but also ice machine performance.

In commercial foodservice there are three types of ice machines: Cube, flake and chewable. Cube ice machines use water-cooled condensers that are either directly air-cooled or remote air-cooled. Flake ice, however, is made as water flows to a sump and is drawn to an evaporator chamber or cylinder drum surrounded by refrigerant

tubing. Chewable ice is formed using a similar process as flake, but the ice is compressed into cylindrical ice “nuggets.” Chewable ice has less liquid and more air than flake ice, so the nuggets are even softer and easier to chew.



Common Problems

Contaminants:

- Hard water
- TDS (Total dissolved solids)
- High dissolved sodium
- High iron
- Chlorine or Chloramine
- Organic contaminants

Symptoms:

- Causes ice to be cloudy
- Misshapen ice and machine freeze-up
- Soft, fast melting cubes
- Slime buildup inside machine and bin
- Bad taste and odor
- Bad taste, odor, color

Water Quality

The quality of the water affects energy consumption and ice quality. Water contaminants, such as minerals, organic matter, and dissolved air, can affect both the freezing temperature and the ice thickness necessary to provide satisfactory ice making conditions.

Treatment

KineticoPRO's IcePRO water filtration and W-Series ROs are specifically designed with ice machines in mind. Our high capacity IcePRO filtration and innovative W-Series RO helps to improve ice clarity, reduce off-tastes and foul odors, and prevent damaging scale formation on your ice machines.

Improving the quality of water will keep your ice machine running at peak efficiency, reducing operating costs and prevent downtime. A secondary benefit is hard, crystal-clear cubes with no off taste or odor. A good water filter system is a small investment when compared to the cost of an ice machine and lost business due to poor guest experiences.

Sources:

<https://www.kineticopro.com/media/noolya0h/kineticopro-ice-machines.pdf>

<http://www.riteice.com/Water%20Treatment.pdf>

<https://www.watertechonline.com/wastewater/article/15543484/waters-impact-on-fountain-beverages-and-beverage-systems-part-three>

<https://www.easyice.com/hard-water-in-your-ice-maker/>