

# Bakery & Pastry Shops

*Bakery shops not only bake bread and pastry products, but they are similar to restaurants, often serving a variety of sandwiches, beverages, and other foods. Water has many uses: as a product ingredient, to heat and cool products, and to clean and sanitize floors, processing equipment, containers, vessels, and the raw food products.*

## Standards and Practices

Principles for designing and building a facility that has a reduced requirement for water include:

- ◆ design the facility for ease of cleaning.
- ◆ provide adequate metering, including submetering at all major water using areas and for process control.
- ◆ consider all possible opportunities for water recovery and re-use or alternative water supplies, such as filtration and membrane processes and capturing condensate drain water from air-conditioning and refrigeration systems. **ALT**
- ◆ design for minimal or no water use.
- ◆ use product and by-product recovery systems. **PROC**

## Kitchen Equipment

Select energy-efficient refrigerators and freezers that have adequate refrigerator space for thawing food and use air-cooling rather than recirculating cooling-water systems. **FOOD**

If combination ovens are used, select those that use no more than 15 gallons per hour and comply with the California energy rebate list prepared by Fisher-Nickel. **FOOD**

If steamers are used, select those that are either connectionless or boilerless and consume no more than three gallons of water per hour. **FOOD**

Dishwashing is a water-intensive process for cleaning and sanitizing.

- ◆ Use pre-rinse spray valves (1.5 gpm maximum) for dish rinsing. **FOOD**
- ◆ Install strainer (scraper) baskets instead of garbage disposals (grinder). If a water-using grinder

*Many bakery and pastry shops now offer more than baked goods and are much like small restaurants with a variety of product offerings.*



is selected, install a water-saver kit or choose a grinder that tailors the water use to the load. **FOOD**

- ◆ Avoid “dump and fill” dishwashing machines; use dishwashers meeting Energy Star efficiency standards. **FOOD**
- ◆ Install steam doors to reduce evaporation.

### *Ice Machines*

Ice machines use water for ice and sometimes for cooling the compressor. Select:

- ◆ ice-making machines that are air-cooled, using remote heads to expel warm air outside the work space and customer areas. Air-cooled machines are preferred over cooling-tower loops.
- ◆ energy-efficient flake or nugget machines rather than cube-ice machines. If cube-ice machines are used, those that meet CEE Tier 2 efficiency standards are preferred. Tier 3 machines are even more efficient (CEE Commercial Kitchens). **FOOD**

### *Heating Systems*

Steam boilers and hot-water boilers provide heat and hot water. Closed-loop systems return water and steam condensate to the boiler for reuse, saving both energy and water. Open-loop systems expend the water or steam without return to the boiler. Several water efficiency measures are available:

- ◆ reduce plumbing leaks due to repeated opening of water temperature- and pressure-relief valves (TPRVs).
- ◆ make discharge pipes easy to inspect for flow, and insert visible indicators of valve activation. **REST**

### *Water Reuse and Recycling*

Water is used as a heat-transfer agent in a variety of applications. This water remains relatively clean and is an excellent source of water for reuse. **PROC**

### *Water Treatment*

Measures to improve the efficiency of water treatment include:

- ◆ for all filtration processes, install pressure gauges to determine when to backwash or change cartridges, then backwash based upon pressure differential.
- ◆ for all ion-exchange and softening processes, set recharge cycles by volume of water treated or use conductivity controllers.
- ◆ avoid the use of timers for softener-recharge systems.
- ◆ use water treatment only if and when necessary. **TREAT**

**Dishwashing is a water intensive practice, although it is necessary for cleaning and sanitizing. Run only full loads to conserve water and energy.**



## Plumbing

Use high-efficiency toilets requiring not more than 1.3 gallons per flush and urinals which flush with 1 gallon or less. Use no automatically timed flushing systems. Use self-closing faucets with flows of 0.5 gpm for hand washing. If available, and where codes and health departments permit, use non-potable water for flushing. **REST**

## Floor Cleaning

Employ these floor-cleaning efficiency practices:

- ◆ low-flow, high-pressure nozzles on hoses or water brooms used for floor and mat washing where a flow of water is needed. **REST, FOOD, PROC**
- ◆ minimize the need to use a hose as a broom by installing drains close to areas where liquid discharges are expected. **PROC**

## Other

Install automatic-shutoff and solenoid valves on all hoses and water-using equipment. **PROC**

Install faucets on set tubs and janitorial sinks with flows not to exceed 2.2 gpm. **REST**

TIP: Conspicuously mark fire-protection plumbing so no connections will be made except for fire protection. Additionally, install flow-detection meters on fire services to indicate unauthorized water flows. **REST**

