

## »» Environmental Sustainability: Finding Benefits through Ceiling Fans



*Being sustainable and reducing operating costs doesn't have to be a complicated effort. A great case in point: ceiling fans. They're (re)gaining popularity in the construction industry and can be implemented easily into remodels or new construction for your firehouse.*

Most people know that ceiling fans can make spaces more comfortable during summer months, but many don't realize the full benefits ceiling fans can provide.

Ceiling fans have been shown to reduce energy usage by as much as 40% in the summer and 10% in the winter. They do this by creating air movement that expands the acceptable comfort range of the space.

How is this achieved?

In the summer, use the ceiling fan in the counter-clockwise direction; the airflow creates a wind-chill effect, allowing our skin to breathe and cooling us down.

Unlike room air conditioners, ceiling fans don't suck moisture out of the air, which can leave eyes, throat and skin dry and sore. This airflow can reduce the temperature in a room by up to seven degrees.

In the winter, reverse the motor and operate the ceiling fan at low speed in the clockwise direction. This produces a gentle updraft, forcing warm air near the ceiling down into the occupied space.

Installing ceiling fans in your facility makes perfect sense because it will improve the efficiency of your heating and cooling systems. A ceiling fan can pay for itself very quickly. According to statistics, it costs about a penny an hour to run a ceiling fan, versus \$0.43 an hour for centralized air conditioning or \$0.16 an hour to run a room air conditioner.

You save money every day you use a ceiling fan!

Here are some more tips:

- » The amount of air moved by a ceiling fan depends on the angle, or pitch, of its blades.

A pitch between 11 and 16 degrees is best for maximum air movement.

- » Ceiling height is also important when choosing a fan. For safe operation, fan blades should be at least 7 feet above the floor; the optimum placement is generally between 8-9 feet above the floor.
- » Buy the best quality fan you can afford. The higher the quality of fan, the quieter the operation and the better the performance.
- » Make sure you use an appropriate UL-listed metal box, marked "For Use with Ceiling Fans." Ceiling fans should be secured to structural framing as the weight and torque exceed the strength of typical electrical junction boxes.
- » Remember to adjust your thermostat when using your ceiling fan for additional energy and dollar savings.

Ceiling fans cool people, not rooms. If the room is unoccupied, turn off the ceiling fan to save energy. ♦

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