

## Commercial building, Melbourne, Victoria



### Installation Summary

**Problem:**

- Overuse of energy for cooling
- Fluctuating temperatures
- Increased occupant discomfort
- Need to maintain views

**Solution:**

Solar Gard Grey Silver 20

**Amount of film:**

900 square meters (9688 sq. ft.)

**Benefits:**

- Payback estimated at less than 4 years
- Decreased energy use
- Reduced coolers needed from 2 to 1
- Stabilized temperatures and occupant comfort
- Preserved views

## Solar Gard® window film shrinks energy use and ends thermostat wars.

**“As a result of film installation, the operation of one chiller is now sufficient for most of the year. Because of the reduced load, chiller replacement can now be done in an orderly fashion.”**

Marty Byrne, Facility Manager, No. 1 Collins Street.

Occupants at the 17-story No. 1 Collins Street building in Melbourne, Australia enjoy expansive views, considered the best in the city. However, complaints of uncomfortably fluctuating temperatures and soaring energy use for cooling led to “thermostat wars” as occupants throughout the building struggled to be comfortable.

In 1994, an energy consultant confirmed that the solar heat build-up in the perimeter window offices caused the HVAC system to oversupply cold air to the offices while reheating elsewhere to attain a temperature balance. The consultant recommended the installation of solar film or blinds (estimated at about twice the cost of the film). However, occupants of the window offices rejected the blinds due to the probable loss of the lovely views from the windows so no action was taken.

By early 2006, the AC system was working at full capacity, with two coolers running from late

spring to early autumn. Internal heat loads in the building had risen to 25 watts per square meter rather than the 10 watts per square meter originally specified when the building was completed.

The building owner contacted local Solar Gard dealer, The Tint Shop, to install solar film. After evaluating the situation and conducting an analysis, The Tint Shop installed Solar Gard Grey Silver 20 energy saving solar film. The facility manager conducted an in-depth energy analysis of overall electricity costs for the 10 month period before window film installation and the 10 months after

installation. Installing the Solar Gard window film showed an estimated **payback of less than four years.**

Installation of Solar Gard window film alleviated both the issues of comfort and over-use of energy. One of the two chillers is now sufficient for most of the year. With reduced load, the planned replacement of the two chillers is no longer an immediate issue. Occupants at No. 1 Collins Street report a significant comfort improvement as temperatures stabilized. Individuals in the window offices are also pleased that they retained their magnificent panoramic views.