CASE STUDY 2

Cooling a primary school

Introduction

Many schools have installed cooling systems in classrooms. This primary school has tried both refrigerative and evaporative cooling in the school.

Case Study:

Cooling at Glen Katherine Primary School

Evaporative cooling has been installed in 35 rooms at Glen Katherine Primary School, and jas succeeded in halving the non-attendance rate during summer.

Glen Katherine is a typical light timber construction (LTC) primary school, located in Melbourne. The school has a mixture of Mod 2, Mod 5 and permanent classrooms. Initially the school installed refrigerative air conditioners in eleven portable classrooms. In the peak of summer the extra cooling load caused the electrical supply circuits to trip out, requiring a $1000 upgrade to the electricity capacity to those rooms. The remaining 35 rooms, including the library and administration, have since been fitted with evaporative systems.

A single evaporative system was installed in the centre of each classroom. This provided the best distribution of air throughout the room, and meant that ducting was not required.

The installed cost of the evaporative units averaged $2500 per room.

Prior to the installation of classroom cooling, excessive non-attendance and early pickups occurred during the peak of summer. The average summer non-attendance level was 6.7%, with peaks reaching 30%! After installation of evaporative cooling the average non-attendance fell to 3%.

Glen Katherine Primary School has found that evaporative cooling has worked well during a typical Melbourne summer. School staff estimate that last summer there were only a handful of days when it was too humid for the evaporative systems to work satisfactorily and on those days the units were operated in fan-only mode.

Evaporative cooling

By comparing their summer electricity bills before and after installation of the evaporative systems, which showed an increase of $500, the school is estimated to be saving $2000 per year compared to the expected running costs of refrigerative air conditioning.