

Case Study Wesley Taylor Village



Background:

The Wesley Taylor Village offers independent retirement living; accommodation, social activities, services and assistance as required. The building design features an external glass elevator shaft to support residents and maintain the views of their stunning beach location on the Narrabeen Peninsula.

Overheating of the lift shaft caused the management to abandon the use of the lift in summer due to both personal welfare of the tenants & mechanical operational issues due to the material heat mass.

The Problem:

Post occupancy, it was found that the internal temperatures of this elevator rose to over 50°C.

The management abandoned the use of the elevator during the summer months due to both the welfare of the residents and mechanical operational issues caused by material heat mass.

As a result, low mobility residents were confined to the ground floor levels. Architects Maitland and Butler were engaged to find a solution to the overheating issue.

They approached Greene Fire (our Australian distributor) who worked together with them to model the impact on the solar heat gain which was achievable by installing Microlouvre Koolshade® screens.

Requirements

As a result, low mobility tenants were confined to the ground floor levels.

Solving the problems caused by the glass elevator shaft in this retirement village reaching internal temperatures of 50°C.

- Overheating issue
- Need to have pure natural light (100% CRI)
- Zero heat transmission essential

THE SOLUTION

Prior to considering Microlouvre Koolshade®, the architects had completed a sun study which showed how large, fixed horizontal louvres could provide enough shading through the hottest part of the summer day to keep the internal temperature in the lift shaft to a tenable level.



However, when the sun angle was below 33 degrees (up to 11am at the height of summer), there would be no protection and therefore the early morning sun would heat the elevator before the horizontal louvres could have any effect. by more than 10°C too.

In comparison tests with the building's design tolerances, Microlouvre Koolshade® proved to deliver 35% shading at 0 degrees sun angle and full shading when the sun angle was at 40 degrees, therefore it was selected by the architect as the optimum shading solution.

Following install, further tests showed that MicroLouvre® had reduced the midday summer temperatures inside the elevator by as much as 50% and the lobby area it was housed in, reduced



THE RESULTS

- Improved comfort levels inside the building by more than 10 degrees celcius
- Did not need to perform major works like repalcing glass windows or installing heavy louvres needing structural supports
- Improved the aesthetics of the building by creating a uniform look from the outside
- Still have near perfect vision through the glass from the inside
- Provides screening the internal lift mechanism, adding to the aesthetic quality of the surrounding garden
- MicroLouvre is easily removed for ongoing cleaning & maintenance as well as allowing access to the lift shaft structure