

# Case Study HRL Laboratories



## Background:

State of the art research facility which uses excessive air condition loads. In order to meet stringent fire safety standards they required a retrofit shading solution.

High energy consumption was significantly reduced through installation of Microlouvre Koolshade® whilst maintaining occupant comfort and building compliance

## Challenges

- Long durability 60+ years
- Maintenance free
- Excessive air conditioning loads
- Stringent fire safety standards are required
- Need perfect outward vision
- Natural ventilation was needed

## The Problem:

The key reason for the high-energy consumption in laboratory facilities, is their high ventilation rates and the associated air conditioning loads.

To ensure a comfortable and practical environment within the labs, a consistent building temperature of 24 degrees Celsius was defined.

Post-occupancy, the buildings required 240 ton of refrigeration to be applied to maintain this temperature of 24 degrees.

Alternative solutions to reduce the cooling load through minimising solar heat gain had to be found, and without infringing on Malibu's rigid legislation on reflective glass and window films.





## THE SOLUTION

What was then known as KoolShade®, a name we have returned to, was installed throughout, ensuring 87% of the sun's rays and its effects were blocked.

The reduction in refrigeration tonnage was recorded at over 17% due to the screens alone.

That was installed in 1960 and 60+ years later, the screens are still in place, performing as they did on day 1, and remain aesthetically pleasing, without any maintenance.

The building management have confirmed that they are simply pressure washed (in-situ) just twice a year and are still 'in great shape'.

## THE RESULTS

- 17% reduction in cooling load
- Balanced daylighting and full CRI
- Maintained ability to view out
- Compliant with all standards and regulations
- Easy to clean and durable

