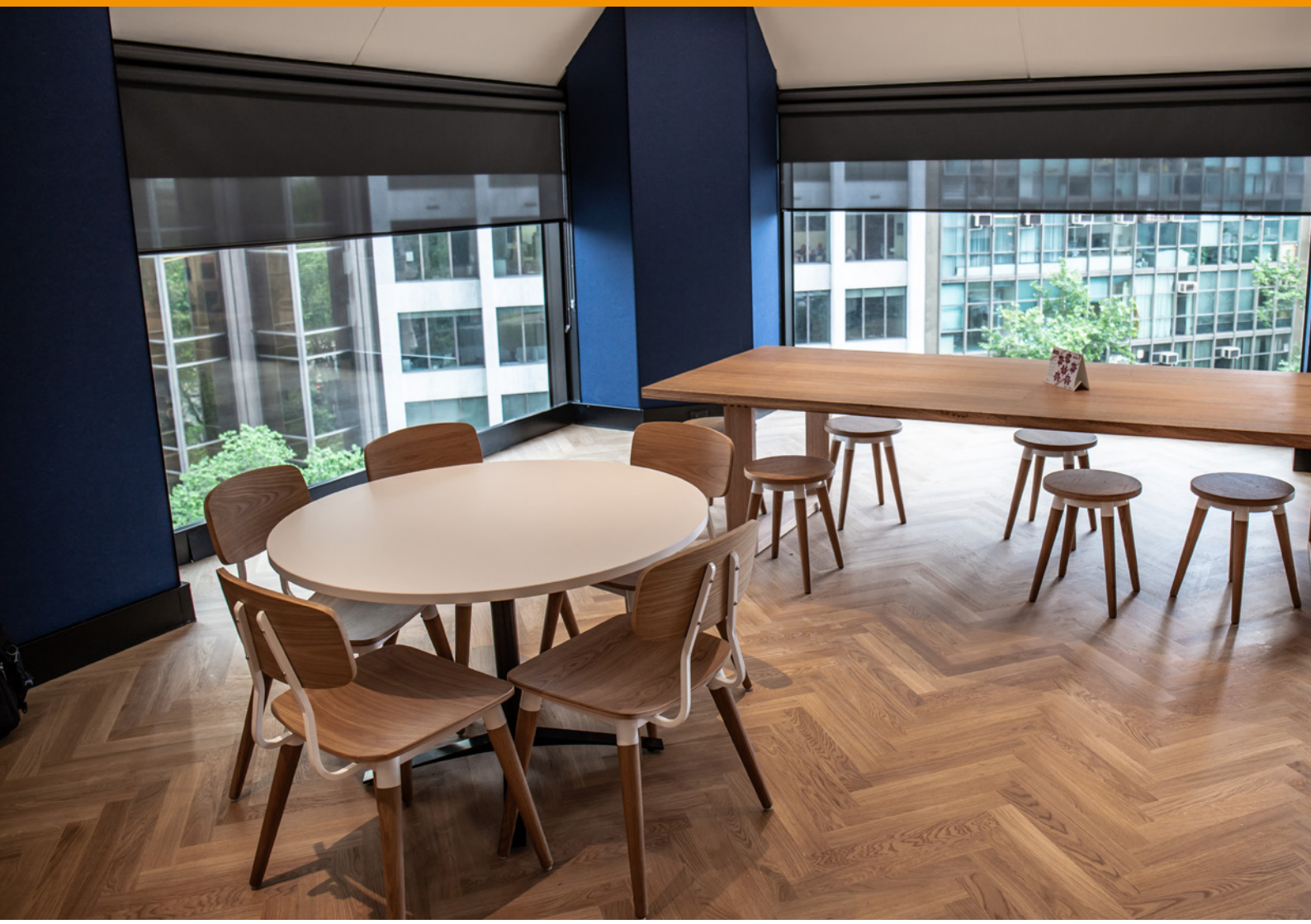
Navigating the Path Towards Sustainability

Specifying Shading Systems and Blind Fabrics



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INTRODUCTION

In these times of enhanced product performance, regulatory changes, and increasing awareness of issues like sustainability and safety, choosing architectural items can be a challenging task for specifiers. Beyond the obvious design considerations, architects and designers must also think about whether the product is “fit for purpose”, and compliant with all applicable laws.

Blinds and curtains, for example, have an important role to play in terms of building and interior design but are also critical to thermal performance, environmental outcomes and, ultimately, the efficiency of the building over its lifetime. Choosing the right solution requires an in-depth knowledge of user requirements and how the products stack up against minimum requirements in the relevant Australian standards and building codes.

Whether to control glare, provide acoustic control or reduce heat gain, blinds and curtains are always specified for a specific reason. Products that are not specially made to satisfy these specifications will most likely not function as anticipated, costing owners more over the life of the product in terms of maintenance, repair and possibly replacement.

In this whitepaper, we provide a useful guide for designers and specifiers to specifying shading systems and blinds in today’s regulatory landscape – from product standards, suitability for purpose, energy efficiency, and more – with a focus on balancing performance requirements with increasing demands for sustainability.

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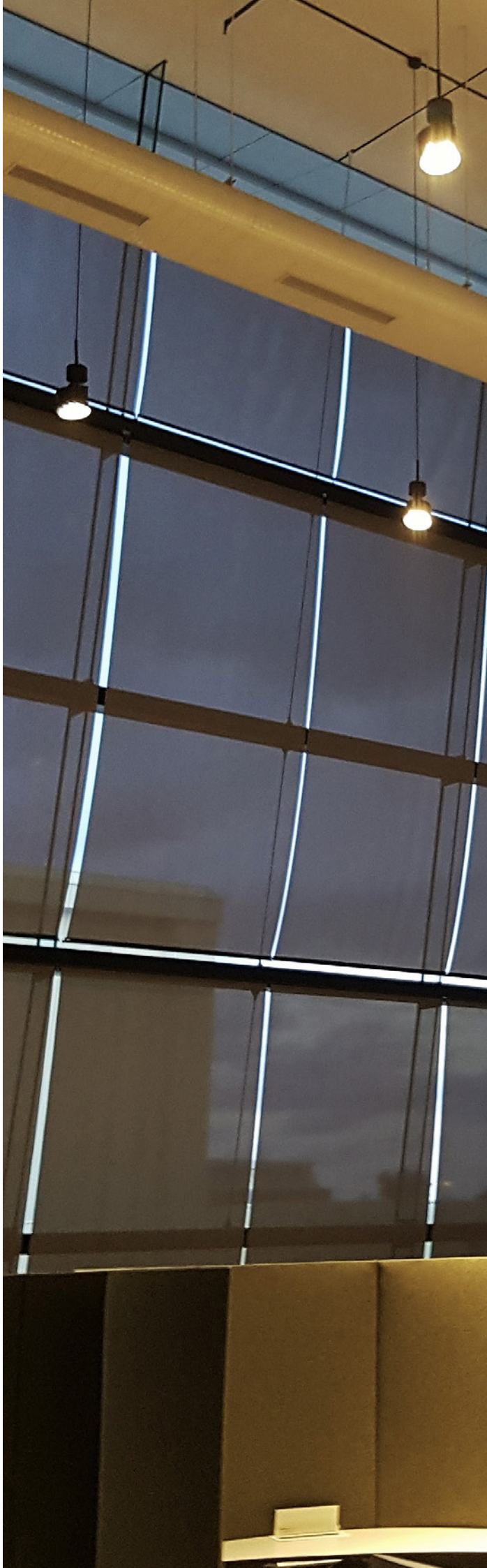
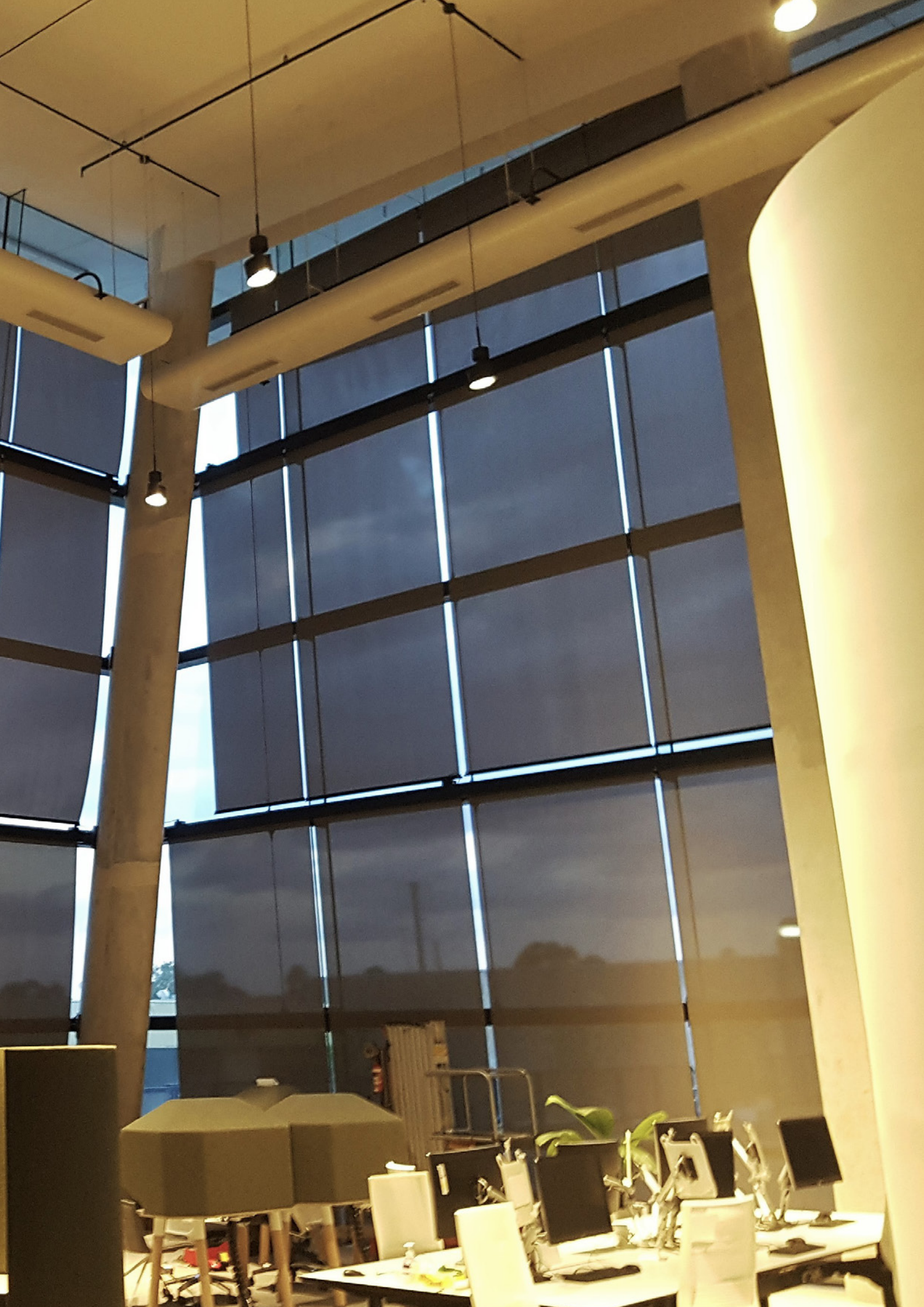
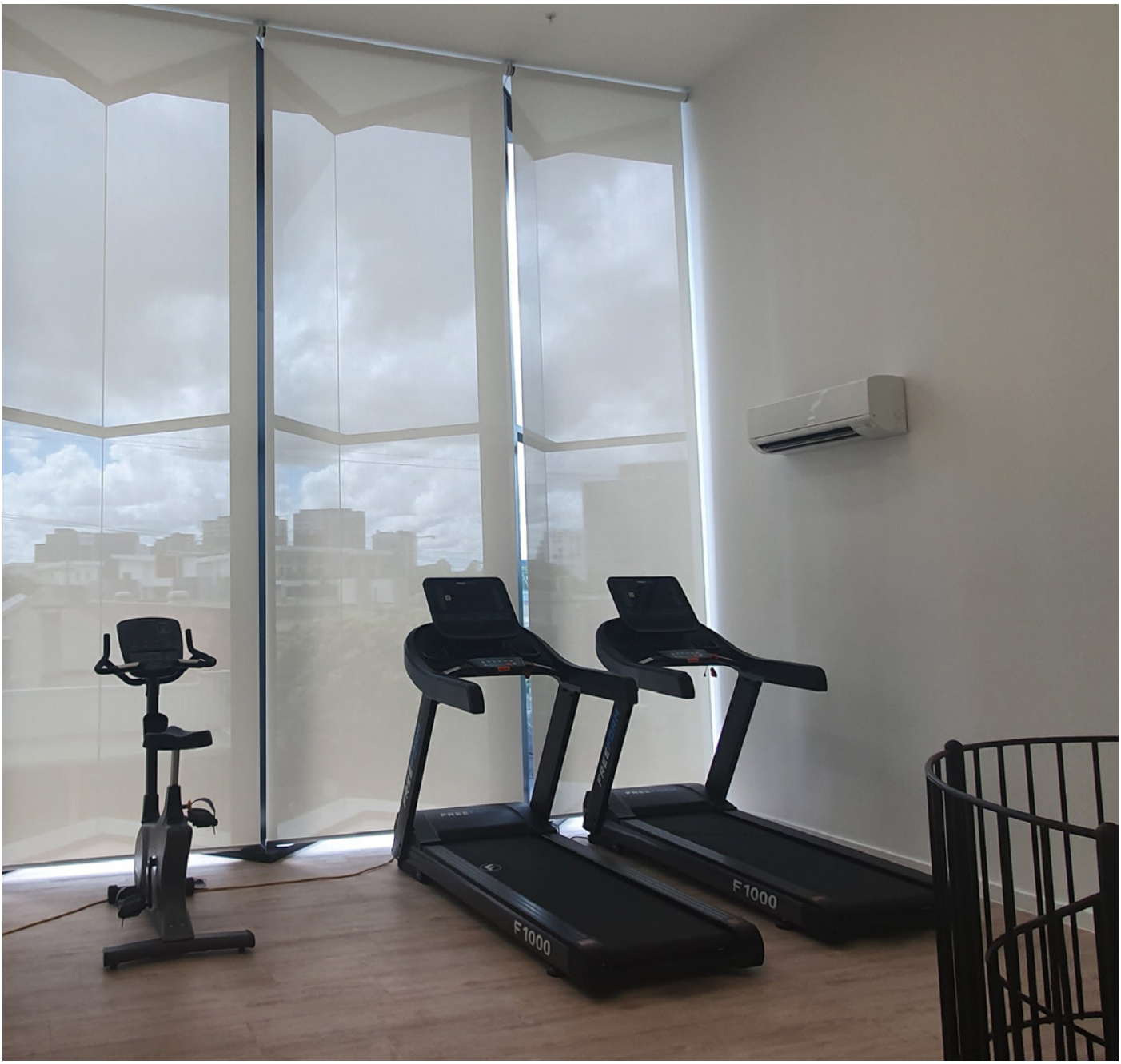






MANDATORY PRODUCT STANDARDS

When selling and installing corded blinds and curtains, suppliers must abide by the installation and labelling criteria outlined in the applicable product standards. Specifiers should be aware of these regulations and select products that meet these requirements.

The mandatory specifications for corded internal window coverings are outlined in the Trade Practices (Consumer Product Safety Standard - Corded Internal Window Coverings) Regulations 2010. These regulations apply to corded internal window coverings supplied from 30 December 2010.

Installation of corded internal window coverings in residential buildings is governed by the Competition and Consumer (Corded Internal Window Coverings) Safety Standard 2014, which went into effect on January 1, 2015. This standard also imposes additional labelling requirements on suppliers.

Blinds and curtains must be installed in accordance with the installation instructions on the retail packaging for the covering. Generally, the installation of corded blinds and curtains must prevent a slack cord from forming a loop that is 220 mm or longer at or lower than 1,600 mm above the floor. The height of a cleat that holds a cord must be at least 1,600 mm above floor level.

The warning labels or swing tags that came with the corded blinds or curtains must not be removed. A label with the name and contact information of the person or business in charge of the installation must be attached to any corded blinds or curtains being installed.

SUITABILITY FOR PURPOSE

It is the responsibility of all design professionals to be diligent in ensuring building products are suitable for the intended application. Product choice will be dependent on the requirements of the particular installation environment. For example, consider the type of building and room you will be installing the blinds or shades. A living space in which residents expect a level of natural lighting will require a different product than a conference room that requires total darkness.

It is important to communicate these requirements to the manufacturer as reselection is time consuming, costly and increases waste. From there, there are a variety of products available to address different requirements, some of which are discussed below.

Interior vs exterior shading systems

Interior blinds, which are installed on the inside of your window, are often installed to decrease the amount of sunlight getting into a space, reduce glare and increase privacy. Exterior blinds, on the other hand, are a good choice to improve the energy efficiency of a building as they block heat and ultraviolet (UV) rays before they hit the window.

Horizontal vs vertical blinds

For sliding doors, large windows and other wide openings, vertical blinds may be the best choice. Horizontal blinds are great for smaller, narrower, and taller windows. These blinds are most appropriate for conventional windows that are opened to increase airflow because they have smaller slats compared to their vertical counterparts.

Operation

Shading systems can be specified to be manually-operated, stationary, or motorised, and/or automated. The choice between operation type often comes down to cost and convenience, with motorised options being easy to use but more expensive to install. The added benefit of advanced automated shading systems is the ability to optimise the position of the shades or blinds during the day from an energy management perspective.

Fabric selection

Different textiles behave differently in various settings, and over various spans. In general, dark fabrics are good for reducing glare but absorb more heat compared with lighter fabrics. Conversely, lighter fabrics can reflect more light and absorb less heat. If the space requires privacy, a tighter or closed fabric weave should be considered. The intended style is also an important factor, with many different types of styles and colours to choose from.

Note that the weight of the fabric over large expanses can influence tracking systems and safety. Other characteristics such as durability, moisture resistance, and ease of cleaning and maintenance will determine the longevity of the solution.

In addition, the environmental and health impact of the selected fabric should not be overlooked. Ensure that the materials have been responsibly sourced and do not emit volatile organic compounds (VOCs). Transparency and environmental certifications are good indicators of a product's performance in these areas.

Cost and availability

In today's geopolitical landscape, with heightened risks for supply chain disruptions, a key question for specifiers is whether a product can be sourced in the volumes required and within project timelines. Choosing a local supplier has the benefit of a more secure supply chain, while also keeping local industries viable and encouraging a wider range of products to be developed.

DESIGNING FOR SUSTAINABILITY

Alongside product standards and suitability considerations, sustainability is an integral part of the specification process. This area requires an assessment of how the blind or shading system will contribute to the building's overall environmental impact, including the health of occupants.

Thermal efficiency

The National Construction Code (NCC), in Section J, recognises the use of window coverings in enhancing thermal performance. Designers and specifiers who wish to meet or exceed these requirements need to evaluate products, not only in terms of design and functionality, but also in terms of energy efficiency. Tools like the NCC Facade Calculator or third-party modelling software can help, but specifiers should also seek guidance from the leading manufacturers of high-performance window covering solutions.

Blinds and curtains are an effective way to reduce energy consumption. Depending on the product, this is achieved in several ways, including by trapping a layer of still air next to the window preventing heat loss, minimising the movement of heat into or out of the interior space, and providing shade against harsh sunlight.[1]

Some useful design tips are listed below:[2]

- Honeycomb or cellular blinds can improve energy efficiency as the individual cells running down these blinds have the ability to trap air resulting in a similar effect as a double-glazed window.
- Solar blinds are a great option for the Australian climate. These products are specifically designed to block UV rays, protecting interiors from the harsh effects of sunlight.
- Heavy fabrics and new types of insulating materials do a great job of reducing heat loss. To be most effective, curtains should be weighted and reach the floor to reduce air movement.

Embodied carbon

Designers and specifiers have access to a variety of the resources available in order to evaluate the life cycle environmental and carbon impact of building products effectively. This includes sustainable building ratings, sustainable product certifications, eco-labelling, Environmental Product Declarations, and so on.

Research indicates that curtains and blinds are not only an effective way of managing energy consumption but are a sustainable product with benefits to the circular economy. According to the Institute of Applied Logistics at the University of Applied Sciences Würzburg-Schweinfurt, a venetian blind will save about 8.5 tonnes of CO2 while generating only 150 kg of CO2 from production to disposal.[3] This indicates that throughout an average 20-year life, it saves roughly 60 times as much CO2 as it emits.[4]

Health and safety

There are many items on the market that contain dangerous VOCs and do not adhere to our strict Australian manufacturing regulations. When Polyvinyl chloride (PVC) blinds are manufactured, hazardous byproducts such as vinyl chloride, hydrochloric acid, mercury, cadmium, lead, and dioxin may be produced. Products can emit these VOCs after they are installed, thus posing a health risk to end users.

It is crucial for designers and specifiers to choose blinds that adhere to Australian health and safety regulations for VOCs. Avoid products that are made of PVC or treated with flame retardants and other chemicals. Note that some wood and aluminium blinds come with finishes that may off-gas VOCs.

For peace of mind, specify products that are lead and PVC free and come with the relevant product health and safety certifications. For example, the GREENGUARD Gold Certification standard includes health-based criteria for additional chemicals and also requires lower total VOC emissions levels to ensure products are acceptable for use in environments such as schools and hospitals. OEKO-TEX® accreditation is one of the world's best-known labels for textiles tested for harmful substances.

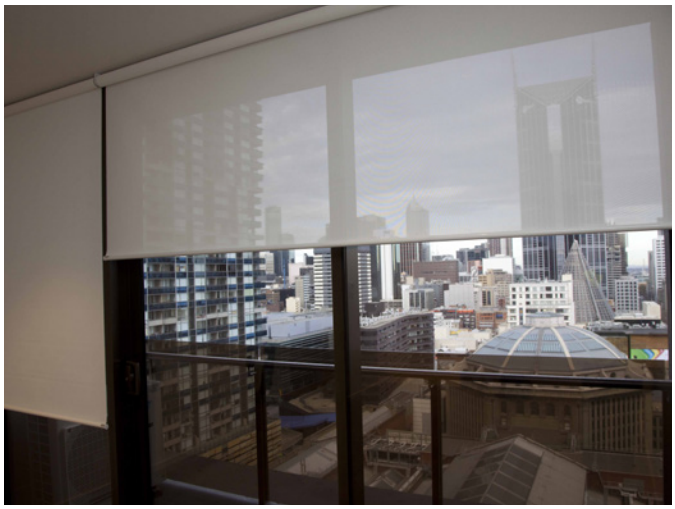
Acoustics

Acoustic comfort is an often-overlooked aspect of creating healthy and safe interior spaces. Solutions that improve noise control are important for modern buildings as their role in boosting productivity and reducing low levels of anxiety for end users becomes more widely accepted.

The science of acoustic design is largely about how sound waves are reflected, transmitted and absorbed within a building. Acoustic solutions, such as panels, rafts and ceiling tiles, work by absorbing sound thus making the space quieter to be in.

Acoustic products must function in a way that is consistent with the building's overall design goal. Most products in this category are known for their utilitarian appearance, making them difficult to incorporate into the designer's aesthetic vision. Acoustic blinds and curtains are a unique solution in this respect, as they combine an aesthetic element with noise control capabilities.

Sound absorbing blinds and curtains have a Noise Reduction Coefficient (NRC) rating, which is the average rating (from 0 to 100) of how much sound an acoustic product can absorb. The NRC represents the percentage of sound that is not reflected off the material. A higher NRC value means that the material is effectively absorbing sound.



HOW NORFOLK BLINDS CAN HELP

Norfolk Blinds are Australia's specialist manufacturer of commercial and multi-residential blinds and curtains. The company originally commenced manufacturing in 1976 and has developed the organisation into a national manufacturer and installer of premium internal and external window furnishings and sun control products.

With a proven track record with over 1500 commercial projects completed successfully within the last four years, all delivered in full and on time, the Norfolk Blinds team will manufacture and install your blinds and curtains to your specifications and schedule.

With offices in Sydney, Melbourne and Camdale, Norfolk Blinds is able to provide a high level of service to all areas of the country and has site teams in all states. Being an agile manufacturer enables Norfolk Blinds to deliver custom manufactured sun control products quickly and to a high quality.

All products, where possible, use Australian manufactured mechanisms and fabric. Norfolk Blinds have embraced modern times with the installation of up-to-the-minute computerised manufacturing equipment, high-tech fabric ranges, automated systems and full LEAN-aligned manufacturing capabilities.

"Research indicates that curtains and blinds are not only an effective way of managing energy consumption but are a sustainable product with benefits to the circular economy."

REFERENCES

1 Red Energy. “What Are the Most Energy Efficient Window Coverings?” Red Energy. hiips://www.redenergy.com.au/living-energy/energy-saving/what-are-the-most-energy-efficient-window-coverings (accessed 16 January 2023).

2 Ibid.

3 British Blind & Shutter Association. “Venetian blinds are air conditioning with a positive CO2 balance.” BBSA. hiips://www.shadeit.org.uk/wp-content/uploads/2017/12/CO2-Reduction-with-external-shading.pdf (accessed 16 January 2023).

4 Ibid.

All information provided correct as of February 2023