



# external venetians

## external venetian - types & construction

### Sheer Blinds External Venetian Blind Range.

The EV External Venetian series heralds a new era in attractive and versatile shading solutions.

Now available with 100 mm Flat, 80 mm Rolled Edge or 120 mm Wind Stable Slats and with the choice of Side Channels, Wire guides, Ladderbraid and Kevlar Hagofixing.



### Category 1

Ladderbraid Slat Control  
Wire Side Guides

### Category 2

Hagofix Slat control  
Extruded Side Guides/ Channels

### Category 3

Wind Stable Slat Profile  
Hagofix Slat Control  
Extruded Side Guides/ Channels

As people are becoming more aware and concerned about the impact they are having on their surroundings, they are beginning to realise external shading is one of the most effective and popular methods of minimisation.

This is proving to be particularly evident when it comes to matters relating to carbon and greenhouse gas emissions and is being reflected in recent architectural, building and interior design trends.

External Venetian blinds not only act to reduce solar glare and transmission, they contribute markedly to the reduction of heat gain through windows.

The EV Series operates in such a way that it provides shading and cooling, acting to effectively reduce household energy costs and expenditures.

Both streamlined and functional, these blinds are capable of efficiently shading large expanses of glass, whilst at the same time creating a striking façade.

The powdercoated aluminium slats can be adjusted from inside buildings by remote control or switch operation and can be incorporated into CBUS and Building Management Systems. Blades can be retracted or tilted to varying angles to optimise solar protection.

The unique design of these blinds means they are capable of maintaining exterior views and allowing the entrance of natural light, whilst blocking direct sunlight.

Incorporation of sun and wind sensors means optimal operating parameters can be achieved automatically.

### Specifications:

Profiles, side channels and pelmets are manufactured using non-corrosive aluminium alloys.

- All components are either corrosion resistant or made from synthetic materials.
- Slats are reinforced with copper free aluminium alloy to provide added strength and flexibility. All are pre-treated and stove enamelled.
- Standard colours are Silver, White and Bronze.
- Our patented Pelmet and Head Rail System is highly adaptable and is designed with a detachable front face to facilitate reveal and face fix applications.
- A unique lead time of three weeks from order placement.

If you have any queries, please feel free to contact us at any time for more detailed information.





# external venetians

## Category 1

### Ladderbraid Slat Control Wire Side Guides

#### 100 mm Flat and 80 mm Rolled Edge C Slat:

The ladderbraid acts to tilt the slats of the blind so that solar heat reflection results. Ladder braid methodology has been derived from the workings of internal Venetian blinds. The braid is generally woven with ladder strings, upon which the blind slat is either rested or fastened. Moving the ladder string either up or down on a bearing acts to tilt the slats of the blind.

One of the disadvantages of ladder braids is that the polyester fibres, from which they are manufactured, have the tendency to stretch under load. This often results in the slats at the base of the blind remaining slightly open when the blind is in the closed position. This obviously affects the degree of closure and may cause uneven solar heat reflection and light penetration. These problems are more noticeable on blinds with larger drops.

A method of overcoming this problem is to introduce Kevlar/ aramid fibres into the braid. Again this has associated shortcomings, the main one being that this non-stretch fibre is extremely slippery, meaning slats may move markedly on and around the braid. Unfortunately these problems are only exacerbated with wind loading.

Wire Guides are an effective means of anchoring External Venetian Blinds to their fixings but it must be noted that:

- a. wind loading will result in the blind wire vibrating and resonating.
- b. due to the single concave/ convex slat design there will always be an associated 20% filtering of light through the slats when wire guides are used.

#### Category 1 Slat Profiles:

##### 100 Flat:

This 100 mm wide slat profile is only able to be controlled by means of ladderbraid. It is highly flexible and capable of tolerating movement under wind loads. The 100 Flat Slat offers a high degree of shading at a very competitive and cost effective price. It is only really suitable in areas where wind loading and light filtration are not issues.

##### 80 C Rolled Edge:

This 80mm roll formed and rolled edge profile is more robust and therefore more wind stable than the 100 F. Another advantage this size and style of slat has over the 100 F is that it can be controlled with either ladder braid or Hagofixing (See 80 C, Category 2).

As with other blinds in this category, the 80 C can be fixed with wire guides, which allows for very easy installation and minimal visual obstruction. Again this is only recommended when the possibility of wind loading is minimal.





# external venetians

## Category 2

Hagofix slat control

Extruded aluminium side guides/channels

Zamac side pins

### 80 C Rolled Edge Slat profile.

Hagofixing is a blind slat control system that overcomes the associated problems of using ladder braids. This method of attachment provides positive blind tilt control without stretching and enhances the wind stability of the blind.

The Hagofix system embeds a stainless steel connector into the rolled edge beading of the slat and attaches to a spigot. This spigot is securely attached to Kevlar/ aramid tape which acts to strengthen the blind and allows extensive slat angle control.

### Wire Guides:

When used in conjunction with wire guides, the 80 C with hagofixing is an inherently more practical and stable option for shading large areas of glass. It is ideal for settings where a less intrusive blind system is required and wind velocities are minimal.

### Side Channels:

Where stable, secure and refined operation are required the benefits of utilising side channels far outweigh any other means of securing External Venetians. Side pins, constructed from Zamac are an innovative means of stabilising and improving the performance of 80 C Slat blinds. Zamac is a family of alloys with a base metal of zinc and elements of aluminium, magnesium and copper. These pins may be riveted to alternating slats which then engage into extruded aluminium side guides/channels. Each guide has plastic side inserts which act to minimise friction, resistance and resonance.





# external venetians

## Category 3

Wind stable aerodynamic slat profile

Hagofix slat control

Extruded aluminium side guides/ channels

Zamac side pins

Integrated sealing Keder for maximum light control and improved sound insulation.

The latest figures indicate an excess of 2 million external Venetian blinds are sold annually in Europe. While this fact is very impressive, it has resulted in products being imported into Australia that are designed around European climatic conditions.

Europe does not experience the high wind and summer heat of our country, conditions under which these External Venetian blinds have been designed to retract.

The 120 S Wind Stable Slat is a world first. It carries an Australian Innovation Patent and is developed and manufactured in Australia to suit our climatic conditions.

It has the following unique design features that enhance wind stability and increase performance:

1. An evolutionary 120 mm aerodynamic slat which allows both positive and negative air pressures to be balanced along its profile. Positive pressure at the front and rear of the 120 S slat provides downward force as opposed to the upwards lift associated with 100 F and 80 C profiles.
2. The 120 S system utilises the Hagofix slat support system. The size, metallic properties and design of the stainless steel connectors used all act to further increase the wind load capacity of the blind. The distance between spigots has also been increased to allow and enhance rotation of this larger size slat.
3. The 120 mm slat permits large viewing areas through windows whilst still maintaining shading at varying solar angles. The large size of this profile also means fewer slats are required per blind, again acting to optimise viewing parameters.
4. The 120 S has been specifically designed to reduce solar heat transfer through glazing in a progressive manner, whilst allowing and maximising the entrance and transfer of natural light into buildings.

The 120 S can be controlled to rotate in an arc of 120 degrees, from 56 to 176, which allows fine control of solar heat exclusion and light filtering. Reflection of morning light can be directed up to 11 metres into a room, while glare levels at the window surface are minimised. As the sun tracks from east to west the slat can be closed from 56 to 135 degrees to enhance these parameters further.

Please refer to the table on the following pages to see how these blinds can affect category points required in Australian Green Star Building Accreditation calculations.





# external venetians

## **Category Management**

Title **Building Management Systems** Credit # Man- 09 Points Available **1**

## **Category IEQ – Indoor Environmental Quality**

Title **Thermal Comfort** Credit # IEQ-05 Points Available **2**

**Daylight Glare Controlled** Credit # IEQ-11 Points Available **1**

**Electric Lighting Levels** Credit # IEQ-13 Points Available **1**

**External Views** Credit # IEQ-14 Points Available **2**

**Individual Thermal Comfort Control** Credit # IEQ-15 Points Available **2**

## **Category Energy**

Title **Greenhouse Gas Emissions** Credit # Ene-01 Points Available **20**

**Peak Energy Demand Reduction** Credit # Ene-03 Points Available **2**

## **Category Materials**

Title **Design for Dis-assembly** Credit # MAT-08 Points Available **1**

## **Category Innovation**

Title **Innovative Strategies & Technologies** Credit # Inn-01 Points Available **2**

**Exceed Green Star Benchmarks** Credit # Inn-02 Points Available **2**

**Environmental Design Initiatives** Credit # Inn-03 Points Available **1**

Points available from the 12 titles **37**

Total points available in all 9 categories **164**

% of points to which the **SURE SHADE® Ultimate 120S** can contribute **22.6%**





# external venetians

What Green Star Certified Ratings are available?

4 Star Green Star Certified Rating (score 45-59)

signifies 'Best Practice' in environmentally sustainable design and/or construction

5 Star Green Star Certified Rating (score 60-74)

signifies 'Australian Excellence' in environmentally sustainable design and/or construction

6 Star Green Star Certified Rating (score 75-100)

signifies 'World Leadership' in environmentally sustainable design and/or construction

**5/** The Liftmaster® **SURE SHADE® Ultimate 120S** external venetian BLIND can be manufactured with wire guides if the wind loading is moderate and aesthetics of minimal visual obstruction is paramount. Since the 120S slat is inherently stable a higher wind loading can be accommodated when compared to the 80C or 100F constructed with wire guide.

The intrinsic efficient 120S slat shape also ensures that with wire guiding the slat can close tightly upon it self to 3 degrees when in the closed position and minimise light intrusion. The wire guide may alternatively only be used on one side only with stability offered by alternate Zamac slat side pins engaged into an aluminium side guide extrusion.

**6/** The Liftmaster® **SURE SHADE® Ultimate 120S** external venetian BLIND can be optioned for **sun tracking**. The package includes an intermediate logic interface control board manufactured by Liftmaster® that allows continuous monitoring of the angle of the individual blind slats. This means that the building management system (BMS) system can reliably assume slat angles without the need for extensive re-referencing that occurs in current systems.

(re-referencing in current EVB tracking solutions results in moving the blind to a full open position at determined times during the day or night and then returning the blind to the original position)

