Victoria Gardens, Richmond, Vic, SS203/80 non-trafficable louvre set within aluminium RHS and channel support frame.

U.T.S. Faculty of Architecture, Ultimo, NSW SS203/43 louvre set in SHS hinged framing to bay windows. SS203/60-louvres on the second floor.

Newington NSW, HA453/SP grating attached to ‘C’-shaped aluminium angle framing in horizontal and vertical configuration over windows.

Australian Graduate School of Management, Kensington, NSW, HA505 grating creates a grated blade tiered wall attached to aluminium tapered “T” section brackets connected to structural window framing.
The Pinnacle, North Sydney, NSW, HA503 grating and aluminium "T" section support framing. Access to the platforms utilises abseiling technique.

Australian Tax Office Adelaide, SA, sunscreen louvre type SC323/60 supported by structural suspended perimeter framing, incorporating safety-line attachment points.

Kings Row, Milton, Qld, HA653 grating, DAN019 cantilevered aluminium angle support framing. Safety-line system utilising cast-in stainless eyelets.

Shore Grammar School, North Sydney, NSW, HA403 grating, DAN019 support angles, DAN023 nosing. Safety-line attachment points are an integral part of the sunscreen support framing.
Cordelia, South Brisbane, Qld, ELL241 ellipsoid grating suspended and tensioned with stainless cable hangers.

Bowral Library, Bowral, NSW, HA503 grating with RHS nosing, suspended and tensioned with stainless rod hangers and attached to structural window framing.

Prince of Wales Hospital, Randwick, NSW, SS203/60 louvre with RHS and CHS support framing, suspended from cast-in ferrules inside the GFRC façade.

Silknit House, Surry Hills, NSW, SS323/60/100° louvre, HA503 grating light-shelf suspended with clevis and tube support framing.
**Privacy Screens**

The Pinnacle, North Sydney, NSW, SS203/80 louvre welded into DAN022 aluminium framing with spigotted connections to facilitate concrete slab deflections.

Newington, NSW, SS203/60/SP louvre creates an effective privacy screen from neighbours and permits view outwards.

**Horizontal Plant Screens – Grating**

The Quay, Sydney, NSW, HA503 and HC503 grating forming a non-trafficable vision screen over the irregular plant room and ducting equipment.

**Entry Gates – Grating**

Homebush Substation, Homebush, NSW, HA505 and HC505 combination grating patterns create a picket fence and gate attached to structural framing and electronic door-locking mechanism.
WHY AND WHEN TO CHOOSE

When you make Hi-Light your choice for quality aluminium screening systems you will quickly appreciate our state-of-the-art manufacturing capability and capacity, unsurpassed quality, order consistency and the delivery reliability you expect from a specialist architectural metalwork company. At Hi-Light we continually strive to improve as a supplier. We constantly challenge and research new ways to become more responsive to you and your needs in every way, from quality innovative products to on-time shipments.

Available Services
Hi-Light is capable of providing a complete service for your screen requirements. The full range can include assistance with DA submissions, solar calculations, reflectivity study, budget costing, prototypes, engineering calculations, site inspections, survey, detailed drawings, manufacture and installation. Contact Hi-Light at the preliminary design phase to benefit from our extensive technical library and thought-provoking suggestions.

Computer Managed Design and Production
You'll find our computerised design and production systems enable us to anticipate problems and solve them before they become unsolvable. You will receive on-time delivery for your orders, large or small, day in and day out and up-to-the-minute reports on all your orders, any time you call us.

Strategic Location
Hi-Light is strategically located to assist all the industries that we serve domestically and for easy export. This means shorter transit time and lower freight charges for you, the customer. All transport options are available for shipment of your order, whether you choose road, rail, sea or air.

State-of-the-Art Machinery
From CAD drafting systems to sophisticated order handling to state-of-the-art plant and equipment, Hi-Light is the technology leader in the industry. With the latest custom innovations in our manufacturing equipment we produce screens and grating faster and with more precision. This means that you get a better product, when your project needs it, at a competitive price.

Knowledgeable Sales Staff
Hi-Light salespeople, both in-house and in the field, are screen and grating experts, skilled in helping you make the right decision. They will help you decide on the product that best meets your design objectives and accurately estimate and quote your project.

Profitable Partnerships
With Hi-Light as a partner you have our entire team working with you from concept to completion. Problem-solving partnerships on some of the most innovative and exciting commercial, residential and industrial projects of the last twenty years have helped create many Australian architectural icons.

Customer Satisfaction
Our goal is 100% customer satisfaction. We stand behind our products. Add to this, attentive service and competitive pricing, and we think you will rank us as one of the best suppliers you have. In short, our entire staff is dedicated to your satisfaction.

Hi-Light - good people to do business with...

ABOUT THE FRONT COVER
The Thiess Centre was the first step in the creation of Brisbane’s prestigious commercial precinct in the South Bank master plan. A lightweight approach to sun protection was chosen after exhaustive computer modelling to find the best solution. The Hi-Light screen system not only lends the building an element of South Queensland’s particular architectural style but also assists the building’s air-conditioning units by keeping the sunlight at bay without interrupting the spectacular views to the parklands, river and city. The horizontal sunscreens are a significant factor in the building’s high standard of energy efficiency. They also function as a trafficable platform with an integrated safety harness system.

HA653 Grating, DAN019 supports, DAN023 nosing.
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<td>23</td>
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Australian Design Registrations and Patents are pending in relation to some of the items and articles depicted in this brochure.

Flinders University, Adelaide, SA, Hall of Residence

SS323/60 louvre and aluminium angle framing. Refurbishing a stark, 1960s building into a more interesting environment. Before and after photography clearly depicts a visual transformation with the added benefit of substantial reduction in heat load.
Hi-Light screens achieve the optimum benefits of natural filtered sunlight while creating an energy efficient environment in any existing or new building structure.

- Manufactured completely from aluminium, Hi-Light sunscreen panels are lightweight, good looking, low maintenance and versatile.
- Hi-Light sunscreens greatly reduce the net heat gain of sunlight striking tinted or clear windows (commonly in the order of 20% - 50%).
- As well as providing relatively free flow of air, their strength and lightness allow designs with less need for heavy support structures, a valuable construction saving. Anodised or powder coated in a range of colours, your Hi-Light aluminium screen is custom-made to your specification.

Hi-Light aluminium screens are available in a wide range of profiles and offer versatility in use for all building structures, existing or new.

<table>
<thead>
<tr>
<th>Screen Type</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Sunscreens</td>
<td>Reduce solar glare, reduce air-conditioning running costs and size of plant required, are corrosion resistant and ecologically sound.</td>
</tr>
<tr>
<td>Trafficable Sunscreens</td>
<td>An innovative combination of two separate functions in one product. All the benefits of a sunscreen with a trafficable platform for cleaning and maintenance of the surrounding façade and vision panels.</td>
</tr>
<tr>
<td>Daylighting Sunscreens</td>
<td>All the benefits of a sunscreen plus a light-shelf to reflect natural daylight up and onto the room ceiling, effectively reducing the need for artificial light.</td>
</tr>
<tr>
<td>Plant Room Screens</td>
<td>Artfully concealing irregular shapes, voids and plant room uglies. Locating plant room equipment on the roof of your building makes economic sense. Hi-Light screens avoid creating an eyesore.</td>
</tr>
<tr>
<td>Privacy and Security Screens</td>
<td>All the benefits of a sunscreen plus protection of your privacy from neighbours and the security of your environment.</td>
</tr>
<tr>
<td>“T” Section Flooring</td>
<td>Provides an attractive lightweight walking surface that feels as comfortable underfoot as solid flooring. Ideal for complex floor patterns and wheelchair access requirements.</td>
</tr>
<tr>
<td>Trellis Screens</td>
<td>Lightweight and corrosion resistant, Hi-Light screens give excellent lateral stability and open, attractive support for vines and creepers.</td>
</tr>
<tr>
<td>Air Relief</td>
<td>Hi-Light screens allow up to 95% free flow of air, reducing building cooling costs.</td>
</tr>
<tr>
<td>Rain Screens</td>
<td>Minimise the effects of wind driven rain and hail, protecting the façade and vision surfaces.</td>
</tr>
<tr>
<td>Cyclone Debris Deflection Screen</td>
<td>The ability to give protection against the worst the weather can throw at them is just another aspect of the versatility of Hi-Light sunscreens. Tested in wind velocities up to 234 km/h and certified as a cyclone debris deflection system, Hi-Light screens are as tough as they are stylish.</td>
</tr>
</tbody>
</table>

**MINCOM CENTRAL - BRISBANE:**

The design of Mincom Central combines a strong commitment to energy efficiency with a very progressive image. The success of the project lies largely in the look and functionality of the building’s façade which combines aluminium cladding, green tinted glass and Hi-Light anodised aluminium sunscreens. The screen system is attached directly to the window framing and, while having a practical application, adds strongly to the visual impact of the exterior. The high-tech façade is both eye-catching and durable, adding an extra design element and screening around 35% of all direct solar radiation.

ST203/60 louvres, HC403 grating and “T” section aluminium support framing.
Use of this brochure should be restricted to building industry professionals and with the acknowledgement that details contained within are subject to change without notice. It is important that you seek advice and confirmation from your Hi-Light representative regarding availability and use. If you are not a building industry professional, it is very important that you contact Hi-Light or engage professional advice before using this brochure.

The Hi-Light range of screens has been designed for use on projects of all sizes, from the smallest residential to the largest commercial buildings. In almost all designs, Hi-Light’s involvement includes layout and workshop drawings for your architectural and/or dimensional approval prior to manufacture.

Screen Selection
Before specifying Hi-Light screens you need to know:
- Project location and the terrain category.
- Height of the proposed screen from ground level in metres.
- Purpose of the screen e.g.: non-trafficable, horizontal sunshade.
- Position of screen on building e.g.: face mounted, away from building edges.

Using the above information refer to page 18 for a load factor measured in kPa. Select a screen type using the span charts and calculations on pages 16 & 17 or... let Hi-Light technical and sales departments make recommendations or... use our Automatic Calculating Program at www.hi-light.com

The following notes are provided for guidance in specifying Hi-Light screens. At all times feel free to contact Hi-Light for specific wording for your project.

Short Form Specification
Aluminium screens as specified on the drawings are to be Hi-Light architectural screens Type (insert profile type e.g. SS 203/60). Supply in (anodised, powder coated or PVDF) finish with the specified colour and warranty system. All tolerances, materials, fasteners, methods of swaged construction and attachment to be to the manufacturer’s specifications.

Where multiple panel widths are required, extend cross bars to give a continuous panel appearance.

Long Form Specification. (This sample specification uses screen type SC323/60).

The screen shall be manufactured in panels consisting of alternate aluminium louvre extrusion and aluminium flat bars. Louvre bars and flat bars shall be set at 30mm centres and swaged together at 100mm centres with 8mm square aluminium cross bars (Alloy 6063 - Swaged to Temper T5).

The louvre extrusion (Alloy 6063 - T6) shall consist of 2 legs with an included angle of 135°, the short leg being 32mm x 3mm holed for swaging and the long leg being 60mm x 2mm complete with 3 equally spaced longitudinal ribs 1mm high and 1mm wide provided on the inside face. The flat bars shall be 32mm x 3mm in section (Alloy 6063 – T6).

Supply in (anodised, powder coated or PVDF) finish with the specified colour and warranty system. All tolerances, materials, fasteners, methods of swaged construction and attachment to be to the manufacturer’s specifications.

Where multiple panel widths are required, extend cross bars to give a continuous panel appearance.

Performance Specification
(A) The drawings depict the design intent of the solar shade devices only. It is the responsibility of the sunshade contractor (or specify other trade or profession) to ensure that the sunshade system will provide (insert required performance e.g. complete year round shade to the east, north and west façades between the hours of 9am and 5pm). Verification by means of an Ecotect solar study (or approved equal) will be required prior to the installation.

(B) Verification of the structural integrity of the sunscreen support system is the responsibility of the sunscreen contractor (or specify other trade or profession). A structural adequacy certificate will be required prior to the installation.

Maintenance Specification
Upkeep of the surface finishes is to be in accordance with the coating manufacturers’ recommendations. Reference may also be made to the Hi-Light ‘Voluntary Maintenance Data Sheets’.

Hi-Light recommend that a complete structural inspection of the screening system be performed at least every 5 years.

The use of this brochure or the information it contains other than in the direct interests of Hi-Light Industries Pty Ltd is expressly prohibited.
**LOUVRE PROFILES**

**AND PANEL WIDTHS**

All measurements in mm

---

**PANEL WIDTHS**

<table>
<thead>
<tr>
<th>Width mm</th>
<th>No. of Bars</th>
<th>Width mm</th>
<th>No. of Bars</th>
<th>Width mm</th>
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Add 2mm to panel widths for screen profiles with 5mm load bars.
**LOUVRE PROFILES**

**All measurements in mm**

**Suitable for Wind Loads and Live Loads**

![Diagram of suitable for wind loads and live loads]

- SC203/60  A = 20mm
- SC323/60  A = 32mm
- SC403/60  A = 40mm

**Sun Control Light Shelf System**

**Suitable for Wind Loads Only**

![Diagram of light shelf system suitable for wind loads only]

**Oblique View**

- SS Type

**Sydney Sports Ground, Moore Park, NSW, SS203/60 louvre & DAN017 extruded frame**

- Regency TAFE, Regency Park, SA, SS203/60 roll curved louvre with structural “T” section framing
GRATING PROFILES

All measurements in mm

Panel widths shown on page 10

Flat bars for trafficable situations are available serrated for extra grip

* Opening size is outside requirements of AS1657/1992 for pedestrian trafficability
"T" BAR GRATING, LARGE SUPPORT
AREA FOR COMFORT UNDERFOOT
SERRATED FOR ADDED GRIP AND
COMPLIANT WITH AS1428.1 (1998) DESIGN
FOR ACCESS AND MOBILITY
(MOILECHAIR ACCESS)

SECTION VIEW

20
10
3
40
30
3

PANEL WIDTH

HA325 grating with aluminium expanded mesh
and DAN007 extruded aluminium fixing clip

S23
Sydney International Airport, Mascot, NSW
HA405 serrated grating, channel supports and handrail roof access system

For more information on Hi-Light access systems
refer to separate Aluminium Grating, Handrail and Roof Walkway brochure
The versatility of Hi-Light screens allows them to be used in almost any situation.

**NOTE:**

1. A minimum of 4 x 6mm ø bolts/screws required per panel up to 711 mm in width, 6 bolts/screws per panel up to 1006mm in width.
2. Aluminium fixing flats welded to every second louvre blade (minimum requirement SS Type).
3. Aluminium fixing flats welded to every second louvre blade/load bar (minimum requirement SC Type).
NOTE: 1. A minimum of 4 x 6mm ø bolts/screws required per panel up to 711 mm in width, 6 bolts/screws per panel up to 1006mm in width.

2. Aluminium fixing flats welded to every second louvre blade (minimum requirement SS Type).

3. Aluminium fixing flats welded to every second louvre blade/load bar (minimum requirement SC Type).

4. Welding procedure for fixing flats minimum 20 x 5mm CFW.

5. Welding and fabrication to comply with AS1664 and AS1665 procedures.

6. Isolating tape is recommended where contact occurs between dissimilar metals and there is a risk of galvanic reaction.

Refer to www.hi-light.com for more fixing details.
### LOUVRE SPAN TABLES

| Profile     | Kg/m² | Reduction Factor X | Horizontal Reduction Factor X | Vertical Reduction Factor X | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | 3200 | 3400 | 3600 | 3800 |
|-------------|-------|---------------------|-------------------------------|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| SS203/43    | 8     | 0.65                | 0.75                          |                             | 2.5  | 2.0  | 1.5  | 1.0  | 0.75 | 0.5  |      |      |      |      |      |      |      |      |      |
| SS203/54    | 9     | 0.65                | 0.75                          |                             | 2.5  | 2.0  | 1.5  | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |      |      |      |      |      |
| SS203/60    | 9     | 0.65                | 0.75                          |                             | 4.0  | 3.0  | 2.0  | 1.5  | 1.25 | 0.75 | 0.5  | 0.5  |      |      |      |      |      |      |      |
| SS203/80    | 12    | 0.65                | 0.75                          |                             | 7.5  | 5.0  | 3.0  | 2.5  | 1.75 | 1.25 | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |      |      |
| SS232/60    | 13    | 0.65                | 0.75                          |                             | 7.5  | 7.5  | 5.0  | 3.0  | 2.5  | 2.0  | 1.5  | 1.25 | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |
| SS323/60/100 | 13   | 1.0                 | 1.0                           |                             | 3.0  | 2.5  | 2.0  | 1.5  | 1.25 | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |      |      |      |
| SS323/60/160 | 13   | 0.65                | 0.65                          |                             | 7.5  | 7.5  | 7.5  | 5.0  | 3.0  | 2.5  | 1.75 | 1.5  | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |
| SS403/60    | 14    | 0.65                | 0.75                          |                             | 7.5  | 7.5  | 5.0  | 4.0  | 3.0  | 2.5  | 1.75 | 1.5  | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |
| SC203/60    | 13    | 0.85                | 0.85                          |                             | 5.0  | 3.0  | 2.5  | 1.75 | 1.25 | 0.75 | 0.5  |      |      |      |      |      |      |      |      |
| SC323/60    | 17    | 0.85                | 0.85                          |                             | 7.5  | 7.5  | 5.0  | 3.0  | 2.5  | 1.75 | 1.5  | 1.0  | 0.75 | 0.75 |      |      |      |      |      |
| SC403/60    | 19    | 0.85                | 0.85                          |                             | 7.5  | 7.5  | 5.0  | 4.0  | 3.0  | 2.5  | 1.75 | 1.5  | 1.0  | 0.75 | 0.5  | 0.5  |      |      |      |

### GRATING SPAN TABLES

<table>
<thead>
<tr>
<th>Profile</th>
<th>Kg/m²</th>
<th>Reduction Factor X</th>
<th>Distance Between Supports (mm)</th>
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<tr>
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</tbody>
</table>

Figures within tables are load pressures in kPa.
1 kPa = 102kg/m² uniformly distributed load.
Spans to the left of line (shaded in yellow) have a self-weight deflection of less than 1:1000
These tables and the data presented therein are subject to Copyright under the Copyright Act 1968.
Example of Calculation for Non-Trafficable Horizontal Louvre Screen

1. Select loading in kPa for your project, screen situation and height from Wind Velocities Table on page 18. e.g.: Horizontally mounted screen located at least 0.2 x width of building away from building corners in Sydney TC3 @ 10 metres high. Load = 0.82 kPa
2. Multiply pressure (0.82 kPa) x horizontal louvre profile reduction factor (0.65) = 0.5 kPa wind load
3. From Span Tables on page 16
   - SS203/43 maximum span for 0.5 kPa load = 2200 mm
   - SS203/60 maximum span for 0.5 kPa load = 2600 mm
   - SS323/60 maximum span for 0.5 kPa load = 3400 mm

Example of Calculation for Vertical Grating Screen

1. Select loading in kPa for your project, screen situation and height from Wind Velocities Table on page 18. e.g.: Vertically mounted screen located at building corners in Brisbane TC2 @ 15 metres high. Load = 1.74kPa
2. Multiply pressure (1.74kPa) x corner proximity factor (2.0) = 3.48kPa.
3. Multiply pressure (3.48kPa) x vertical grating profile reduction factor (0.60) = 2.08 kPa wind load.
4. From Span Tables on page 16
   - HA323 maximum span for 2.08 kPa load = 1350 mm
   - HC653 maximum span for 2.08 kPa load = 2400 mm
   - HA653 maximum span for 2.08 kPa load = 3000 mm

Example of Calculation for Trafficable Screen

1. Select loading in kPa for your project screen situation ie: pedestrian traffic maintenance load = 2.5 kPa
2. From Span Tables on page 16
   - HA403 maximum span for 2.5 kPa load = 1800 mm
   - HA653 maximum span for 2.5 kPa load = 2800 mm
   - SC323/60 maximum span for 2.5 kPa load = 2000 mm

When selecting a trafficable screen ensure that live load selected is not subordinated by the wind load.

- Wind Loads = Wind Velocity (refer to page 18) x Reduction Factor.
- Pedestrian traffic maintenance loads = 2.5 kPa
- Public assembly type loads = 5.0 kPa

Notes:
- The reduction factors for the grating and louvre profiles are for use on wind loads only and are based on a combination of the porosity of the profile and the orientation of the product on the building.
- Loads are calculated for simple spans with a maximum deflection = Span ÷ 200 mm for grating and trafficable louvre sections type.
- Loads are calculated for simple spans with a maximum deflection = Span ÷ 150 mm for non-trafficable louvre sections.
- For trafficable situations cross bars are to be installed in the upper plane.
- For HC grating sections multiply span x 0.8.
- For serrated flat bar sections allow extra 5mm on selected load bar depth.
- HA205 not available serrated.
### Basic Pressure Coefficient

The basic pressure coefficient is intended to take into account the influence of the shape of the building on the pressure experienced by the screens. It is a conservative approximation and allows the pressures in the table to be applicable for the following cases:

1. Screens placed on any wall of a building.
2. Screens placed horizontally, away from the edge of a building.
3. Screens positioned near building corners within a proximity of 0.2 x smallest building plan dimension will experience pressures up to 2 times the above tabulated pressures.
4. The basic wind speed is a peak 3-second gust with a 50-year return period, measured at 10 metres height in a terrain category 2.
5. Terrain category classifications are based on AS1170.2-2002.
6. Wind speeds are based on data from AS1170.2-2002 and “Wind Loading on Structures” by J.D. Holmes.

#### Examples of Wind Pressure Calculation

- **Location is Melbourne**, screen height is 15 metres in suburban terrain category (TC3)
  - From table above the typical screen peak design pressure = 0.94 kPa
  - Screens face-mounted and located around building corners
  - Building has a rectangular plan shape of dimension 20m x 50m
  - Peak design pressure of 2 x 0.94 kPa = 1.88 kPa load to be used when selecting screen profiles from page 16

- **Location is Darwin**, screen height is 20 metres in open terrain category (TC2)
  - From table above, the typical screen peak design pressure = 2.46 kPa
  - Screens face-mounted and distanced from building corners a minimum of 0.2 x smallest building plan dimension
  - Peak design pressure = 2.46 kPa load to be used when selecting screen profiles from page 16

---

### Wind Velocities

<table>
<thead>
<tr>
<th>Location Variation</th>
<th>Basic Wind Speed (m/s)</th>
<th>Basic Wind Pressure (kPa)</th>
<th>Description</th>
<th>Terrain Category</th>
<th>Basic Wind Pressure (kPa)</th>
<th>Terrain Category</th>
<th>Peak Louvre Pressure (kPa) at Screen Height</th>
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**NOTES:**

The intention of this table and calculation procedure is to provide an estimate of wind pressures on an array of screens, based on a few simplifying assumptions.

1. The basic pressure coefficient is intended to take into account the influence of the shape of the building on the pressure experienced by the screens. It is a conservative approximation and allows the pressures in the table to be applicable for the following cases.
   1.1 Screens placed on any wall of a building.
   1.2 Screens placed horizontally, away from the edge of a building.
2. Screens positioned near building corners within a proximity of 0.2 x smallest building plan dimension will experience pressures up to 2 times the above tabulated pressures.
3. The basic wind speed is a peak 3-second gust with a 50-year return period, measured at 10 metres height in a terrain category 2.
4. The basic wind pressure is the freestream pressure at 10m in terrain category 2.
5. Terrain category classifications are based on AS1170.2-2002.
6. Wind speeds are based on data from AS1170.2-2002 and “Wind Loading on Structures” by J.D. Holmes.

**For free standing screens or screens located above 20 metres in height**

DO NOT use this table - specialist façade engineering advice is required.
Using a sun angle calculation program will enable accurate calculations of your shading requirements. Parts of a program for calculating window shades are reproduced below. A free read-only version is available for your trial at www.hi-light.com – follow the links to Sun Angles.

- **Display:** Sun path
  - Date: 21 March 15.30
  - View: 30.0, 30.0
  - Sun: -64.0, 35.9

- **Data – Time**
  - 21 March
  - 15.30 -15 +15

- **Shading Design**
  - Horizontal Shades
    - No. of Shades – 2
    - Angle of Shades – 90°
    - Depth – 603mm

- **Design Window Size**
- **Detached Shade**
- **Change Location**
- **Optimise Shading**
- **Animate Sun Path**

---

**SECTION - VERTICAL SHADOW ANGLE**

The angle in section or elevation between the sun’s rays and horizontal

---

**HORIZONTAL SHADOW ANGLE**

The angle between the sun’s rays and perpendicular to the wall

---

**DIAGRAM A**

**WIND VELOCITIES (See page 18)**
There are a host of commercially available surface finishes to coat, colour, enhance and protect aluminium. The most common are powder coating, anodising and fluoropolymer organic coating (PVDF). Hi-Light recommend all of these processes for our range of aluminium products.

**POWDER COATING**

The most commonly used of surface finishes, powder coating is available in a large range of colours and with commercially available surface integrity warranties of up to 15 years.

**Advantages**
- Uniformity of colour.
- Widely available.
- Good protection properties against wear and tear.
- Minor surface damage can be readily touched up with colour matched aerosols.
- Environmentally less polluting than anodising.
- Anti-graffiti system available.

**Disadvantages**
- Can be chipped.
- Softer surface than anodising.
- Irregular coating thicknesses between flat surfaces and edges.

Hi-Light screens are to be powder coated in accordance with AS3715. Precautions should be taken with powder coating to avoid the effects of Faraday Caging, a lack of paint thickness caused by electrostatic blowback from restricted forms.

To avoid the possibility of mismatch with adjacent materials always nominate the powder manufacturer, the warranty system (with duration) and the colour (with its code number) when specifying powder coating. (Extended lead times and a cost premium will apply when specifying from a master palette or a non-stock warranty powder coating system)

**ANODISING**

An etching process that provides a hard-wearing surface, anodising offers a limited range of colours with commercially available surface integrity warranties up to 25 years. The vast majority of all anodising is clear anodising which provides a clean sharp finish to aluminium and a relatively uniform appearance.

**Advantages**
- Excellent protection properties against wear and tear.
- Provides a sharp clean appearance.
- Relatively uniform thickness of depth of finish.
- Will not chip, flake or peel.
- Good resistance to salt air corrosion (25µm depth for maximum protection).

**Disadvantages**
- Lack of uniformity of colour.
- Difference in colour may occur at welds.
- Difficult to match gloss levels when restoring damaged areas or jig marks with touch up paint.
- Limited number of applicators and colours.
- Process and materials are environmentally more polluting than powder coating.

Hi-Light screens are to be anodised in accordance with AS1231. Care should be taken to minimise the appearance of jig marks on visible surfaces.

When specifying anodising always nominate a minimum 20µm depth of coating, the colour and company name of the anodiser to minimise the possibility of mismatch with adjacent materials.

(Company name of anodiser not required for standard clear anodising).

**Special Note:** With both powder coating and anodising some coating colours may exhibit rapid colour degradation under ultra-violet exposure and should **NOT** be specified for external use. Check with your coating product manufacturer before specifying.
**Advantages**
- A high-quality, softer setting wet paint.
- Excellent colour retention.
- Uniformity of colour.
- Minor damage is readily touched up.
- Suited to 20-year warranty requirements on large-scale commercial projects.

**Disadvantages**
- Softer surface than powder coating and anodising.
- Relatively high initial cost.

Energy Australia Substation
Cockle Bay, NSW.
SS203/60 louvre façade with structural channel framing and door hardware.

Neville Bonner Building, Brisbane, Qld. – SS203/60 louvre tiered panels supported by structural “T” section frame.

WA Maritime Museum, Fremantle WA
HA403 grating with hinged access panels supported by structural framing.
MANUFACTURING TOLERANCES
FOR LOUVRE AND GRATING PANELS

OVERALL DIMENSIONS & SQUARENESS

LOUVRE BLADE LEAN

LONGITUDINAL BOW OF LOUVRE BLADE OR FLAT BAR

EXTENDED CROSS BARS & FIXING FLATS AT PANEL JOINTS TO GIVE CONTINUOUS PANEL APPEARANCE

PANEL JOINT

CROSS BAR ALIGNMENT & STRAIGHTNESS

NOTE: D1 & D2 ARE OVERALL DIAGONAL DIMENSIONS
W1 & W2 ARE OVERALL DIMENSIONS ACROSS THE LOUVRE BLADES AT OPPOSITE ENDS OF PANEL

LENGTH ± 3mm

D2 = D1 ± 3mm

W2 = W1 ± 3mm

1000mm

2mm

± 1mm CENTRE TO CENTRE OF END CROSS BARS IN 1500mm LENGTH

Fox Studios, Moore Park, NSW
HA325 grating on stub brackets
Wind Tunnel Testing

15 years of comprehensive and independent research has been performed on the effects of wind and live loads on Hi-Light screens; they have been subjected to intense technical scrutiny. The test results have been used in the preparation of this brochure.

Cyclone Debris Testing

The Australian Wind Loading Code AS1170.2 states that in cyclonic regions windows shall be considered as potential dominant openings unless capable of resisting impact by a 4 kilogram piece of 100mm x 50mm cross section timber travelling at 15 m/s.

Hi-Light screens are capable of satisfying these test criteria.

Cyclone Debris Testing

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<th>Architect</th>
<th>Builder</th>
<th>Photographer</th>
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Photograph Architect Builder Photographer Location