



**DOWELL** ALUMINIUM  
WINDOWS AND DOORS

# **RESIDENTIAL SERIES**

**PRODUCT GUIDE 2016**



**DOWELL** 

The **commitment** and **dedication**  
Dowell made in 1860 to **product innovation**  
and **customer service**, holds **true** today.

**Note:** This publication showcases the Dowell product range, for more specific details on window and door sizes, configuration, installation diagrams and general technical details, please refer to the Dowell technical product brochure, the Dowell website ([www.dowell.com.au](http://www.dowell.com.au)) or consult your nearest Dowell sales representative.

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# Story of **Dowell** a company history

In the cut and thrust of the building industry, as well as in the Australian business world more generally, it's unusual for a company name and ethos to remain unchanged, but such is the story of Dowell.

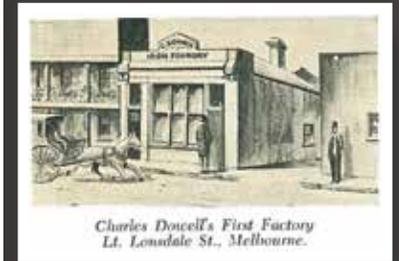
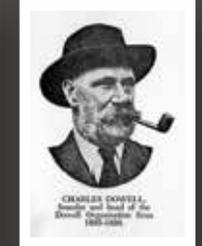
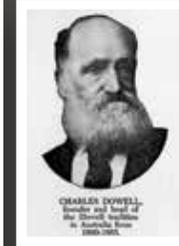
Tracking through a history which now quite remarkably crosses into three centuries, Dowell's reputation for quality workmanship and design innovation goes back to its earliest days. Back, in fact, to a gold rush...

**1820** Born in England in 1820, Charles Dowell follows his father into the blacksmith trade. Primarily making wrought iron fences, gates and garden seats from various premises in east London.

**1857** Charles Dowell (aged 37), arrives in Melbourne - a boom town, with a whole clan in tow: his wife and six children, as well as a brother and two brothers-in-law (Appold and Bailey), along with their families. Melbourne was bursting. In one year alone the number of buildings doubled. Everything was needed at once: housing and commercial premises; public buildings and infrastructure.

**1860** C. Dowell & Sons is founded by Charles Dowell, an architectural wrought iron foundry with his brother Henry – and possibly Bailey – but it was Charles who headed the business that is to become the main trunk of the tree that is Dowell today.

**1900** Fitzroy City Press - reports: 'Mr. C. Dowell owns the blacksmith's shop at No. 75 Johnston Street, and machinery suited for ornamental iron and copper work, such as verandahs, gates, etc., in fact, all high class work. He has been doing business for over a quarter of a century. Mr. C. Dowell, senior, is over 80 years of age, and is yet active, and may frequently be seen working at his trade – his eldest son at present manages the business, employing some half a dozen hands, at times a great many more. A large quantity of balconettes and grilles being recently constructed for several hospitals, are well known



Mid-center: Charles Dowell Senior and Junior



and in such high repute that constant orders are always coming in. Several iron gates and flower stands are ready on sale.'

**1905** Charles Dowell died, leaving Charles II to carry on at the foundry in partnership with a fellow named Langdon. Some of Charles II's best work was produced during these pre-war years and Charles II proudly claimed he never had a job returned or condemned.

**1913** Leslie Roy Dowell starts working in the business. Seventeen years old and doing routine jobs around the place, Roy joins his eldest brother, Charles III, the last in the family to be trained as a blacksmith.

**1915** Charles III and Langdon, the partner, leave for war. Leaving Roy to work with his father and gradually take on more responsibilities.

**1918** At war's end Charles III and Langdon both returned and the partnership was spilt, necessitating the sale of factory and plant. Roy and Charles III were given land by their father to build a new factory in the same area, at 2 Scotchmer Street, Fitzroy.

**1922** C. Dowell and Sons [registered as a proprietary limited company in 1922] supplied the steel windows to buildings such as Willis & Co. in Little Collins Street, Craig Williamsons in Elizabeth Street and the Postal Store in Spencer Street. The factory was set up for efficiently making these new steel window frames and there was little blacksmithing.

**1928** Roy travelled to the USA and England to research fire door products for use in multi-storey buildings. While in the USA, Roy secured licensing deals for a range of products including metal fire doors, elevator doors and metal door frames, as well as several other metal products specifically for hospitals.

**1935** The Dowell factory was expanded, perhaps in part to facilitate the filling of a contract to supply windows for the spare parts and administrative buildings at the new headquarters of General Motors-Holden at Fishermans Bend.



**Introducing —**  
**the new "plus value" SERIES 220**

**DOWELL**  
**ALWINTITE**  
 SERIES 220  
**aluminium**  
**DOUBLE-HUNG**  
**& PANORAMIC**  
**WINDOWS**

MANUFACTURED UNDER LICENCE IN AUSTRALIA BY:  
**DOWELL INDUSTRIES (AUST.) PTY. LTD.**  
 2-12 ALBERT ST., PRESTON, VICTORIA — 44 5001 (6 lines)

Dowell full page newspaper print advertisement in the 1960s

**1940** Roy travelled to the USA, returning with a revolutionary design for pressed metal double hung windows.

**1945** After the war, Dowell rode on a wave of expansion. New products, new factories and new sales networks were progressively rolled out to meet the needs of the times.

**1948** At the invitation of the Tasmanian government, Dowell's first new factory was built in Moonah, Tasmania. In 1948 by the Premier Robert Cosgrove, the Dowell Industries (Tas) Pty Ltd factory employed sixty workers and produced steel window frames and stainless steel sinks.

**1949** Roy Dowell travels back to the USA to negotiate rights to the aluminium designs of the General Bronze Corporation. Headquartered in New York, General Bronze was one of the largest window manufacturers in the world. On his return Roy formed Dowell Aluminium Windows Pty Ltd. He then bought five acres of land in Albert Street, Preston for a new Melbourne factory.

Throughout this era, Dowell was involved in many major building projects across the country. Some of the most noteworthy include H.C. Sleigh House (the first office block to be erected in post-war Melbourne in 1953); the Queen Mary Nurses' Home at Royal Prince Alfred Hospital in Sydney (1956); Essington Lewis House in Melbourne (head office for BHP, 1959); and the Royal Children's Hospital in Melbourne (1962). Perhaps the most prestigious project of all was the AMP Building at Circular Quay, Sydney, completed in 1962. Dowell provided the curtain walling for this 120 metre high tower with its curved facade, which is still significant today as Sydney's first skyscraper.

**1959** In response to changes during the 1950s Dowell went through two major restructures. First, the original C. Dowell & Sons merged into three new registrations: Dowell Holdings Pty Ltd; Dowell Industries (Aust) Pty Ltd; and Dowell Steel Windows Pty Ltd. Responding to financial advice in 1959, the company was floated, becoming Dowell Australia Ltd. Roy Dowell was designated managing director and was chairman of the small board which included his son, John Dowell, as executive

director. The family company, Dowell Holdings, was the main shareholder and retained ownership of property.

**1960** Dowell offered a comprehensive range of architectural products which included: aluminium windows and doors; curtain walling for multi-storey buildings; pressed metal fire doors and frames; lift doors and frames; industrial steel windows; and Sanymetal partitioning for hospitals.

**1966** Roy Dowell agreed to a negotiated, joint take-over by Alcoa and Overseas Corporation, a deal ultimately worth around \$1.75 million.

John Dowell resigns six months later, ending over a hundred years of family leadership.

**1968** New factory in Queanbeyan for the fabrication of aluminium door and window frames, and flyscreens is built.

**1970 -1980** Dowell continued to thrive. The business was simplified in that pressed metal products were no longer produced. Profits hit all-time highs and design innovation continued in both the commercial and residential sides of the business.

**1988** Dowell celebrate their 130<sup>th</sup> birthday, with the news they had won an Australian Design Award for its XD-3 sliding aluminium window. Several years of research and field testing had gone into the product.

Alcoa divest itself of the window business and Dowell Australia Ltd passes into the hands of Boral, which had an existing interest in the sector.

**2012** Dowell is awarded the Housing Industries Association GreenSmart product of the year award for its ground breaking ThermoLine range. Dowell Double glazed and thermally broken, ThermoLine aluminium window and door frames offered unprecedented thermal performance and energy efficiency.

**2013** Dowell is acquired by Chabero Pty Ltd, a Queensland based, family-owned investment company and Dowell Windows Pty Ltd operates as a standalone company.

**Alfresco Living**  
When your **outdoor** is the **new indoor** all year round

One of our newest growing trends is residential modernism in outdoor living. With contemporary styling, outdoor furniture, fixtures, state of the art BBQ's, contemporary barbeques and even large screen TVs in the new outdoor area of their homes. It's the new "backyard".

Separated by Dowell Alfresco doors, the living room flows seamlessly through to the outdoor. Dowell Alfresco, Sliding and Bi-Fold doors not only create the perfect alfresco environment, but also provide the most advanced security, quality and protection that you have come to expect from one of Australia's leading window and door installers - Dowell.

Contact a Dowell representative or visit any of our showrooms today.

**DOWELL** | 1300 882 188  
www.dowell.com.au

Dowell double page print advertisement in Grand Design Magazine, July 2015 issue

**Today** Dowell continues to prosper. With nine manufacturing locations and offices around Australia, it employs over 600 people.

The first Charles Dowell, standing as a newcomer all those years ago in the gold rush streets of Melbourne, could never have imagined that products bearing his name would, for generations, be part of the daily lives of so many Australians, in their offices, factories and homes. His eagerness for the new, was to be the story of Dowell. New designs, new products, new materials, new manufacturing processes, even new ways of doing business – whatever the circumstances of the times, innovation has always been embraced at Dowell. And always, a certain kind of business and engineering intelligence has prevailed, one which holds that quality should underpin everything, at every level. From the nineteenth century to the twenty-first, these are the values which have kept Dowell vibrant and alive. As history plainly shows, the oldest window manufacturer in Australia has always been modern.





# Dowell FOR ALL YOUR WINDOWS AND DOORS

At Dowell, we've made selecting the right new windows and doors for your home, very simple. We offer a wide choice of architecturally inspired windows and doors in two distinctive product ranges, the **Dowell Residential** series and the **Dowell ThermaLine™** (energy efficient) series.

## Dowell **RESIDENTIAL SERIES**

The architecturally inspired design, high quality C1 & C2 - cyclone rated construction, high water resistance, low air infiltration and cost effectiveness of the Dowell Residential has made it one of Australia's most popular window and door series. Available in a large selection of colour and glazing options.

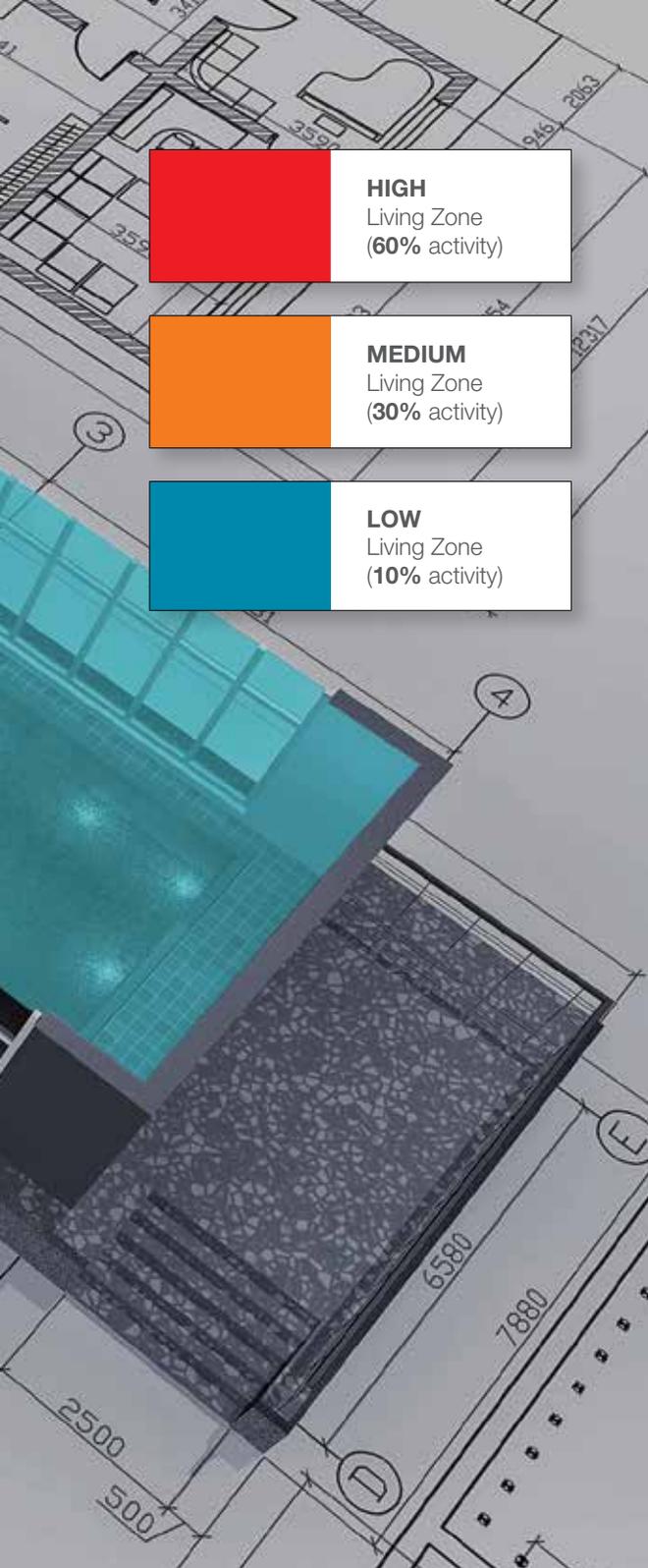
The Dowell Residential series is locally manufactured to ensure quality assurance, compliance with Australian standards and to meet tight delivery schedules.

### **RESIDENTIAL PLUS**

The elegant look of a deluxe frame is what makes the Dowell Residential Plus stand out from the rest. The deluxe (89 mm wide) frame adds elegance and volume, while creating a picture frame for that spectacular view.

# LIVING IN YOUR ZONE





**HIGH**  
Living Zone  
(60% activity)

**MEDIUM**  
Living Zone  
(30% activity)

**LOW**  
Living Zone  
(10% activity)



*In the living room; consideration should be given to using double glazing or thermally broken windows or doors to trap the heat.*



*In the bathroom; consideration should be given to using single glazed sash windows.*

## Dowell LIVING IN YOUR ZONE

As people, we are very susceptible to environmental climate change and when those environmental changes are too extreme, our body functionality starts to slow down or comes to a complete stop.

Protecting oneself from the ever-changing environment, we design and build shelters such as office buildings, homes, cars and airplanes in order to create and control the micro-environmental zone that we occupy. This optimal living environment or 'Living Zone' that we create, is a combination of perfect temperature, plentiful ambient light, noise control and air movement. As a result our living zone should be a very comfortable and healthy living environment.

As environmental awareness and energy costs increase, like the automobile industry and the big 'gas guzzling' cars of the past have made way for better and more efficient cars of today, better home design and building product innovation has also improved, with some new homes achieving a 6 star energy rating or better and using very little energy to maintain an ideal living environment.

At any point in time we as humans try to create perfect transit micro-environments. For example, in winter before we rise we may start our air-conditioner to warm our homes to a comfortable temperature. We then switch off the home air-conditioner as we transit to our air-conditioned car as we leave

# LIVING IN YOUR ZONE

	<b>HIGH</b> Living Zone (60% activity)
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	<b>MEDIUM</b> Living Zone (30% activity)
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	<b>LOW</b> Living Zone (10% activity)
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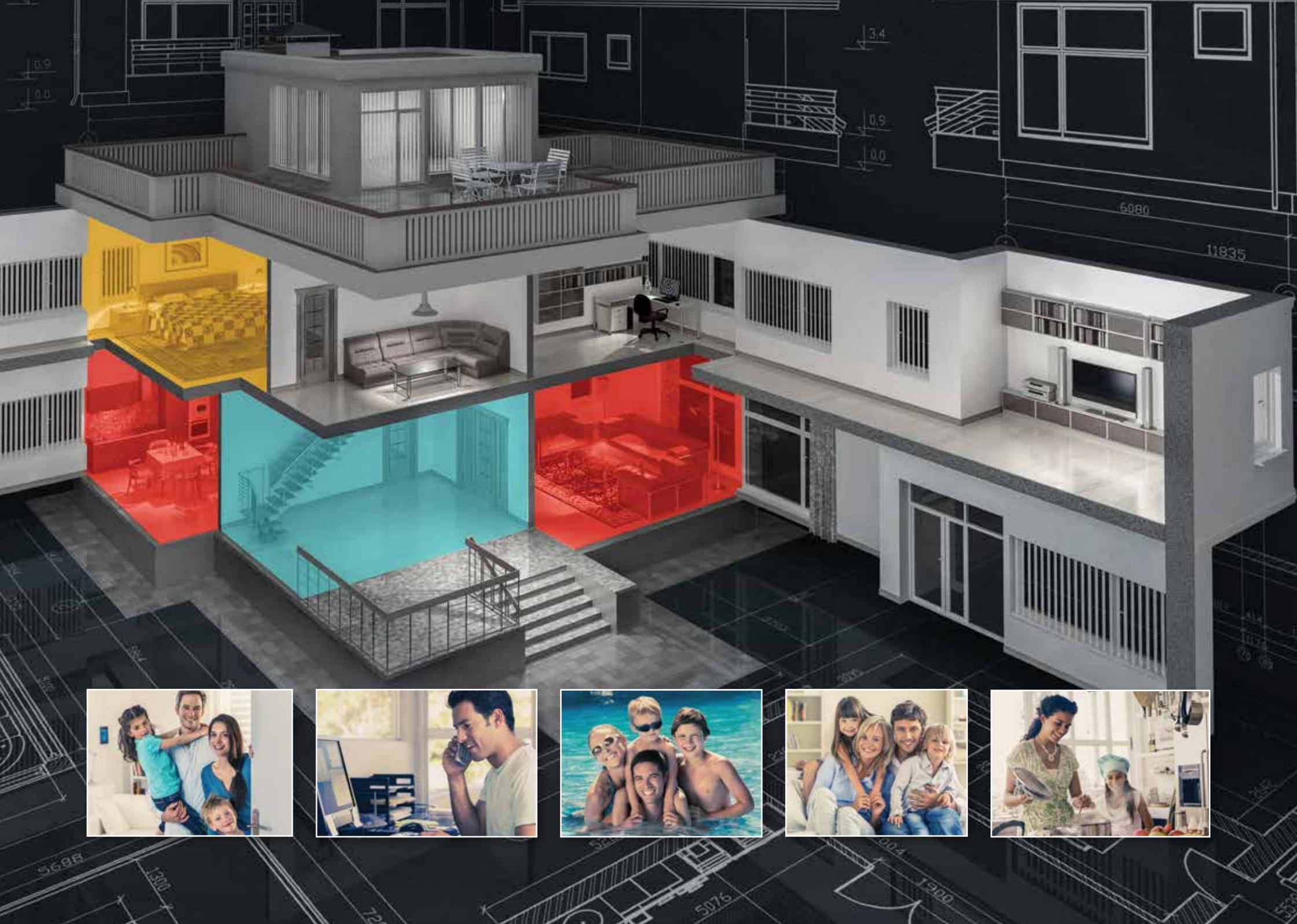
for work, arriving to our air-conditioned office and later back to our air-conditioned car, and our air-conditioned home. Continually transiting from one living zone to another.

Think living in the zone; essentially the inside of your home is divided in zones. For example, the entertaining, dining and living zone, the sleeping zone, the wet (bathrooms, laundry) zones and the garage zone. When designing and building a home consideration should be given to the amount of time spent in each zone, and the most efficient way of heating or cooling each zone, is essential for comfort and future cost effectiveness.

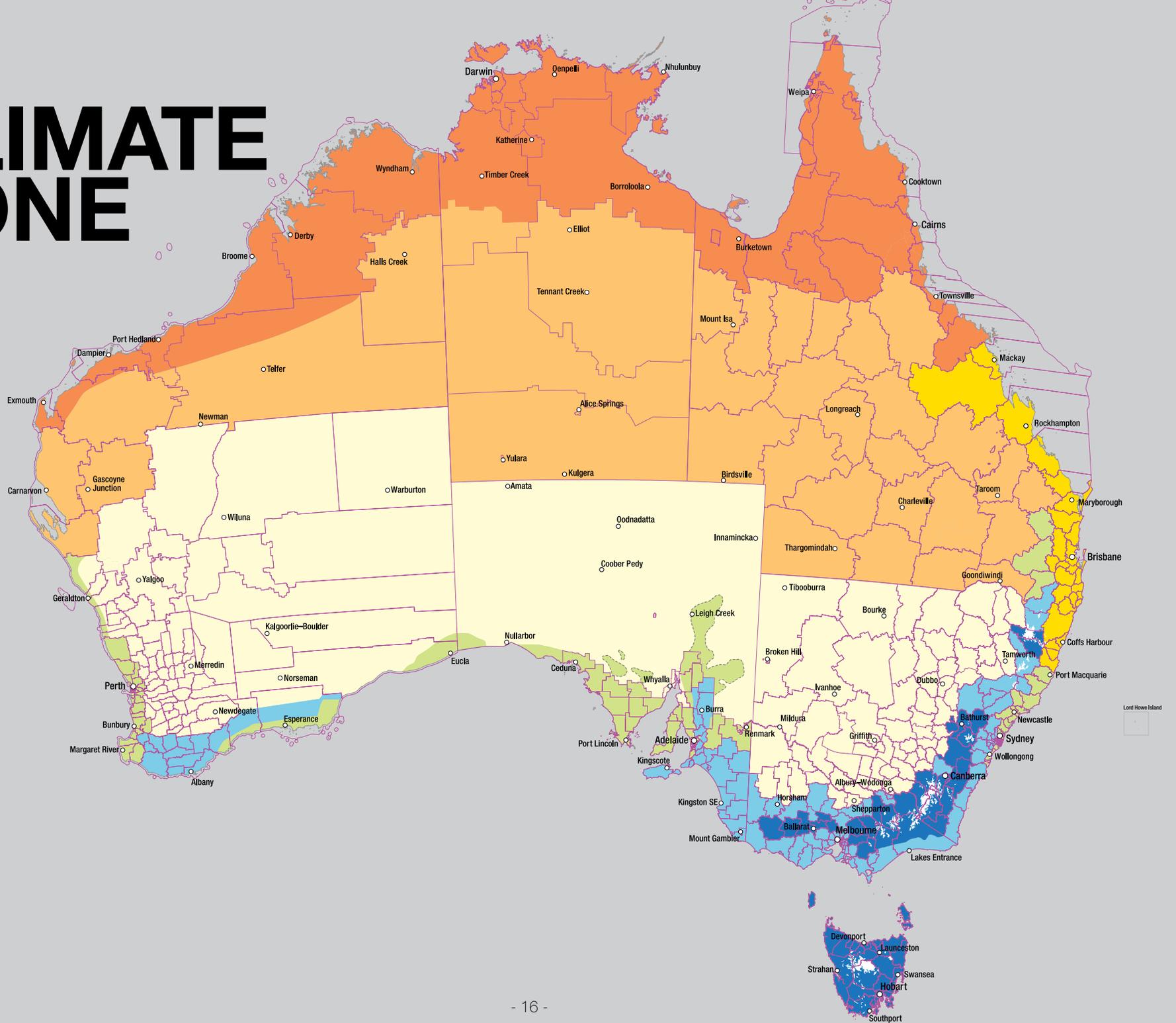
Now, with this thinking in mind, building with high-energy efficient or double glazed windows and doors in the living zone, acoustic performing windows in the bedrooms and single glazed windows in the wet zone and garage, not only results in smart cost effective construction, but is fundamental to cost savings in future energy use and creating ideal living zones.

Discuss your energy needs and design options with your architect, builder or a Dowell representative for the best windows and door solutions. Take into consideration your site location, sun path and examine all your window frame and glass options. Smart future proof building, is the key to comfortable and healthy living in the zone.





# CLIMATE ZONE MAPS



Energy efficiency Deemed-to-Satisfy (DtS) provisions vary from location to location and for simplicity, locations with approximately similar climates have been combined into eight climate zones.

The following provides a brief description of each National Construction Code (NCC) climate zone:

	Zone	Description
	1	High humidity summer, warm winter
	2	Warm humid summer, mild winter
	3	Hot dry summer, warm winter
	4	Hot dry summer, cool winter
	5	Warm temperate
	6	Mild temperate
	7	Cool temperate
	8	Alpine

#### Hot climate zones 1, 2 & 3

Areas included in these climate zones are Northern Australia, Brisbane, Darwin

Zone	U <sub>w</sub> -value	SHGC	Glazing
1 2 3	*Low 4.5 to 6.5	*Low 0.3 to 0.60	Tinted, tint IGU, high performance tint, tinted low-e (low gain), tint IGU low-e (low gain)

*\* Dowell suggested thermal performance ranges.*

#### Mixed climate zones 4 & 5

Areas included in these climate zones are Sydney, Perth and Adelaide

Zone	U <sub>w</sub> -value	SHGC	Glazing
4 5	*Low 3.5 to 6.5	*Mid Range 0.5 to 0.75	Tint, tint + clear low-e, tint + clear IGU, tint + clear IGU low-e

*\* Dowell suggested thermal performance ranges.*

#### Cold climate zones 6, 7 & 8

Areas included in these climate zones cover most of Victoria, Australian Capital Territory, Tasmania, and some Southern parts of New South Wales and Western Australia

Zone	U <sub>w</sub> -value	SHGC	Glazing
6 7 8	*Low 2 to 4.8	*High 0.6 to 0.75	Clear low-e, clear IGU, clear IGU low-e

*\* Dowell suggested thermal performance ranges.*

## Dowell CLIMATE ZONE MAPS

Australia has a varied climate, resulting in different locations around the country having different heating and cooling requirements.

Selecting the right glazing for your climate zone is essential to maintaining comfortable living within the home and reducing your annual heating or cooling cost.

## Dowell ENERGY EFFICIENCY

Why is it critical to consider the energy performance factors for windows or doors being installed in your home? The inclusion of suitable energy efficient windows and doors in the design of your home may increase your comfort level in both summer and winter.

In an average Australian home, it has been estimated **79-86%** of heat gain and **46-61%** of heat loss can be attributed to poor performing windows (source: SWA Project 2012\*).

Little wonder that energy efficiency requirements now form part of the design requirements included in the 'Building Code of Australia'. For the purpose of determining the varying housing energy requirements the Building Code of Australia has divided Australia up into 8 climate zones.

\* The SWA project has run over 4000 simulations in all 8 BCA climate zones in 3 house types with a wide range of windows to show the impact of high performance windows on the energy efficiency or star rating of the home or star rating of the home



**SMART  
GLASS**

## Viridian<sup>®</sup> SMARTGLASS™

Viridian SmartGlass™ is a range of single glazed toughened Low E products that incorporate an advanced energy efficient insulation coating. A choice of solar control with low reflectivity ideally suited to the demands of Australian residential home applications.

The hard coat Low-E that is used in SmartGlass™ is applied to the glass while it is still semi-molten as it comes out of the glass making furnace. It is a metallic coating that fuses to the glass permanently. Unlike soft coat Low-E, that the coating is applied (like most other coatings), after the glass has cooled, is very vulnerable to damage and has to be made up with the coating protected inside a double glazed window.

SmartGlass™ hard coat is a very durable coating and can be used like ordinary glass with the coating exposed as a single sheet of glass.

SmartGlass™ provides excellent performance and versatility for single glazed windows. SmartGlass™ has been selected for Australian climate conditions to assist in achieving energy star ratings for home designs, whilst still capturing natural light and views.

Viridian SmartGlass™ is available in three colours, each providing increasing levels of solar protection (SP).

You should talk with your builder or a Dowell representative to determine the SmartGlass™ most suited to your home's location, climate and window orientation.



†Based on U-Value comparison of 4mm clear float glass to 6mm SmartGlass™

Glass used in production units varies from state to state and is sourced from a variety of suppliers including Viridian to equivalent or higher specifications.



SmartGlass™ SP10 Clear  
**POLARIS**

SP10 is a clear glass for cooler climates or shaded windows where passive solar heating is desired. It provides improved insulation performance in summer and winter, while still allowing the benefit of using the winter sun for passive solar heating.

Excellent daylight for bright, healthy living spaces. Lowest solar protection of the range.

<b>SP10 CLEAR POLARIS</b>	
APPLICATION	For cooler climates and shaded windows where passive solar heating is desirable
SIZE	4mm and 6mm thickness



SmartGlass™ SP30 Neutral  
**PANORAMIC**

SP30 has a neutral light grey colour and provides improved solar protection. The neutral light grey colour means that views remain naturally coloured while reducing heat entering the home.

A good “all-round” choice for mixed temperate climates.

<b>SP30 NEUTRAL PANORAMIC</b>	
APPLICATION	For warmer climates where a balance of solar protection and insulation is beneficial
SIZE	4mm and 6mm thickness



SmartGlass™ SP35 Grey  
**DUSK**

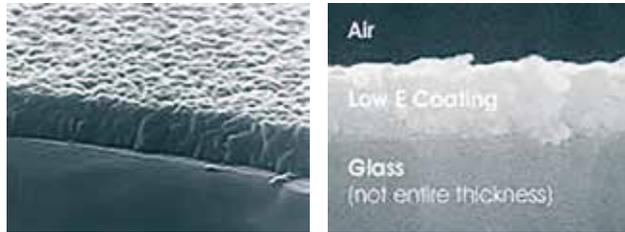
SP35 offers medium levels of solar protection with a mid-grey colour. The grey colour reduces glare and radiant heat entering a home, whilst keeping views coloured naturally.

Dusk’s mid-grey colour combined with the SmartGlass™ coating is an excellent choice, in particular for Australia’s warmer climates.

<b>SP35 GREY DUSK</b>	
APPLICATION	Medium solar protection for warmer regions with a stylish grey tone
SIZE	4mm and 6mm thickness

## A REVOLUTION IN WINDOW TECHNOLOGY

SmartGlass™ is a revolution in window technology. It looks like ordinary glass but has a high tech (Low E) coating fused to the glass which actively insulates a home.



Viridian SmartGlass™  
Cross section  
**x20,000 magnification**

Viridian SmartGlass™  
Cross section  
**x50,000 magnification**

SmartGlass™ technology is effective in both summer and winter by re-radiating and reflecting heat.

In summer, the sun's energy is absorbed by glass. The glass gets warmer, re-radiating heat. The Low E coating on SmartGlass™ blocks most of this re-radiated heat from entering your home.

In winter, the Low E coating reflects your home's warmth back into the room. SmartGlass™ does this whilst still enabling natural light to pass through the glass.

Viridian is the only glass manufacturer in Australia to feature the world-leading hard coat technology used in SmartGlass™. This Low-E coating is added to the glass at extremely high temperatures, producing a tough, durable layer of transparent insulation.

## FEATURES & BENEFITS

- Low E insulation with a choice of solar control performance for residential applications
- Provides a straight forward energy efficient glass alternative to ordinary glass
- Durable pyrolytic Low E ideal for single glazing
- Low reflectivity
- Can be toughened for Grade A Safety glass
- Suitable for most standard single glazed window frames

Dowell has a range of glass options available, please consult your local sales office for further details.

*Reference source; Viridian SmartGlass™ [online] Available: [www.smartglass.com.au/](http://www.smartglass.com.au/) (15 June 2015).*

PERFORMANCE DATA									
PRODUCT	Visible trans. %	Visible reflect. % (external)	Visible reflect. % (internal)	Solar trans. %	Solar reflect. %	UV trans. %	U Value	SHGC	Shading coeff.
<b>4mm SmartGlass™</b>									
SP10 Clear - Polaris	83	11	11	68	11	54	3.7	0.72	0.83
SP30 Neutral - Panoramic	61	8	10	46	8	44	3.7	0.53	0.62
SP35 Grey - Dusk	50	7	9	45	7	21	3.7	0.53	0.62
<b>6 mm SmartGlass™</b>									
SP10 Clear - Polaris	81	11	12	65	10	48	3.6	0.69	0.80
SP30 Neutral - Panoramic	63	9	10	45	8	41	3.7	0.53	0.62
SP35 Grey - Dusk	40	6	9	37	7	16	3.7	0.47	0.55

Glass used in production units varies from state to state and is sourced from a variety of suppliers including Viridian to equivalent or higher specifications.

# **NOISE CONTROL**



# Dowell NOISE CONTROL

Unwanted noise whether it comes from traffic, aircraft, trains or just noisy neighbours is an annoyance that affects our daily lives. In extreme situations unwanted noise becomes a critical issue for consideration in maintaining good health and well-being. Windows and glass play an important role in the effort to reduce unwanted noise in our home or work environment. Dowell has an extensive range of products available, designed and acoustically tested through approved testing laboratories, aimed at controlling unwanted noise passing through the windows and doors of a building.

Table 3: **Typical Sounds and Noise Levels**

Common Sound Levels	dB	Recommended Interior Sound Levels	dB
Threshold of hearing	0	Bedrooms	30-40
Conversational speech	65	Class rooms	35-40
Average traffic (kerbside)	70	Living rooms	40-45
Busy traffic	75	Private office	40-45
Traffic intersection	80	Open office	45-50
Live band (20 metres)	105		

Accurately determining the noise level reduction requirements for a particular situation requires the involvement of an acoustic engineer. The acoustic engineer will assess the levels and types of noise affecting the building and specify the acoustic performance requirements for all elements of the building. In the case of windows the acoustic performance requirements are normally specified as STC (sound transmission class) or (weighted sound reduction index)  $R_w$  values. The STC and  $R_w$  values for windows are usually within a 1dB variation.

The objective of noise control in a building is to ensure the barrier between inside and out, roof, walls or glazing, etc. are able to reduce the noise penetrating the inside of a building, to an acceptable level. As a general rule the heavier and denser the barrier the better the noise reduction.

A reduction of 10dB in noise levels is a halving of noise levels, further, the CSIRO has determined that the human ear requires a change of 3dB in noise levels to detect a difference (source: CSIRO Report Feb 2000). Windows and glazing being of light construction are not the best sound barrier, however, by utilising various glazing options and combinations, significant sound reduction can be achieved. Thicker heavier glass performs better than thin glass. Laminated glass performs slightly better than the same thickness monolithic glass.



Vindian Comfort-Hush™ Glass

The following table gives an **indicative noise reduction rating** for windows glazed in a number of glazing options.

Table 4: **Noise Reduction Rating for Glazed Windows**

Window Glazing Option	STC rating
3mm float glass	25
4mm float glass	26
6mm float glass	28
6.38mm laminated glass	31
10.38mm laminated glass	33

**Note:** Refer to Dowell acoustic test reports for more details.

# BUSH FIRE RATING





## Dowell **BUSH FIRE RATING**

Bush fire is a common natural occurrence in Australia. However, the increase in urban population and the general demand for housing has seen a rise in residential development in bush fire prone areas and thereby placing lives and property at risk.

As a response to the devastating losses of life and property in past bush fires, legislative changes were made to ensure bush fire matters are now considered in all building developments.

In brief, all developments on land that is designated as bush fire prone have a legal obligation to consider the bush fire risk and meet the requirements of 'Planning for Bush Fire Protection 2006 and AS3959 – 2009'.

In response to the latest Australian Standard for bush fire risk requirements - Dowell has developed a range of products to meet the requirements of the 'Bushfire Attack Levels' (BAL's) as nominated in AS3959 - 2009 ranging from BAL - LOW through to BAL - 40.



## Construction in Bushfire Prone Areas (AS 3959 - 2009)

Detailed below are the various Dowell Window and Door inclusions to meet that specific BAL Level requirement.

Please note these inclusions are Dowell recommendations only and where any doubt arises in respect of compliance with the Bushfire Code AS 3959-2009, you should consult your local building assessor or council for clarification.

Table 7: **Dowell Requirements for Aluminium Windows and Doors**

Bushfire Attack Level	BAL - LOW	BAL - 12.5	BAL - 19	BAL - 29	BAL - 40	BAL - FZ	
Option A	<b>External Screen</b>						
	External Screen	No special requirements at this level.	All windows and doors completely protected externally by screens with a mesh with a maximum aperture of 2mm, made of corrosion resistant steel, bronze or aluminium.	All windows and doors completely protected externally by screens with a mesh with a maximum aperture of 2mm, made of corrosion resistant steel, bronze or aluminium.	Screening externally to Windows is not a single option solution at this BAL however it is for Doors.	Screening externally is not a single option solution at this BAL.	Screening externally is not a single option solution at this BAL.
	OR	OR	OR	OR	OR	OR	
Option B	<b>Aluminium Windows</b>						
	Framing	No special requirements at this level.	Aluminium	Aluminium	Aluminium	Aluminium	Windows not available at this BAL testing required. Use roller shutters.
	Glazing	As above	Windows with sills less than 400mm from the ground, deck/verandah, roof or awning structure below shall be glazed in 4mm minimum safety glass.	All windows glazed in 5mm minimum toughened glass.	All windows glazed in 5mm minimum toughened glass.	All windows glazed in 6mm minimum toughened glass.	As above
	Hardware	As above	Externally fitted hardware that supports the sash in opening and closing shall be metal.	Externally fitted hardware that supports the sash in opening and closing shall be metal.	Externally fitted hardware that supports the sash in opening and closing shall be metal.	All hardware to be metal.	As above
	Seals	As above	Standard	Standard	Standard	Seals (including glazing rubbers) to stiles, head and sills or thresholds shall be manufactured from materials having a flammability index no greater than 5.	As above
Screening	As above	Sashes shall be screened internally or externally with mesh with a maximum aperture of 2mm, made of corrosion resistant steel, bronze or aluminium.	Sashes shall be screened internally or externally with mesh with a maximum aperture of 2mm, made of corrosion resistant steel, bronze or aluminium.	Sashes shall be screened internally or externally with mesh with a maximum aperture of 2mm, made of corrosion resistant steel, bronze or aluminium. AND Where glazing is less than 400mm from ground, deck/verandah, roof or awning structure then these glass panels will require screening with a mesh with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium. Screen to be external.	Both open-able (sashes) and fixed panels of the window shall be screened with a mesh with a maximum aperture of 2mm, made of corrosion-resistant steel or bronze.  (Not Aluminium)  Screens to be external.	As above	

# Construction in Bushfire Prone Areas

(AS 3959 - 2009) - continued

Bushfire Attack Level	BAL - LOW	BAL - 12.5	BAL - 19	BAL - 29	BAL - 40	BAL - FZ
<b>Aluminium Doors</b>						
Framing	No special requirements at this level	Aluminium	Aluminium	Aluminium	Aluminium	Doors not available at this BAL testing required. Use roller shutters.
Glazing	As above	4mm safety glass as a minimum	5mm toughened glass as a minimum	6mm toughened glass as a minimum to Bi-Fold and French doors. 6mm as a minimum to sliding doors.	6mm toughened glass as a minimum	As above
Hardware	As above	Standard	Standard	Externally fitted hardware that supports the panel in its functions of opening and closing shall be metal.	All hardware to be metal.	As above
Seals	As above	Standard	Standard	Standard	Seals with a flammability index of less than 5 as for Windows.	As above
Screening	As above	There is no bushfire requirement to screen to open-able doors. However, if screened, the screens shall be a mesh made of corrosion-resistant steel, bronze or aluminium.	There is no bushfire requirement to screen to open-able doors. However, if screened, the screens shall be a mesh made of corrosion-resistant steel, bronze or aluminium.	Where glazing is less than 400mm from ground, deck/verandah, roof or awning structure then that portion of the glass panels will require screening with a mesh with a maximum aperture of 2mm, made of corrosion-resistant steel, bronze or aluminium. Screen to be external. <b>Note:</b> For sliding doors, no screening or solid panel to 400mm required.	For Hinged and Sliding Doors both the fixed and open-able portions of doors are to be screened by a mesh with a maximum aperture of 2mm made of corrosion-resistant steel or bronze.  Screen to be external.	As above

Option B (continued)

# SECURITY SCREENS





*Images courtesy of Secure View*

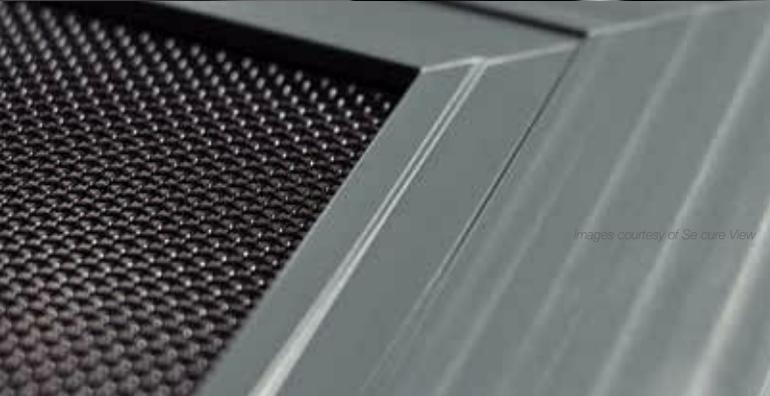
## Dowell SECURITY, BARRIER AND FLY SCREENS

Custom crafted to suit your needs, our extensive range of quality security screens and doors will provide superior home protection from small insects to unwanted intruders. Sliding doors, Hinged doors, Sliding windows, Awning windows, whatever your requirement, we have the right screen to meet your needs.

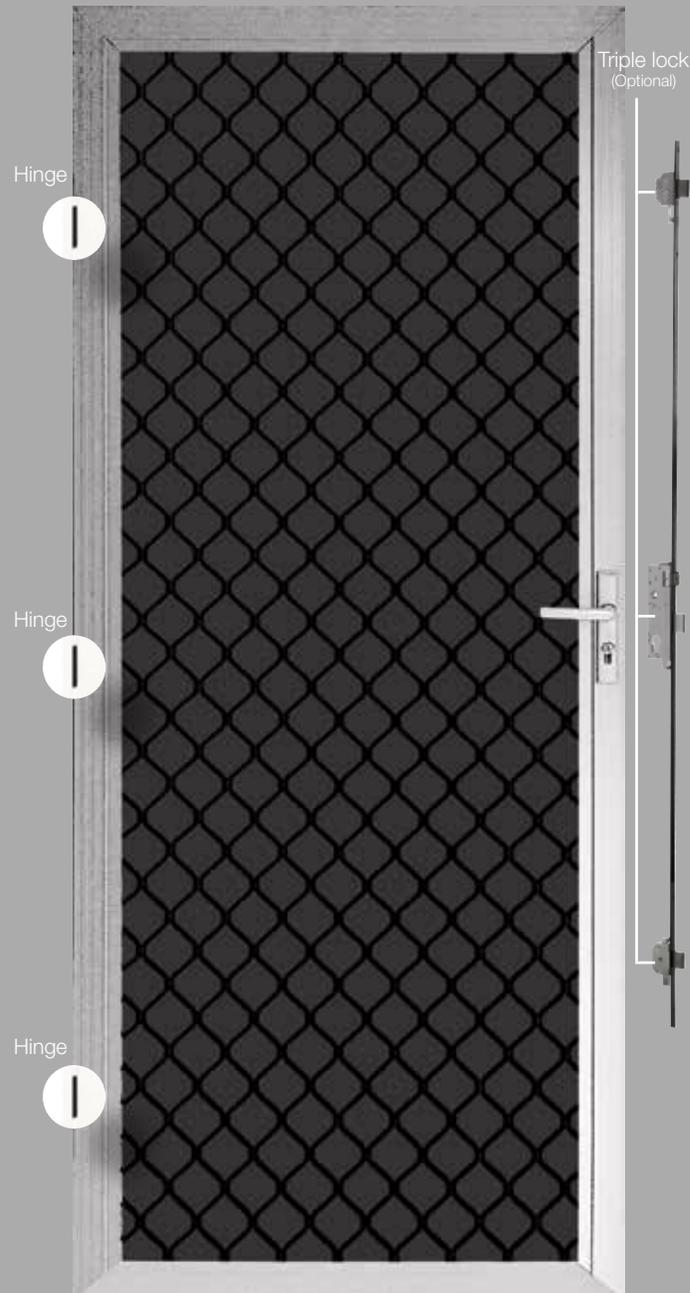
### Australian Standards Tests

	Impact	Knife	Jemmy	Pull
Hinged Door	✓	✓	✓	✓
Sliding Door	✓	✓	✓	✓

Above: Security door test results



*Images courtesy of Secure View*



## Advanced Technology

Tough lightweight materials and resilient compounds are used to give security screens exceptional strength. The use of high performance 3M™ VHB™ adhesive (as used by SecureView) deliver outstanding durability and strength.

It also has superior energy absorbing properties which helps to eliminate stress points, this gives it a huge advantage over using traditional fixings such as screws and rivets. The technology is ideal for the manufacture of security screens as it eliminates the risk of galvanic corrosion and provides strength that other fixing methods can't provide.

## Barrier Screen

Our crimped doors and screens are manufactured using an extruded aluminium frame that is 33% deeper than riveted frames.

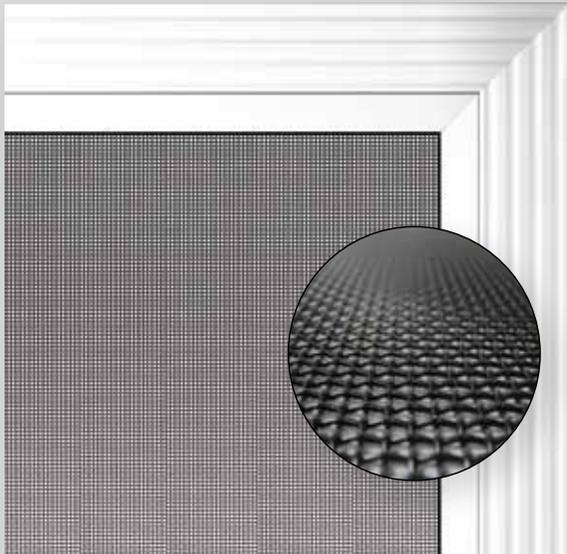
## Options Include:

- Automatic door closer (hinged doors only)
- Triple lock
- Aluminium mesh

Please note: Barrier Screens provide an effective visual deterrent against intruders. Barrier screens are not designed to withstand a prolonged attack and are therefore not classified as a security product.



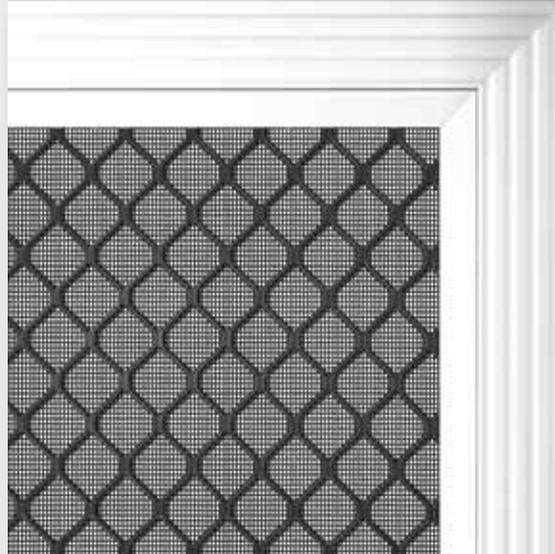
## Security Screen



### Features - Security Screen

- Superior impact resistance
- Marine grade woven stainless steel mesh
- 3 point lock
- Knife, shear and impact tested
- Air circulation
- Privacy

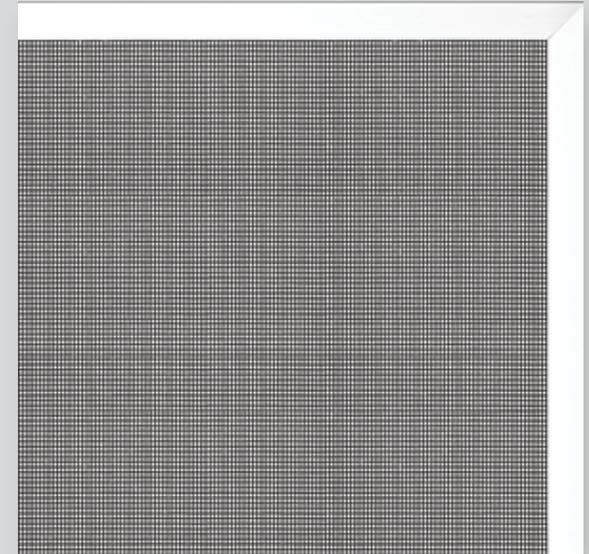
## Barrier Screen



### Features - Barrier Screen

- Effective visual deterrent
- Black diamond grille as standard \*  
(colour matched available)
- Single point lock (3 point lock optional)
- Removable (for cleaning)

## Fly Screen



### Features - Fly Screen

- Insect barrier
- Optional mesh (fiberglass as standard) aluminium
- Light weight
- Air circulation
- Removable (for cleaning)

\* Colours, sizes and options may vary from state to state. Please contact your local Dowell representative for more information.





# Dowell Aluminium **WINDOW RANGE**

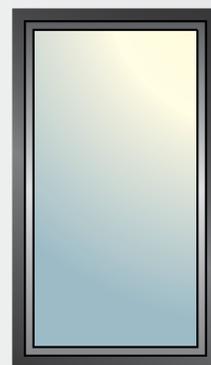
Product availability, size and configuration varies  
from state to state, please consult your local Dowell  
representative for more information.

Dowell  
**FIXED**  
WINDOW





Fixed window



Fixed window  
with deluxe frame

RESIDENTIAL

RESIDENTIAL PLUS

## Dowell FIXED WINDOWS

A great option for maximising your view and ambient light, while keeping a comfortable internal environment through the correct choice in glass selection.

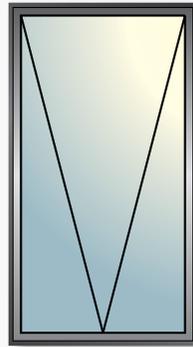
The new Dowell residential plus fixed lite has been designed to significantly increase Dowell's ability to meet customer's need in respect of fixed-lite glazing capabilities and adaptability of our product range, where fixed panel sizes, span limitations and water penetration performance requirements are significantly increased over our standard sliding and awning window suites.

### FEATURES

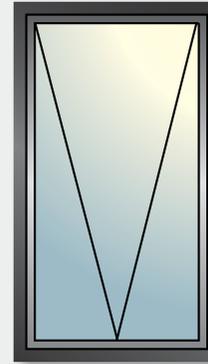
- Durable low maintenance, easy-clean aluminium profiles.
- Excellent sealing performance of water, air and noise over standard sliding, awning and double hung windows.
- Easy coupling to the Dowell range of windows and doors.
- Greater glazing options.
- Significant improvement of thermal performance.
- Can be coupled to our sliding doors as hi-light or side-lite

Dowell  
**AWNING**  
WINDOW





Awning window



Awning window  
with deluxe frame

RESIDENTIAL

|  RESIDENTIAL PLUS

## Dowell AWNING WINDOWS

The attractive appearance of the Dowell Awning Window is only the beginning of its quality, functionality and value. Every aspect of a Dowell Awning Window is manufactured to our exacting performance and style standards, from its smooth operation to elegantly-styled sashes.

### FEATURES

- Durable low-maintenance, easy-clean aluminium profiles.
- Integrated tubular mullions and transoms with concealed fixings for superior strength.

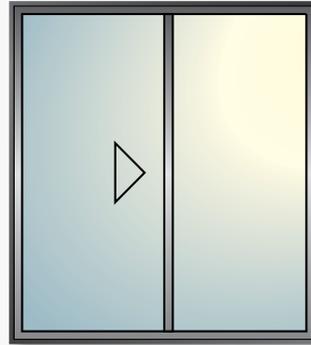
- Full width winder support for improved aesthetics.
- Solid extruded aluminium sash corner stakes.
- Full perimeter sash seals for positive sealing.
- Moulded end gaskets at frame joints.
- Easy coupling to the Dowell range of windows and doors.
- Fully integrated flyscreen support

### HARDWARE

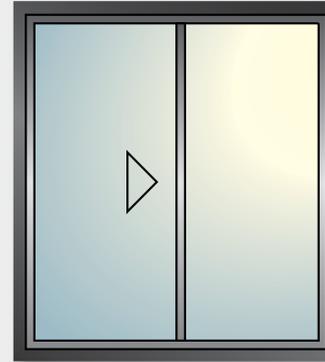
- Options available, please consult your local sales representative for more information.

Dowell  
**SLIDING**  
WINDOW





Sliding window



Sliding window  
with deluxe frame

RESIDENTIAL

RESIDENTIAL PLUS

## Dowell SLIDING WINDOWS

Dowell Aluminium Sliding Windows are a popular choice among builders and home owners and have been for many years, they provide you excellent ventilation and an elegant appearance, offering the perfect combination of style, function and value for money.

### FEATURES

- Durable low-maintenance, easy-clean aluminium profiles.
- Sill drainage system designed for optimum performance.
- Slimline profiles for wide uninterrupted views.
- Full perimeter reveal flashing fin for ease of brick in.

- Anti-lift sash for added security.
- Full perimeter sash weather seals for optimum performance.
- Moulded end gaskets at all frame joints.
- Height adjustable mullion latch.
- Easy coupling to the Dowell range of windows and doors.

### HARDWARE

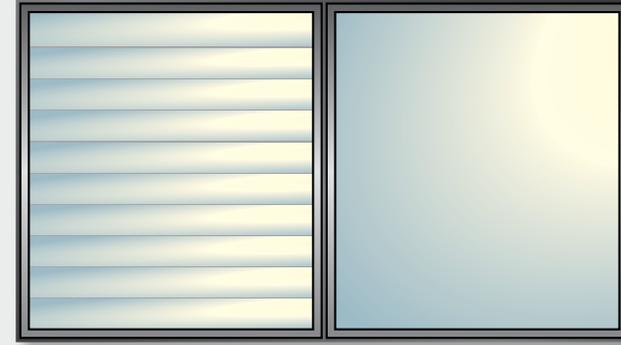
- Options available, please consult your local sales representative for more information.

Dowell  
**LOUVRE**  
WINDOW





Louvre window



Louvre Fixed window



## Dowell LOUVRE WINDOWS

The Dowell Louvre system introduces a new dimension in multi-framing application, allowing designers and fabricators to install adjustable glass louvres that will perform alongside conventional window and door systems.

With a reveal fin frame system the Dowell Louvre can be installed into the building opening in a conventional manner to match other Dowell window installation details. Custom styles and designs can be manufactured on request, please contact your nearest sales office for options available.

### FEATURES

- Available in 102 mm or 152 mm blade sizes (Standard blade size is 152 mm).

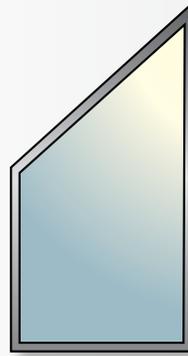
- Can be coupled to most Dowell products easily.
- Suitable for residential and multi storey applications.
- Reveal frame for installation into domestic buildings.
- Insect and security screens are an integral part of the design.
- Combination of glass, aluminium and or timber blades can be mixed to achieve the required appearance or finish suitable for the application.

### SECURITY OPTIONS

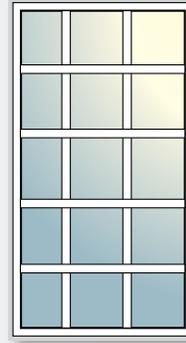
- Keyed locking is available as an option.
- Security bars are available in a 131 mm (Breezway) surround frame as an option.

Dowell  
**CUSTOM**  
WINDOW

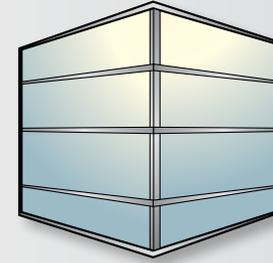




Rake window



Colonial bar  
grid window



Corner window

RESIDENTIAL PLUS

## Dowell CUSTOM WINDOWS

We manufacture custom windows to meet the needs of today's modern architectural design. Custom windows are versatile and offer many options of introduction to light within a room. Bay and Corner windows add a distinctive element to a traditional home, creating timeless elegance.

### FEATURES

- Versatile and aesthetically pleasing design.
- Durable low maintenance, easy-clean aluminium profiles.
- Custom size available.
- Low E glazing option for increased energy efficiency.\*
- Suitable for residential and multi storey applications.
- Corner windows are available in 90° configurations.
- Increase light into a room.
- A range of product couplers to suit most wind loading configurations.
- Insect screens are an integral part of the design.

# Dowell Aluminium **DOOR RANGE**

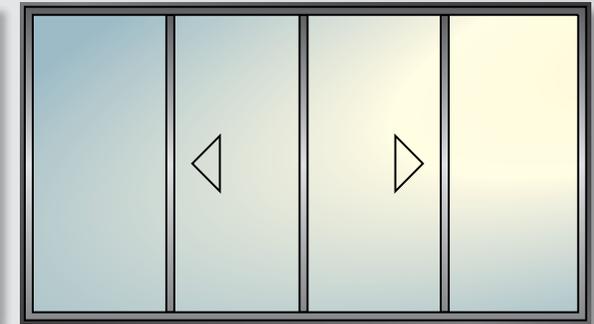
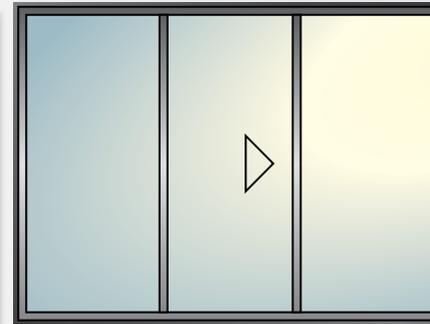
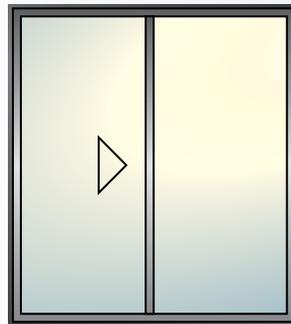
Product availability, size and configuration varies from state to state, please consult your local Dowell representative for more information.





Dowell  
**SLIDING**  
DOOR





Two or Three panel sliding door

Four panel sliding door

RESIDENTIAL

## Dowell SLIDING DOOR

Dowell sliding doors are very popular, and one of the most commonly installed doors in most residential homes. Dowell sliding doors use high quality, non corrosive ball bearing system for continuous smooth horizontal gliding motion, available in many different sizes and configurations. They're ideal for providing substantial light, protection from the elements and with our fly and safety grille options - security and opening up to the outdoors.

### FEATURES

- Versatile and aesthetically pleasing design.
- Low E glazing optional for increased energy efficiency.\*
- Suitable for residential and multi-story applications.
- Insect and security screens are an integral part of the design.
- Durable low maintenance and easy-to clean.

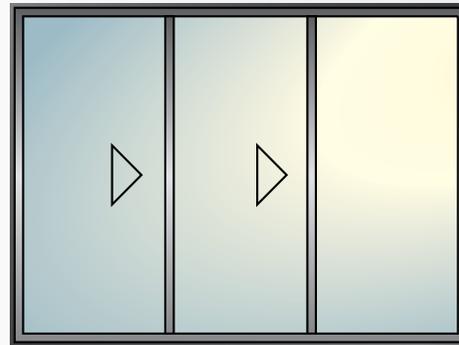
- Reveal fixing fins on jambs and head for weather protection.
- Sill valve draining system for superior performance.
- Optional sump sill for demanding exposure conditions.
- Fully adjustable, non corrosive ball bearing roller system for smooth operation.
- Available in 2 or 3 panel sliding and 4 panel bi-parting sliding combinations.
- Reversal of sliding configuration on all 2 and 3 panel sliding combinations possible after installation.
- High quality corner gaskets at frame joints for superior sealing.
- Optional fly doors and safety grilles available.

### HARDWARE

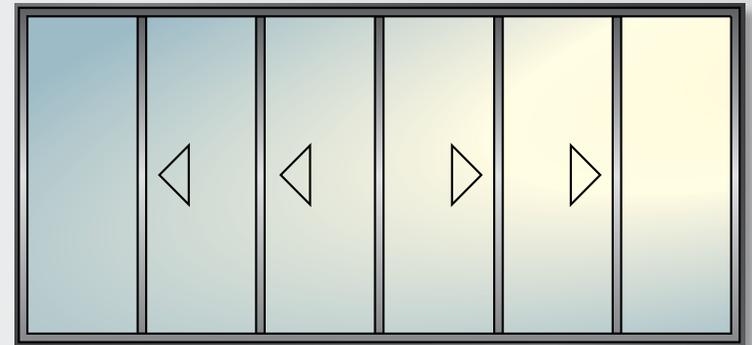
- Options available, please consult your local sales representative for more information.

Dowell  
**ALFRESCO  
SLIDING**  
DOOR





Alfresco sliding door



Six panel alfresco sliding door

RESIDENTIAL

## Dowell ALFRESCO SLIDING DOOR

One of our fastest growing trends in residential markets is outdoor living. With homeowners adding outdoor kitchens, fireplaces, state of the art BBQ's, contemporary furniture and even large screen TV's to the rear outdoor area of their homes - this is the new "hang out".

Separated by Dowell Alfresco doors, the living room flows invitingly through to the outdoor. Dowell Alfresco, Sliding and Bi-Fold doors not only create the perfect alfresco environment, but also provide the award winning security, quality and protection that you have come to expect from one of Australia's leading window and door suppliers - Dowell.

### FEATURES

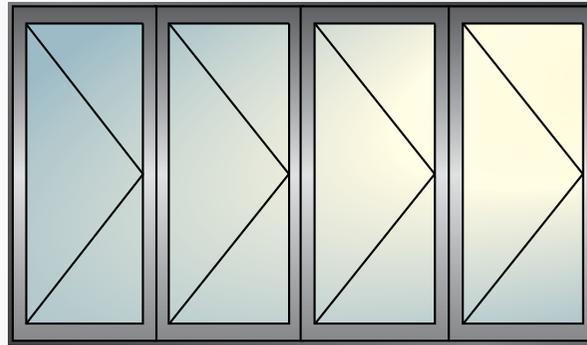
- Versatile and aesthetically pleasing design.
- Durable low maintenance, easy-clean aluminium profiles.
- Custom size and colour available.
- Low E glazing option for increased energy efficiency.
- Suitable for residential and multi-storey applications.
- Optional insect and security screens are an integral part of the design.
- Highly functional alfresco stacking doors are resilient and durable in most types of weather.
- They require minimal maintenance.
- Dowell's modern technology is evident in the design of the alfresco stacking door.
- Product available in double glazed configurations in some states.\*

### HARDWARE

- Options available, please consult your local sales representative for more information.

Dowell  
**BI-FOLD**  
DOOR





Bi-fold door



## Dowell BI-FOLD DOOR

The Dowell Bi-Fold door system provides an ideal opportunity to maximise living floor space and combine the benefits of indoor/outdoor entertaining.

### FEATURES

- Versatile and aesthetically pleasing design.
- Durable low maintenance, easy-clean aluminium profiles.
- Custom size and colours available.
- Low E glazing option for increased energy efficiency.
- Suitable for residential and multi storey applications.
- Insect and security screens are an integral part of the design.
- Robust perimeter frame.

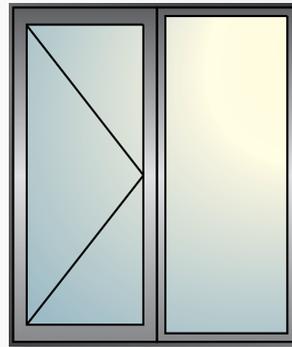
- Hardware provides durability with ease of operation.
- High performance seals for exposed locations.
- Jamb Pivots designed for easy adjustment of doors without having to remove the door panels.
- A wide variety of panel configurations to suit most floor plan layouts.
- Options available subject to weather exposure limitations.
- Optional powder coated stainless steel.
- Single active leaf option is available in certain configurations.

### HARDWARE

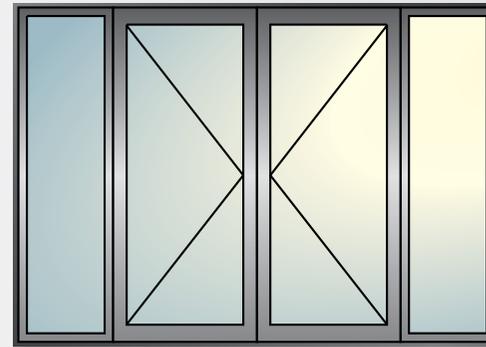
- Options available, please consult your local sales representative for more information.

Dowell  
**HINGED**  
DOOR

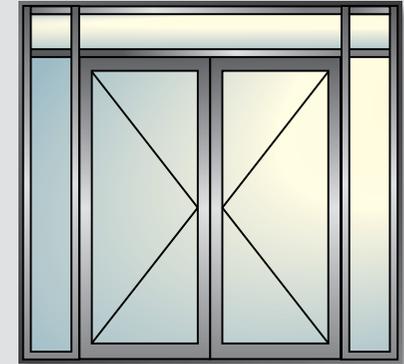




Hinged door  
with side-lite



Double Hinged door  
with side-lites



Double Hinged door with hi-lite  
and side-lites



## Dowell HINGED DOOR

Dowell Hinged doors are available in a wide range of standard configurations and have the added versatility of coupling options with fixed hi-lite, awning or louvre windows coupled with side-lite, are all available.

### FEATURES

- Versatile and aesthetically pleasing design.
- Durable low maintenance, easy-clean aluminium profiles.
- Custom size and colour available.
- Low E glazing option for increased energy efficiency.
- Suitable for residential and multi storey applications.
- Insect and security screens are an integral part of the design.

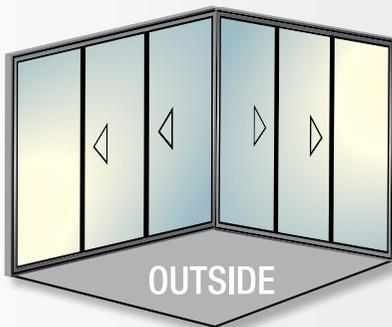
- Durable low maintenance, easy clean aluminium profiles.
- Glass jacking screws to prevent door sag.
- Heavy duty hinges.
- Concealed door bolts for improved security and aesthetics.
- Easy coupling to the Dowell range of windows.
- Screen doors and barrier grilles are available.

### HARDWARE

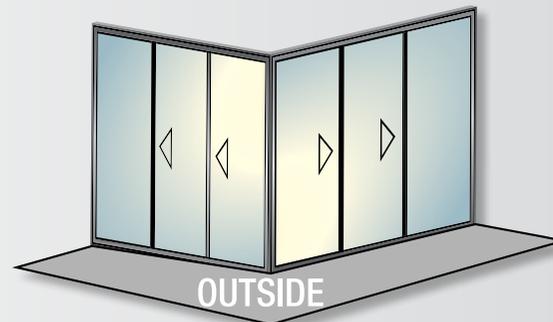
- Options available, please consult your local sales representative for more information.

Dowell  
**CORNER  
STACKING**  
DOOR





Alfresco corner stacking door  
(Internal)



Alfresco corner stacking door  
(External)



## Dowell CORNER STACKING DOOR

Dowell Corner Alfresco doors have a modern alfresco appearance which is created by designing the indoor/outdoor area to integrate seamlessly for a truly sophisticated outlook. This eye catching addition to the Dowell range is available in flexible formats and sizes, creating a visually large opening for easy access to balconies, patios or to open up a courtyard, pool area or garden.

### FEATURES

- Versatile and aesthetically pleasing design.
- Durable low maintenance, easy-clean aluminium profiles.
- Custom size and colour available.
- Low E glazing option for increased energy efficiency.

- Suitable for residential and multi-storey applications.
- Insect and security screens are an integral part of the design.
- Highly functional and designed to operate smoothly day after day.
- Resilient and durable in all types of weather.
- Minimal maintenance required.
- Superior product with the use of Dowell innovative design and technology

### HARDWARE

- Options available, please consult your local sales representative for more information.

# Dowell Windows LOCATIONS

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## **Australian Capital Territory**

### **Queanbeyan**

16 Barber Street  
Queanbeyan NSW 2620  
Phone: 02 6297 1711  
Fax: 02 6297 1112  
dowellvic@dowell.com.au

## **New South Wales**

### **Smithfield - Head Office**

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dowell.esteeming@dowell.com.au

## **Newcastle**

HIA Home Ideas Display,  
17 Murray Dwyer Circuit  
Steel River Estate, Mayfield West  
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## **Nowra**

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South Nowra NSW 2540  
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## **Queensland**

### **Geebung - Head Office**

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Fax: 07 3265 2657  
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## **Townsville**

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saleswintvl@dowell.com.au

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## **Craigieburn**

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## **Traralgon**

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## **Warrnambool**

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## **Western Australia**

### **Belmont - Head Office**

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**DOWELL** 

**1300 882 188**  
[www.dowell.com.au](http://www.dowell.com.au)