DESIGN
GUIDE

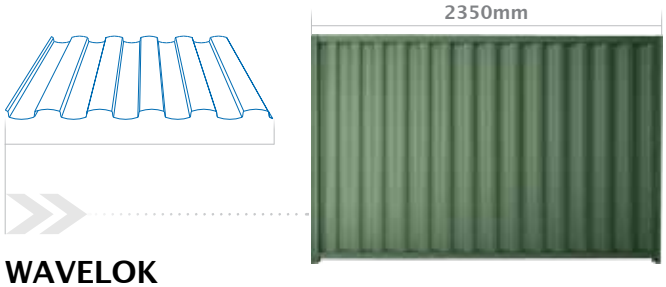
Good Neighbour

STRATCO

STYLE AND STRENGTH

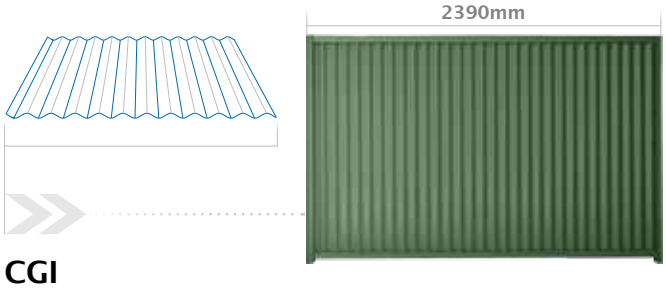
Stratco Neighbourhood Fencing offers a complete range of steel fencing products and accessories. With a choice of colours, styles and options a look can be achieved to suit your home and environment. Good Neighbour products are designed, manufactured and priced to fit your lifestyle. Choose from a variety of roll formed steel fence sheets that fit simply into specifically designed tracks and posts, which have been engineered for strength and designed for good looks. All materials are manufactured to length, making installation a breeze and reducing waste. Standard panel heights are 1200mm, 1500mm and 1800mm. For the optional screen top panels add a further 300mm.

A LOOK TO SUIT YOUR ENVIRONMENT



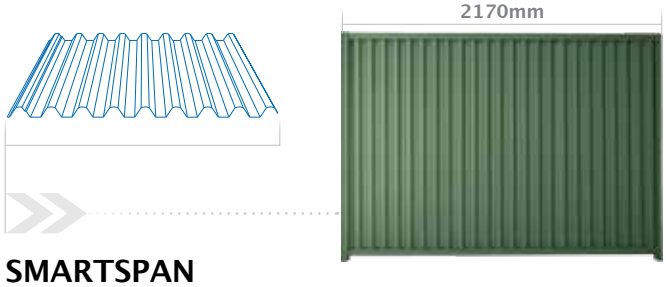
WAVELOK

Stratco has specifically designed the Wavelok profile for fencing. It has a bold, striking appearance that looks identical on both sides of the fence. Its distinct flowing lines appear similar to fence palings, they are visually attractive yet provide the strength and security necessary for fencing.



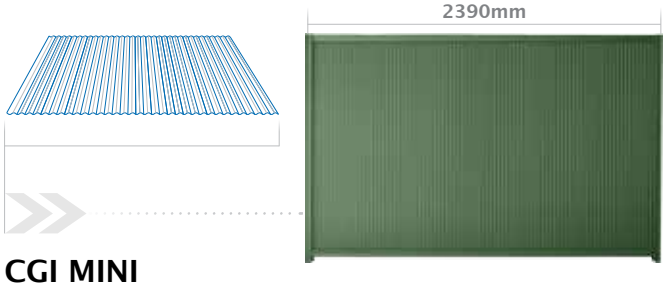
CGI

Commonly found throughout Australia, CGI is a versatile building material that has always been popular in domestic fencing. Its soft flowing lines complement both contemporary and colonial styled homes and make CGI an ideal fence as either a feature or a backdrop to your garden.



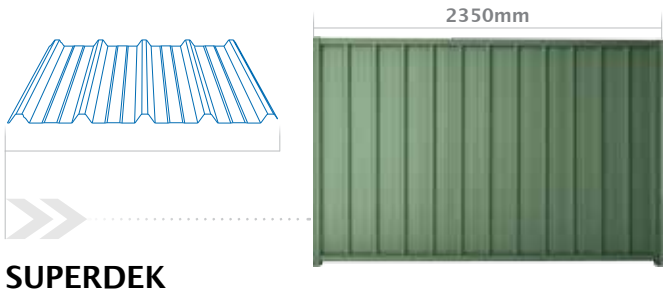
SMARTSPAN

Smartspan is commonly used as industrial wall cladding and for roofing applications that require a long span. However, its inherent strength and appearance make it a smart choice for fencing. Smartspan will stand the test of time, while offering bold, attractive lines to neighbours on both sides.



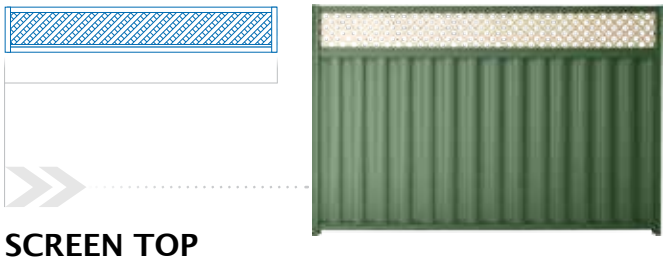
CGI MINI

CGI mini is a high fashion steel profile that is equally suited to traditional or ultra-modern homes and gardens. With countless applications including Good Neighbour fencing, its mini corrugated profile provides a distinctive appearance to neighbours on either side of the fence. CGI Mini may not be available in all states, check with your local Stratco store for availability.



SUPERDEK

As a high tensile, steel profile sheet, Superdek is suitable for fencing applications because of its strength and its modern good looking appearance. The Superdek profile has been the number one fence sheet choice for Good Neighbour fencing for many years and will be around for many more.



SCREEN TOP

The UV treated, plastic lattice screen top is available as an option with your new fence or as a 300mm extension to your existing Good Neighbour fence. It comes in a range of colours and is an attractive and durable way to add privacy and security while allowing the light to filter through.

DESIGNING YOUR FENCE

To select the most suitable fence configuration, the design wind speed at the location where the fence is to be installed is required. The diagrams to the right show the various configurations of the Good Neighbour Fence. If you are unsure of the wind speed for your area, refer to the brochure titled “Determining Wind Speed”.

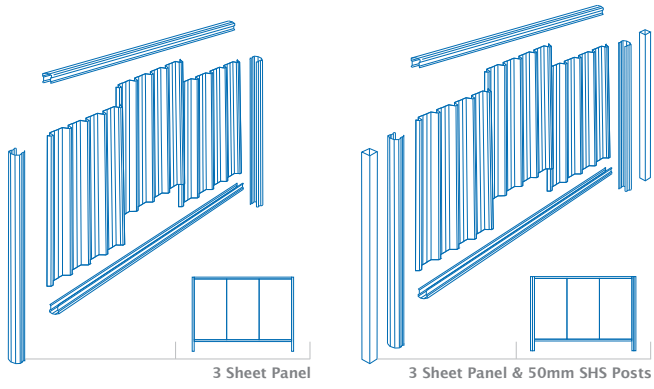
Once the wind speed is known, using the height of your proposed fence, Tables 1.0 to 1.4 can be used to determine what fence configuration is suited to your environment.

Where fences come to an abrupt end, the wind loads are higher than the rest of the fence and special consideration needs to be given to these free ends. Options include tapering, using SHS posts or reducing the number of sheets per panel. The maximum wind speeds for these various ends are also shown in Tables 1.0 to 1.4. The free end consideration only applies to the two panels nearest the free end; the remainder of the fence can be designed as internal (internal panels are not part of a free end) using the wind speeds for a tapered end. Corners or openings with solid gates are not classed as free ends.

Tapering occurs over the final two panels. The two panels come to a combined height that is two thirds the height of the other internal fence panels, refer to Figure 1.0.

When choosing a design it is more economical to use three sheet panels. Two sheet panels are generally used in areas that have a high wind speed or for designs that require the use of non-tapered free ends.

To select the number of fence panels and accessories required a sketch should be drawn and post positions determined. It is recommended that any short panels be installed adjacent to a corner, gate or free end. Fence caps and ball caps cannot be used on SHS posts.



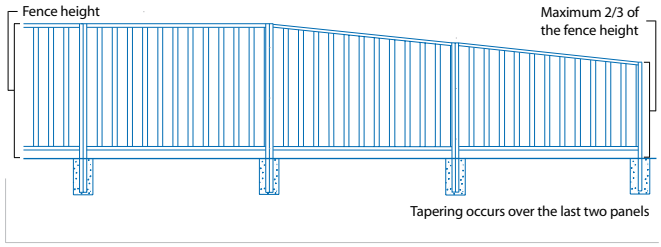


Figure 1.0

SLOPING GROUND

The following methods can be used when designing a fence for sloping ground. To cater for ground fall, sloping and stepping of panels can be used. The post spacing remains the same as the rest of fence in both options.

Sloped Fence

Sloping is a method used to traverse a slope without causing a break in the top line of the fence. It is most suited to long continuous slopes. For up to a two degree slope, fence panels and track lengths can remain the same. For steeper slopes, longer tracks, sheets and screen top infill panels will be required.

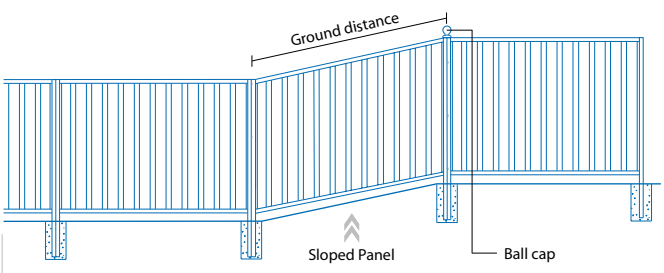


Figure 2.0

Stepped Fence

Stepping is ideal for sudden changes in ground height. A longer post is needed to ensure the footing of the stepped panel is embedded correctly. If post or ball caps are to be used, both posts at the position of the step should be the same height and a post infill inserted on the exposed post end for a clean finish.

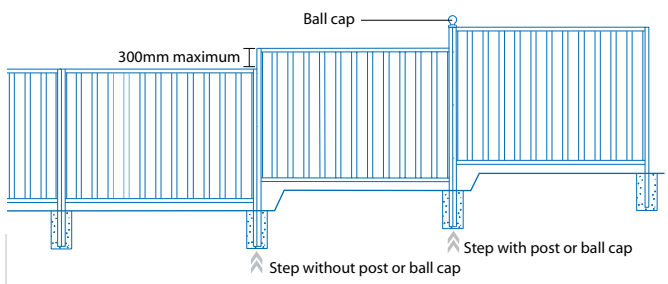


Figure 2.1

PANEL DESIGN

The tables below provide maximum wind speeds for non-cyclonic and cyclonic regions. For cyclonic areas, the only suitable cladding is Superdek, Smartspan and Wavelok. Fences with no free ends, or with internal sections that are further than two panels from a free end, can be designed using the maximum wind speed for tapered ends. Corners or openings with solid gates are not classed as a free end. If you are unsure of your wind speed refer to the "Determining Wind Speed" brochure.

MAXIMUM WIND SPEEDS FOR A 900mm HIGH FENCE – OR 1200mm WITH A SCREEN TOP EXTENSION

PROFILE	STYLE	3 Sheet Panel		3 Sheet Panel & 50SHS Posts		2 Sheet Panel		2 Sheet Panel & 50SHS Posts	
		Tapered End	Square End	Tapered End	Square End	Tapered End	Square End	Tapered End	Square End
Superdek • CGI Wavelok • Smartspan	Standard	W50	W50	W60	W55	W60	W60	W60	W60
	Screen top	W50	W41	W60	W41	W60	W55	W60	W60
CGI Mini	Standard	W41	W33	W41	W33	W60	W50	W60	W55
	Screen top	W41	W33	W41	W33	W60	W50	W60	W55

Table 1.0

MAXIMUM WIND SPEEDS FOR A 1200mm HIGH FENCE – OR 1500mm WITH A SCREEN TOP EXTENSION

PROFILE	STYLE	3 Sheet Panel		3 Sheet Panel & 50SHS Posts		2 Sheet Panel		2 Sheet Panel & 50SHS Posts	
		Tapered End	Square End	Tapered End	Square End	Tapered End	Square End	Tapered End	Square End
Superdek • CGI Wavelok • Smartspan	Standard	W50	W41	W60	W41	W60	W55	W60	W60
	Screen top	W50	W33	W55	W41	W60	W41	W60	W55
CGI Mini	Standard	W33	W28	W41	—	W55	W41	W55	W41
	Screen top	W33	W28	W33	W28	W55	W36	W55	W41

Table 1.1

MAXIMUM WIND SPEEDS FOR A 1500mm HIGH FENCE – OR 1800mm WITH A SCREEN TOP EXTENSION

PROFILE	STYLE	3 Sheet Panel		3 Sheet Panel & 50SHS Posts		2 Sheet Panel		2 Sheet Panel & 50SHS Posts	
		Tapered End	Square End	Tapered End	Square End	Tapered End	Square End	Tapered End	Square End
Superdek • CGI Wavelok • Smartspan	Standard	W41	W33	W55	W36	W60	W36	W60	W60
	Screen top	W33	W28	W41	W33	W41	W33	W60	W41
CGI Mini	Standard	W33	W28	W33	W28	W41	W36	W41	W36
	Screen top	W33	W28	W33	W28	W36	W33	W41	W36

Table 1.2

MAXIMUM WIND SPEEDS FOR A 1800mm HIGH FENCE – OR 2100mm WITH A SCREEN TOP EXTENSION

PROFILE	STYLE	3 Sheet Panel		3 Sheet Panel & 50SHS Posts		2 Sheet Panel		2 Sheet Panel & 50SHS Posts	
		Tapered End	Square End	Tapered End	Square End	Tapered End	Square End	Tapered End	Square End
Superdek • CGI Wavelok • Smartspan	Standard	W36	W28	W41	W33	W41	W33	W60	W41
	Screen top	W33	—	W36	W28	W33	W28	W41	W33
CGI Mini	Standard	W28	—	W28	—	W33	W33	W33	W33
	Screen top	W28	—	W28	—	W33	W28	W33	W33

Table 1.3

MAXIMUM WIND SPEEDS FOR A 2100mm HIGH FENCE – OR 2400mm WITH A SCREEN TOP EXTENSION

PROFILE	STYLE	3 Sheet Panel		3 Sheet Panel & 50SHS Posts		2 Sheet Panel		2 Sheet Panel & 50SHS Posts	
		Tapered End	Square End	Tapered End	Square End	Tapered End	Square End	Tapered End	Square End
Superdek • CGI Wavelok • Smartspan	Standard	W28	—	W36	W28	W33	W28	W41	W33
	Screen top	—	—	W28	—	W28	—	W28	W28
CGI Mini	Standard	—	—	—	—	W33	W28	W33	W28
	Screen top	—	—	—	—	W28	—	W33	W28

Table 1.4

Internal panels, (panels that are not part of a free end) can be designed using the maximum wind speeds for tapered ends.
For three sheet panels with SHS posts the post needs to be 1.6mm thick. For two sheet panels with SHS posts the post needs to be 3mm thick.

Footings

The sizes of post footings are dependant on the wind speed, soil type and the height of the fence. The following tables can be used to select the correct footing. Footings shall be founded in natural soil only. Concrete shall have a minimum 28 day characteristic strength of 20MPa (Grade 20). The top of the concrete should be shaped to direct water away from the posts. For the three footings adjacent to a free end and posts supporting a gate, the footing size will need to be increased in depth by 100mm. All posts are to be embedded at least 500mm into the footing.

FOOTING TYPE PER WIND SPEED

Height (mm)	W28	W33	W36	W41	W50	W55	W60
900	1	1	1	1	1	1	1
1200	1	1	1	1	2	2	2
1500	1	1	2	2	3	3	3
1800	1	2	3	3	5	4	5
2100	2	3	4	5	6	6	6
2400	3	4	5	-	-	-	-

Table 1.5

SIZE OF FOOTINGS (diam x depth, mm) PER SOIL CONDITION

Type	Sandy	Sandy Clay	Clay
1	250 x 700	200 x 600	200 x 600
2	250 x 800	200 x 600	200 x 600
3	250 x 900	200 x 650	200 x 650
4	250 x 950	200 x 700	200 x 650
5	250 x 1000	200 x 750	200 x 700
6	250 x 1100	200 x 800	200 x 750

Table 1.6

COMPONENTS

Good Neighbour components are displayed in the figure below, some components are optional and not required in all configurations. The top and bottom tracks are fixed to the posts using 10x16mm self drilling screws on both sides. Posts are fixed together using 10x16mm self drilling screws at a maximum spacing of 600mm and no further than 100mm from the top or bottom of each post. CGI Mini panels need a 38x25mm internal rail, fixed to the posts.

Fencing in wind speeds of W41 and higher in both cyclonic and non-cyclonic areas, need the sheets to be fixed to the top and bottom tracks at the overlaps with 10x16mm self drilling screws. It is recommended that the sheets also be joined mid span at the overlap using a size four rivet. Refer to the 'Good Neighbour Installation Guide' for installation instructions.

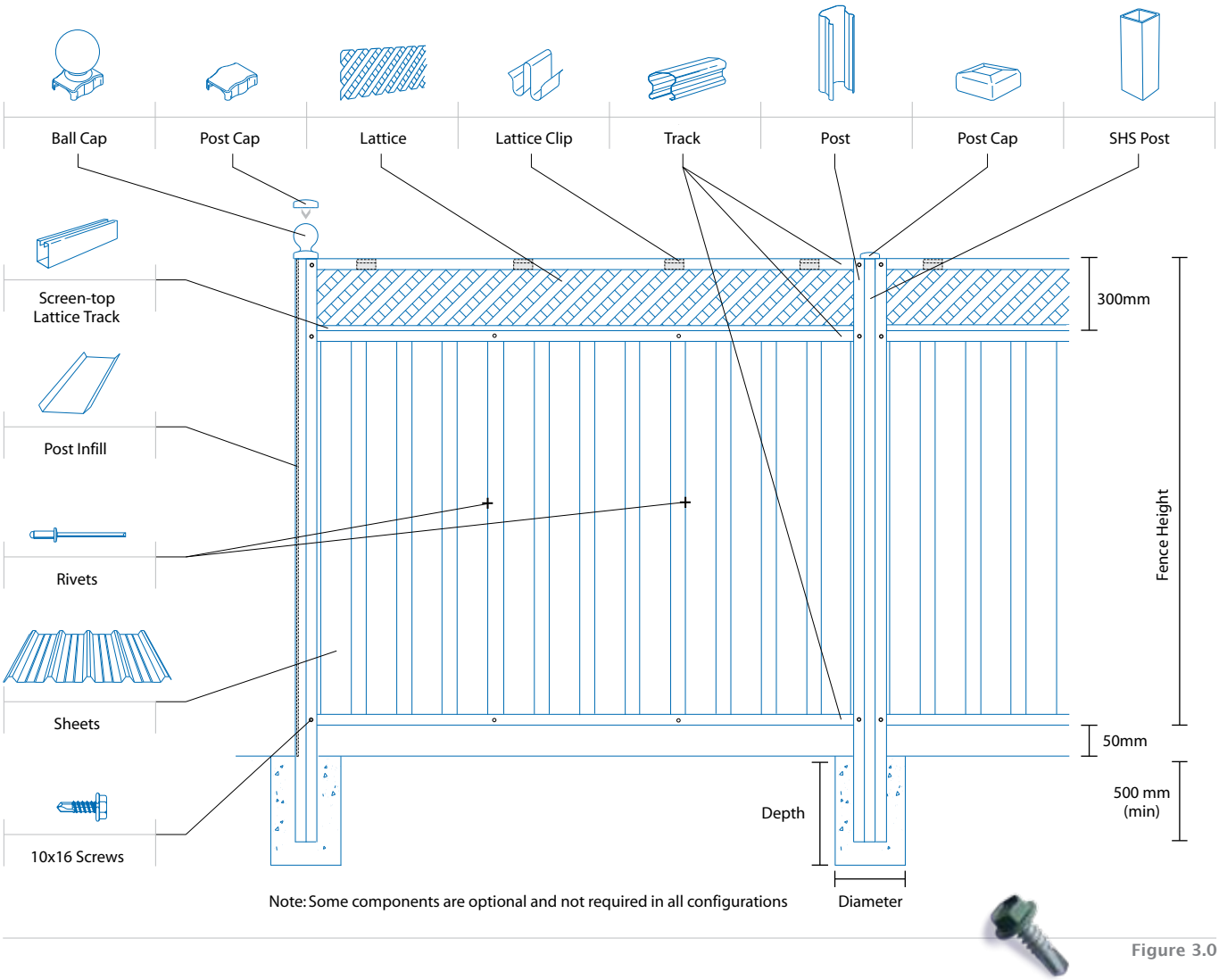
FENCE POST SPACINGS (mm)

Sheet Infill Style	3 Sheet	3 Sheet SHS	2 Sheet	2 Sheet SHS
Wavelok, Superdek	2350	2400	1590	1640
CGI, CGI Mini	2390	2440	1630	1680
Smartspan	2170	2220	1470	1520

Posts are supplied 545mm longer than the height of the fence.

Table 2.0

GATE POST OPENINGS - **Single** 840mm - **Double** 3255mm



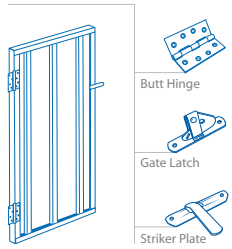
Note: Some components are optional and not required in all configurations

Figure 3.0

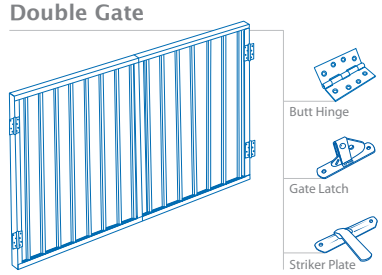
GATES

Gates are available in single format for pedestrian access or double format for vehicle access and can be optioned with or without the Good Neighbour screen top. Single gates are 820mm wide and are commonly fixed to 50mm SHS posts, with an 845mm opening. Double gates are 3220mm wide and are commonly fixed to 65mm SHS posts, with a 3255mm opening. Gates come pre-assembled and are provided with hinges, latches and catches. Accessories such as pad bolts and drop bolts are optional extras.

Single Gate



Double Gate



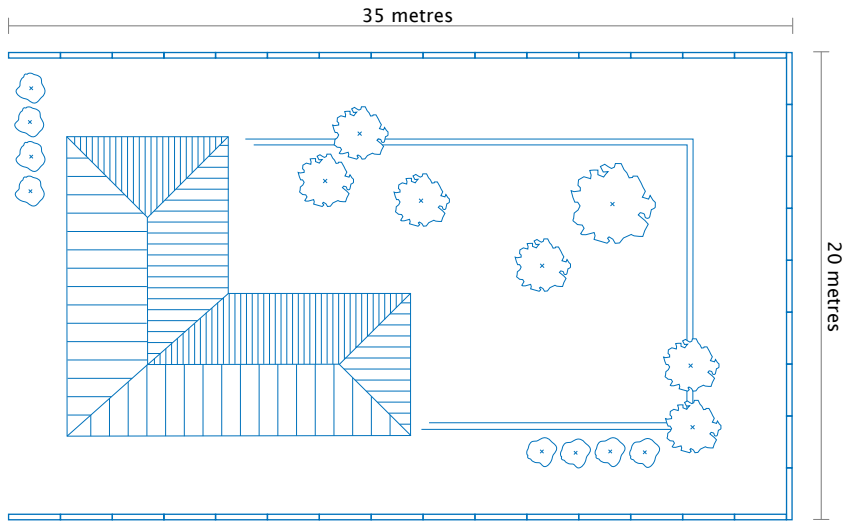
CONTACT
1300 165 165

EXAMPLE

You intend to construct a fence around the boundary of your property. You want to build a 2100mm high screen top fence with Wavelok cladding. The first step is to work out the wind speed for your area. By referring to the 'Determining Wind Speed' brochure, you calculate your wind speed is W33.

You determine that the free ends need to be either a three sheet tapered panel or a two sheet panel that is not tapered by refering to Table 1.3. The internal panels on the rest of the fence can be standard three sheet panels. The corners need no special treatment. Using the post spacings in Table 2.0 you can calculate the required number of panels. Assuming that you intend to use tapered panels on both free ends, all of the post spacings are 2350mm.

From these figures you calculate that the 35 metre sides will require 15 panels, and the 20 metre rear side will need nine panels, making a total of 39 panels.



DESIGN NOTES

Design wind speeds have been determined in accordance with AS1170.2-2002 and AS4055-1992 allowing for a design return period of 25 years.

This method has been developed by Stratco with the assistance of suitably qualified engineers to comply with the requirements of the above standards.

FOOTINGS HAVE BEEN BASED ON THE FOLLOWING SOIL PROPERTIES

Soil Type	Cohesion Properties	Shear Strength Perimeter Ø
Sandy	5kPa	35 degrees
Sandy clay	20kPa	30 degrees
Clay	25kPa	15 degrees

It is assumed that the soil is natural and in a relatively undisturbed state.

MAINTENANCE REQUIREMENTS

Fencing should not be located within 1000m of a marine environment or in severe industrial or corrosive environments. For more information refer to the 'Selection, Use and Maintenance of Stratco Steel Products' Brochure.

Stratco does not accept liability for any loss or damage suffered as a result of any errors in the interpretation or application of this design guide. Any person wishing to check any calculations made by them pursuant to this method may wish to seek independent engineering advice.

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