



Fences and Gates

Non Cyclonic Design and Installation Guide



Table of contents

1. Introducing our new fencing range.....	3	16. Installing infill strips & post caps.....	20
2. Components for fence assembly and installation.....	4	17. Gate sizes, gate combinations and gate kits.	21
3. At the start.....	6	18. Components for gate assembly and installation	22
4. Fence selection.....	7	19. Installation of gate posts and gates	23
5. Select fence posts and caps	9	20. Gate assembly - preparation steps	24
6. Determine post lengths (3 infill sheets/ panel)	10	(SPANSCREEN, NEETASCREEN, SMARTASCREEN and CUSTOMSCREEN gates)	
7. Footings	11	21. Gate assembly	25
8. Installing a fence: step by step.....	12	(SPANSCREEN, NEETASCREEN, SMARTASCREEN and CUSTOMSCREEN gates)	
9. Installing fence posts	13	22. Gate assembly - preparation steps (MINISCREEN gates).....	27
10. Preparing raked sections	14	23. Gate assembly (MINISCREEN gates)	28
11. Installing 2 or 3 infill sheets/panel fences	15	24. Adding a 'Plus Option' (Lattice, Slats) to an existing LYSAGHT fence	30
12. Installing 4 infill sheets/panel fences	16	25. Post caps installation	31
13. Finishing off the fence installation.....	17		
14. Installing 'Plus Option'.....	18		
15. Tapering ends of fences	19		



MINISCREEN



SPANSCREEN



NEETASCREEN



SMARTASCREEN



CUSTOMSCREEN

LYSAGHT Fencing Range

Product Availability	QLD	NSW	VIC	TAS	SA	NT	WA
NEETASCREEN Standard	✓	✓	✓	✓	✓	✓	✓
NEETASCREEN PLUS with Lattice	✓	✓	✓	✓	✓	✓	✓
NEETASCREEN PLUS with Infill Slats		✓	✓				✓
SMARTASCREEN Standard	✓	✓	✓	✓	✓		✓
SMARTASCREEN PLUS with Lattice	✓	✓	✓	✓	✓		✓
SMARTASCREEN PLUS with Infill Slats		✓	✓				✓
CUSTOMSCREEN Standard					✓		
CUSTOMSCREEN PLUS with Lattice					✓		
CUSTOMSCREEN PLUS with Infill Slats							
SPANSCREEN Standard	✓	✓	✓	✓	✓	✓	
SPANSCREEN with Lattice	✓	✓	✓	✓	✓	✓	
SPANSCREEN with Infill Slats		✓	✓				
MINISCREEN Standard	✓	✓	✓	✓			✓
MINISCREEN PLUS with Lattice	✓	✓	✓	✓			✓
MINISCREEN PLUS with Infill Slats		✓	✓				✓

NOTE: Non-cyclonic fences only. For cyclonic areas, refer to the LYSAGHT Cyclonic Area Fence Design & Installation Guide.

1. Introducing our new fencing range

The facts behind LYSAGHT steel fencing

Boundary fences are one of the most visible features of many homes – and also one of the most exposed to the elements. That's why the fence you choose needs to be attractive, strong and designed to last.

Choose a LYSAGHT steel fence solution from BlueScope Lysaght and you can be confident that over 35 years of steel fencing experience will ensure you get a fence that will not only look great when you install it but will give you peace of mind for years to come.

Introducing the new 4 sheet/panel LYSAGHT fence range

LYSAGHT steel fences in non-cyclonic regions are now even better looking with the introduction of the 4 infill sheet per panel design. With panels 33% wider than the traditional 3 sheet panel system, there are fewer posts to interrupt the clean lines of a long run LYSAGHT steel fence. With fewer post holes to dig installation can be quicker and even more economical with less concrete footings required.

Designed for style

LYSAGHT steel fences are available in a range of styles and COLORBOND steel colours to suit every Australian home. Complemented by a range of accessories, such as gates, ball caps and lattice, you can be confident of finding the perfect fence for your home.

Five styles are available;

1. Traditional NEETASCREEN - our first and still our most popular style
2. Neighbour friendly SMARTASCREEN - with its clean attractive lines and subtle textured finish, this style has the same great look on both sides
3. New SPANSCREEN - with deep trapezoidal ribs for a bold and contemporary style
4. Versatile CUSTOMSCREEN - with the familiar corrugated profile; and
5. Stylish MINISCREEN - with its sophisticated mini corrugated profile

Heights for every backyard

LYSAGHT steel fences are available in standard heights of 1500, 1800, and 2100mm and can be installed on flat and sloping grounds.

Built to last

Designed to Australian Standards, fully engineered and wind pressure tested to Australian wind loading standards in our NATA accredited facility, LYSAGHT steel fences combine a unique post and rail system with hi-tensile 0.35mm bmt steel infill sheets to produce one of the strongest steel boundary fences on the market.

The deep rail system of a LYSAGHT fence also gives greater latitude for installation of raked fences on sloping ground.

Proven in Australia

Because your LYSAGHT steel fence is guaranteed to be manufactured using genuine COLORBOND steel, the only prepainted steel fencing material with over 40 years of proven performance in Australia's harsh conditions, you can be assured that your fence will look great for years to come.

Backed by a real warranty

A LYSAGHT steel fence gives you real peace of mind. Not only do we offer a material warranty backed by one of Australia's leading manufacturers - BlueScope Steel, but our comprehensive product testing enables us to offer a 10 year structural fencing warranty for all regions in Australia

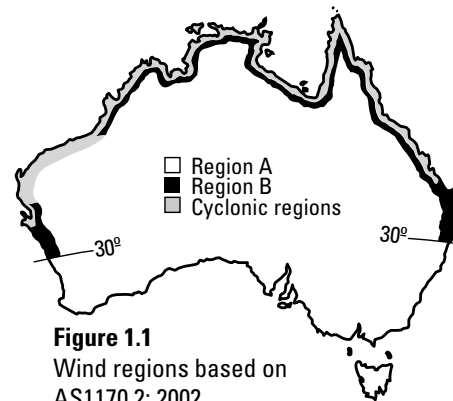
1. The LYSAGHT 10 Year Fencing Warranty covers the structural integrity of your complete fence system and is your guarantee that your fence will remain standing for years to come; and
2. A separate COLORBOND steel warranty covers the material used to manufacture your LYSAGHT steel fence against corrosion to perforation by natural weathering and against paint flake and peel.

* When the fence is installed and maintained according to COLORBOND steel and LYSAGHT steel fencing specifications.

For further information on the warranties available for a LYSAGHT® fence and eligibility, visit www.lysaght.com/warranty.

Make the right choice

The products and instructions in this guide are for LYSAGHT fence installations all over Australia except for tropical cyclone regions defined in AS/NZS 1170.2:2002 Structural Design Loads, Part 2; Wind Loads (See map Figure 1.1). Refer to our cyclonic fencing guide for use in these regions.



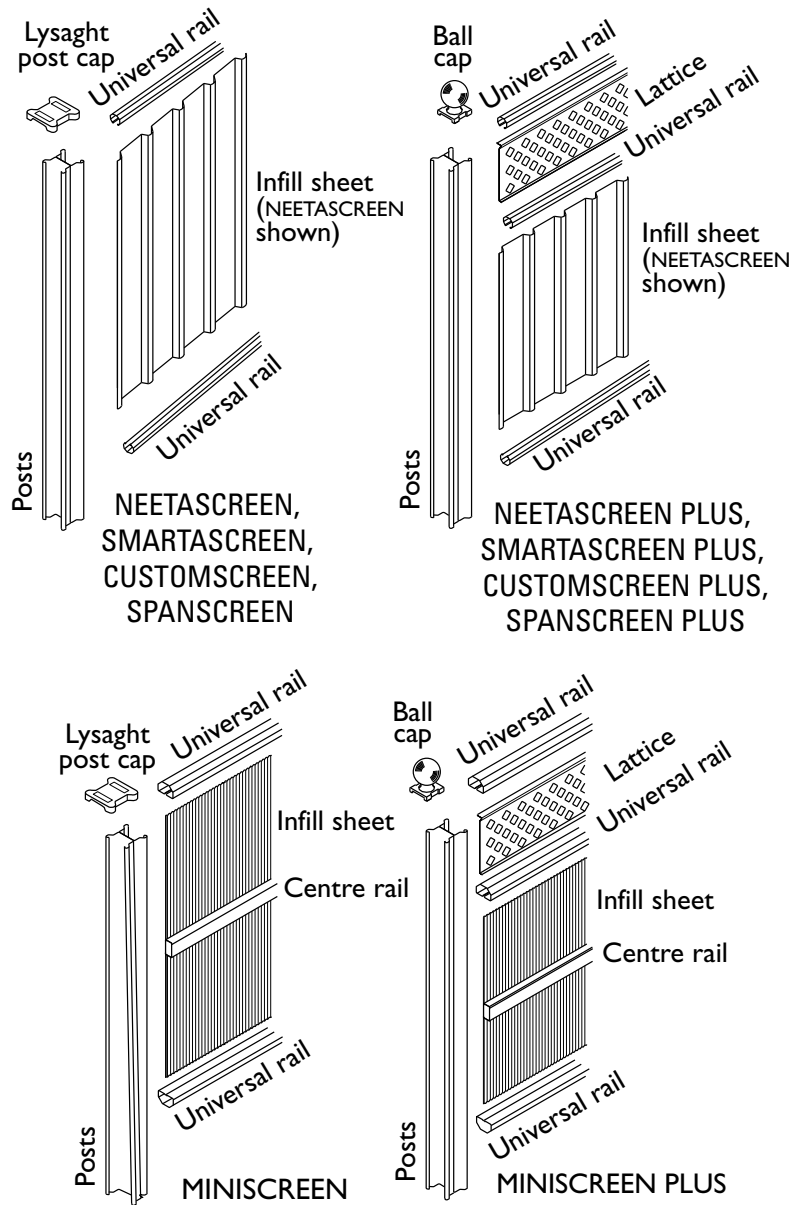
Take Care

LYSAGHT steel fences are easy to maintain, a simple regular washdown with fresh water is all they need. While your fence will have good resistance to accidental spillage of solvents they should not be installed within one kilometre of marine, severe industrial or other corrosive environments. Similarly both saltwater and freshwater swimming pools contain corrosive chemicals and you should be aware that your warranty does not cover damage resulting from your fence or gate being splashed with contents of the swimming pool. Fence and gate panels must be installed clear of the ground.

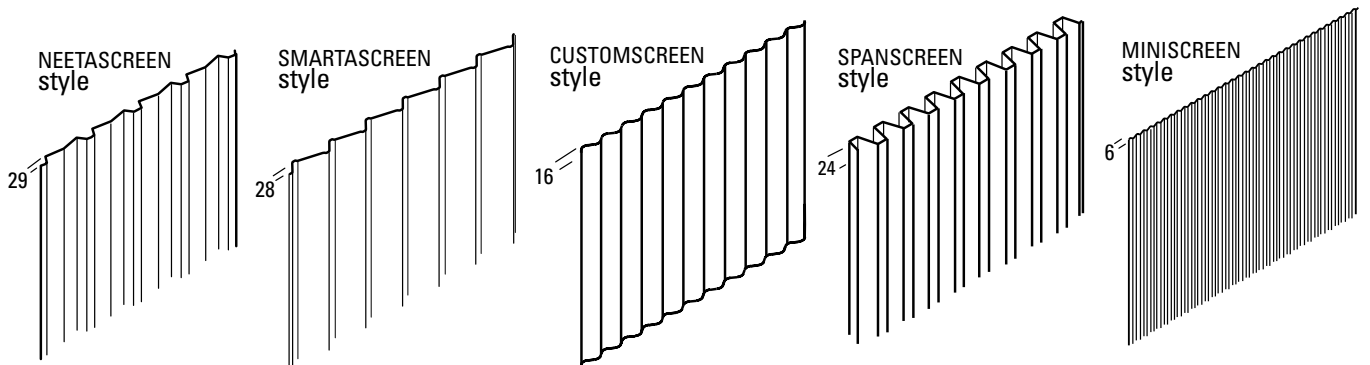
This is a step-by-step guide for the selection and installation of LYSAGHT NEETASCREEN, SMARTASCREEN, SPANSCREEN, CUSTOMSCREEN and MINISCREEN steel fences and matching gates. When up to four infill sheets/panel fences are combined with attractive steel lattice and decorative ball caps, they are called NEETASCREEN PLUS, SMARTASCREEN PLUS, SPANSCREEN PLUS and CUSTOMSCREEN PLUS. MINISCREEN PLUS can have up to three infill sheets per panel. Also included are instructions to convert suitable standard fences to a 'PLUS' fence through retrofitting a 'PLUS' option lattice.

2. Components for fence assembly and installation

Detailed below is the componentry required for assembly and installation of your new fence panels. Ensure you determine the best option and required components from the following pages prior to placing your order. Gate components can be found in the 'Gates Installation' Section 19 of this manual. Please check with your local LYSAGHT® fencing supplier for availability of components in your area.



Infill sheet styles Standard lengths 1490, 1790 & 2090mm
Standard lengths for 'Plus' 1190, 1490 & 1790mm



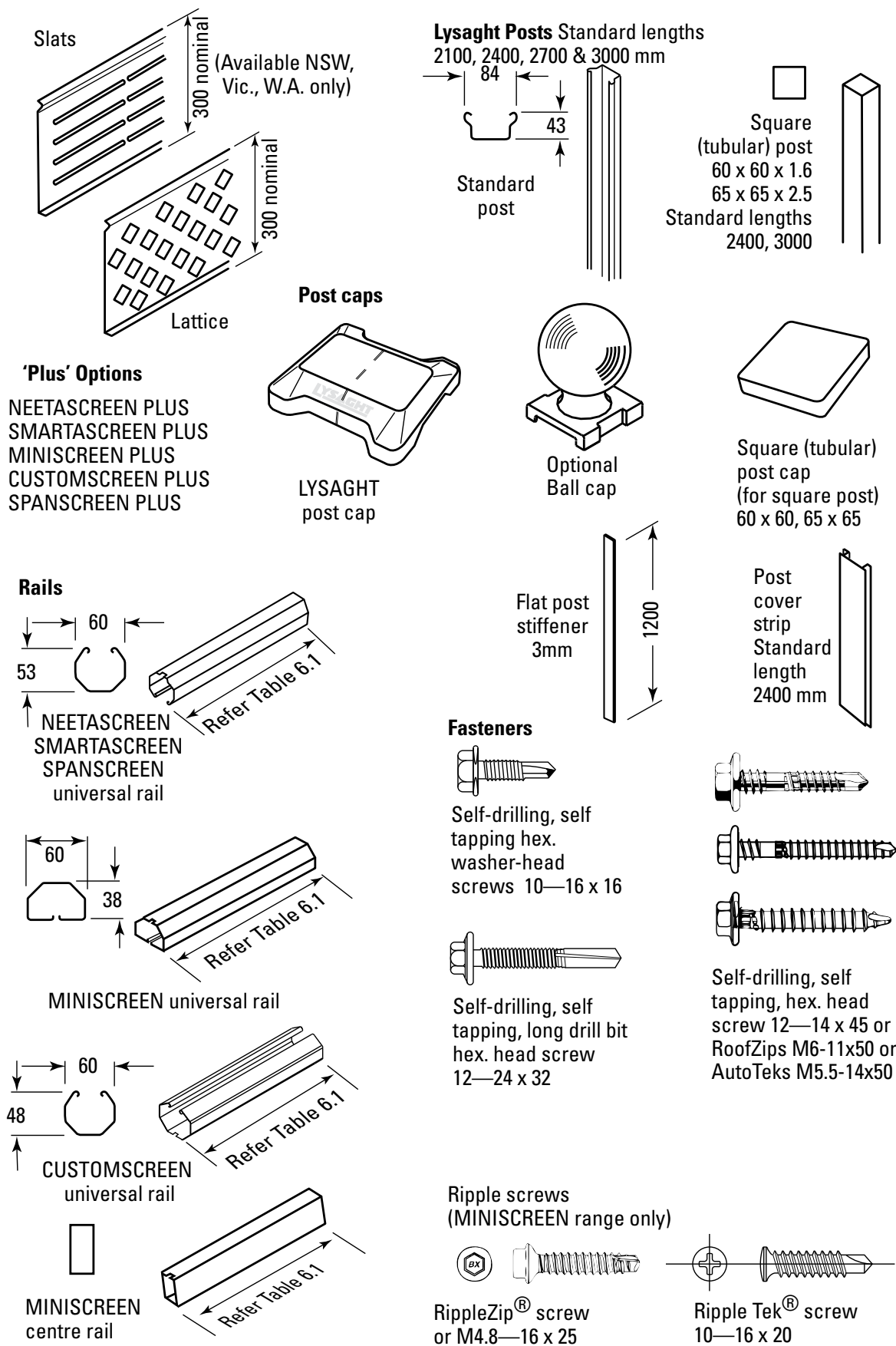


Figure 2.1: Components
Non-cyclonic Fence Design & Installation Guide

3. At the start

Before you order

- The next five pages are about selecting the right components in order to get the fence you want. This includes choosing the right fence type, post lengths and infill profile.
- Decide if you prefer NEETASCREEN, NEETASCREEN PLUS; SMARTASCREEN, SMARTASCREEN PLUS; CUSTOMSCREEN, CUSTOMSCREEN PLUS; MINISCREEN, MINISCREEN PLUS; SPANSCREEN or SPANSCREEN PLUS.
- Decide the height of your fence 1500, 1800 or 2100mm high.
- Choose your components as listed in the order guide on this page.
- The subsequent pages detail how to install your fence.

Before you start work

- [Read this guide.](#)
- Check you have the correct components for the type of fence you are installing.
- Check where you intend to dig that there are no underground electricity, telephone, gas or water mains.
- Check you have the tools that you need.

Tools you need

- Screw gun (or power drill) with torque adjustment
- Marker, coloured pencils, chalk - not black pencil
- Tape measure
- Rubber mallet
- Stringline and marker pegs
- Shovel and/or spade
- Spirit level
- Safety gloves and glasses
- Sharp knife (to split LYSAGHT post caps)
- Tin snips (if cutting required)
- Nibbler (optional if cutting required)
- Power saw with metal cutting blade (optional if cutting required)
- Concrete mixer (optional)
- Posthole digger (optional)

Components

Our new range of fences introduce four panel fences (4 infill sheets per panel) and the example in the next column refers only to NS4 (no stiffener and 4 infill sheet/panel) fences, except as noted.

Posts and post caps

Each standard fence panel is supplied with two standard posts. However, depending on how you configure corners and ends of fence runs, you might need extra standard posts or some square posts (Figure 5.1).

Your selection of these extra posts will affect the number and type of additional post caps.

Order Guide

Standard components

A standard NS4 fence (No post stiffener, 4 infill sheets/panel) consists of the following components:

NEETASCREEN, SMARTASCREEN, SPANSCREEN and CUSTOMSCREEN NS4 components

- 2 Standard posts
- 2 NEETASCREEN, SMARTASCREEN, SPANSCREEN or CUSTOMSCREEN universal rails
- 4 NEETASCREEN, SMARTASCREEN, SPANSCREEN or CUSTOMSCREEN infill sheets
- 1 LYSAGHT post cap*
- 17 self-drilling hex. head screws #10–16 x 16
- 2 self drilling hex. head screws #12-14 x 45

NEETASCREEN PLUS, SMARTASCREEN PLUS, SPANSCREEN PLUS and CUSTOMSCREEN PLUS NS4 components

- 2 Standard posts
- 3 NEETASCREEN, SMARTASCREEN, SPANSCREEN or CUSTOMSCREEN universal rails
- 4 NEETASCREEN, SMARTASCREEN, SPANSCREEN or CUSTOMSCREEN infill sheets
- 1 Lattice
- 1 Ball cap*
- 27 self-drilling hex. head screws #10–16 x 16
- 2 Self drilling hex. head screws #12-14 x 45
- 2 Post infill strips (optional)

MINISCREEN NS3 components

- 2 Standard posts
- 2 MINISCREEN universal rails
- 1 Centre rail
- 3 MINISCREEN infill sheets
- 1 LYSAGHT post cap*
- 17 self-drilling hex. head screws #10–16 x 16
- 7 Ripple Tek or RippleZip screws

MINISCREEN plus NS3 components

- 2 Standard posts
- 3 MINISCREEN universal rails
- 1 Centre rail
- 3 MINISCREEN infill sheets
- 1 Lattice
- 1 Ball cap*
- 27 self-drilling hex. head screws #10–16 x 16
- 7 Ripple Tek or RippleZip screws
- 2 Post infill strips (optional)

* You may need to order extra caps depending on your post configurations (Fig 5.1).

NOTE: Gates are dealt with separately at the back of this manual.

FS2, FS3 and FS4 fences contain the addition of a post stiffener. FS4 fences have added fasteners to connect the rails to the infill sheets.

Cyclonic fences are detailed in a separate manual: Cyclonic Area Design and Installation Guide.

4. Fence selection

It is important to make your fence selection based on both your aesthetic requirements, and the suitability to the environment your fence is to be erected. Ensure you get a long lasting, value adding boundary fence by following the guidelines below:

Installation environment

Steel fences should not be installed within 1 km of marine, severe industrial or other corrosive environments. Take extreme care if the fence is near a swimming pool because pool water splashed on the fence will void the warranty.

The fence bottom rail must be installed clear of the ground to ensure longevity.

These fences are not to be used as a retaining wall.

1. Determine your wind region

The information in this guide is suitable for use only in regions A and B of AS/NZS 1170.2: 2002 Structural Design Loads, Part 2: Wind Loads (Figure 1.1). Cyclonic regions are covered in our cyclonic fence guide. If you have any doubt about the region your fence will be in, get advice from your local building consent authority.

2. Determine your terrain category

Select the terrain category that best describes the area in which your fence will be erected from the categories listed below. Use this information to determine the type of fence required. Use Table 4.1 or 4.2 to choose the appropriate fence infill styles.

If you want to build on the top of a hill, adjacent to an escarpment, on a ridge, or in Terrain Category 1, you need engineering advice beyond the scope of this publication.



Terrain Category 2

Open terrain including sea coast areas, airfields, sports fields, grassland with a few well-scattered obstructions, such as isolated trees and uncut grass, having heights generally from 1.5 to 10m, and water surfaces. Typically acreage-suburbia with less than 10 houses per hectare.



Terrain Category 2.5

Terrain with a few trees, isolated obstructions (for example agricultural land, canefields or long grass to 0.6 m). This category is typical of developing outer urban areas. Less than 10 houses per hectare; or more than 10 houses per hectare, 500m apart and in two rows.



Terrain Category 3

Terrain with numerous closely spaced obstructions the size of domestic houses 3 to 5m high. Typically residential-suburbia with ten or more houses per hectare.

Figure 4.1: Terrain Categories

Table 4.1 Standard Fence Styles

Nominal Fence Height (mm)	Terrain Category	WIND REGIONS	
		A	B
		Fence type	
		Infill sheet style	
1500 & 1800	2	FS4	FS3
		CS,NS,SS,SmS	NS,SS,SmS
	2.5	NS4	FS4
		CS,NS,SS,SmS	CS,NS,SS,SmS
	3	NS4	NS4
		CS,NS,SS,SmS	CS,NS,SS,SmS
2100	2	FS3	n/a
		CS,NS,SS,SmS	n/a
	2.5	NS3	FS2
		CS,NS,SS,SmS	NS,SS,SmS
	3	NS3	FS3
		CS,NS,SS,SmS	CS,NS,SS,SmS

Table 4.2 Premium Fence Style

Nominal Fence Height (mm)	Terrain Category	WIND REGIONS	
		A	B
		Fence type	
		Infill sheet style	
1500 & 1800	2	NS3	n/a
		MS	n/a
	2.5	NS3	NS3
		MS	MS
	3	NS3	NS3
		MS	MS
2100	2	FS3	n/a
		MS	n/a
	2.5	NS3	FS2
		MS	MS
	3	NS3	FS3
		MS	MS

Please refer to the 'Key to fence types' at the top of Figure 4.2. The large two letter code in these tables refers to the post type required, the large number refers to the number of infill sheets per panel, the small letter code refers to the style of the infill sheet of the fence.

Key to fence types

(FS2, NS3, FS3, NS4 or FS4)

In non-cyclonic areas, there are 2 fence types, depending on the post requirements:

Type NS = No Post Stiffener

Type FS = Flat Post Stiffener

Number of infill sheets per panel

Number (2, 3 or 4) = Number of infill sheets per panel. MINISCREEN is available only in 2 or 3 infill sheets per panel

Standard Fence Styles

NEETASCREEN (NS) SPANSCREEN (SS)

SMARTASCREEN (SmS) CUSTOMSCREEN (CS)

Premium Fence Style

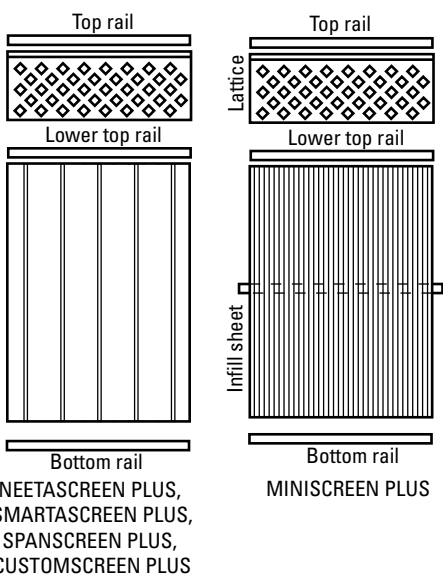
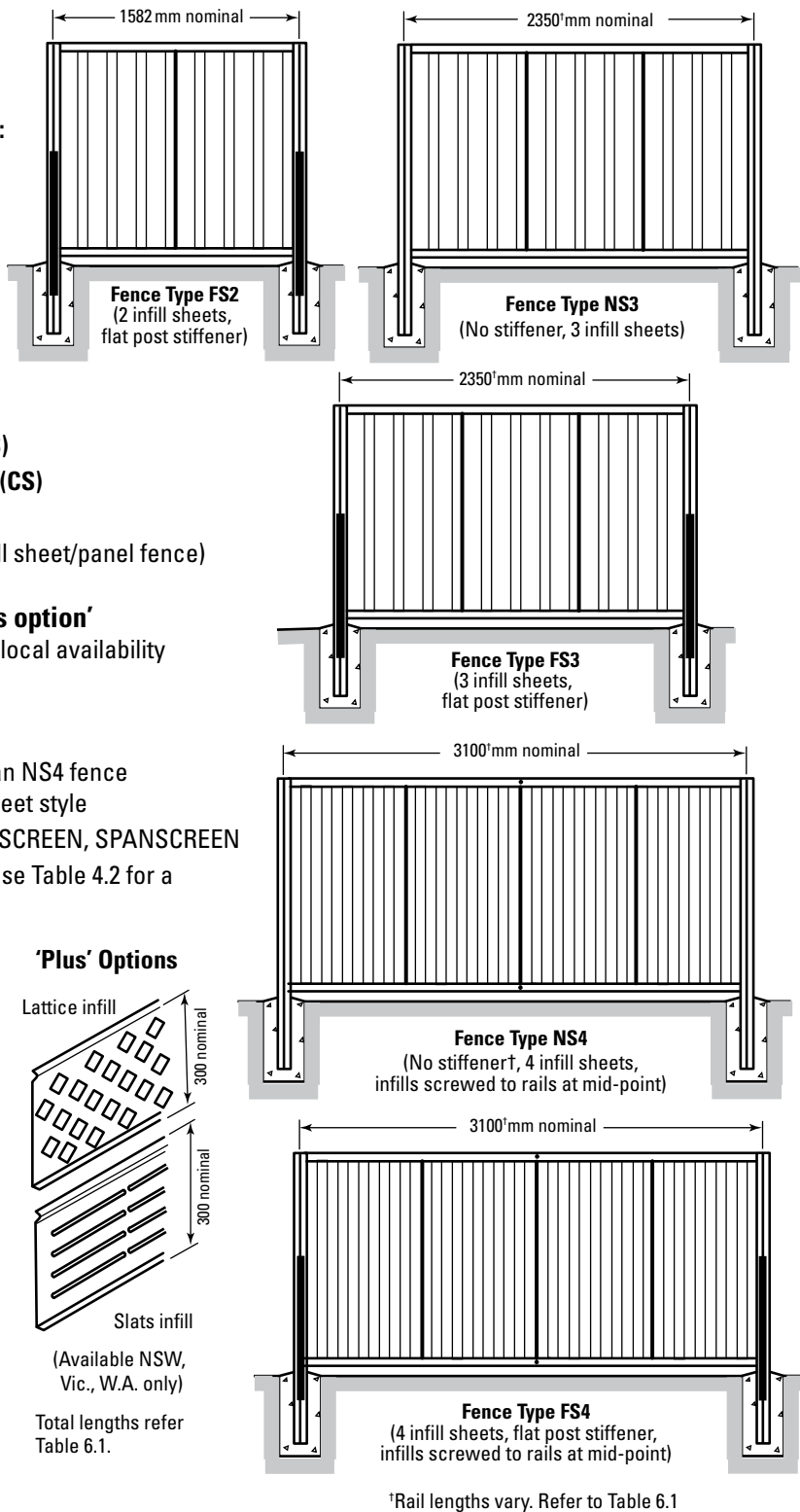
MINISCREEN (MS) (Not suitable for a 4 infill sheet/panel fence)

Choose a fence with or without a 'Plus option'

There are two options: lattice or slats. Check local availability of 'Plus Options' in your area.

Example:

Wind Region A, Terrain Category 3 means an NS4 fence would be suitable. Select a suitable infill sheet style from Table 4.1 (for Standard fences: NEETASCREEN, SPANSCREEN SMARTASCREEN or CUSTOMSCREEN) or use Table 4.2 for a premium fence (MINISCREEN).



'Plus' Options
 Lattice infill 300 nominal
 Slats infill 300 nominal
 (Available NSW, Vic., W.A. only)
 Total lengths refer Table 6.1.

*Rail lengths vary. Refer to Table 6.1

Infill sheets Standard panel heights 1490, 1790 & 2090mm
 Standard heights for 'Plus' 1190, 1490 & 1790mm

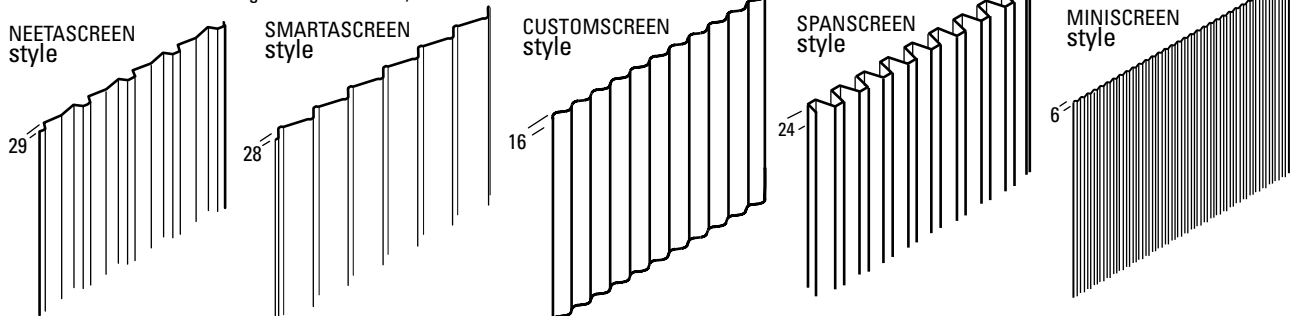


Figure 4.2
 Fence Types and infill styles

5. Select fence posts & caps

Selection of posts

Check the number and type of posts you will need, starting with a sketch of your fence site. Mark on it the type of posts you will need (Figure 5.1).

You will need to consider:

- If the fence will be 2, 3 or 4 infill sheets for each panel
- Posts in a fence run that don't form a corner (typically at the front of a property next to road);
- Intermediate posts (they are always two standard LYSAGHT posts screwed back-to-back);
- The various configurations of posts at corners;
- If the fence is to be stepped;
- If the ends of the fence are to be tapered (Section 15);
- Gate posts; and
- That ball post caps are designed to fit on two standard LYSAGHT posts screwed back-to-back, and this may affect the post configurations you choose.

Selection of post caps

Fix post caps on all fence posts to give the perfect finishing touch and to protect against any sharp edges (Section 16). Choose your post caps based on your post configurations and personal preference.

LYSAGHT Post Caps fit two standard LYSAGHT posts screwed back-to-back. For a single standard post, it is easy to cut a cap in half with a sharp knife in the groove moulded into the underside—trim the edges straight.

Ball caps are often used for NEETASCREEN PLUS, SMARTASCREEN PLUS, CUSTOMSCREEN PLUS and MINISCREEN PLUS fences, but can be used on any LYSAGHT fence. They are designed to fit two standard LYSAGHT posts screwed back-to-back.

Square post caps suit square posts and are usually used at corner junctions and gate openings.

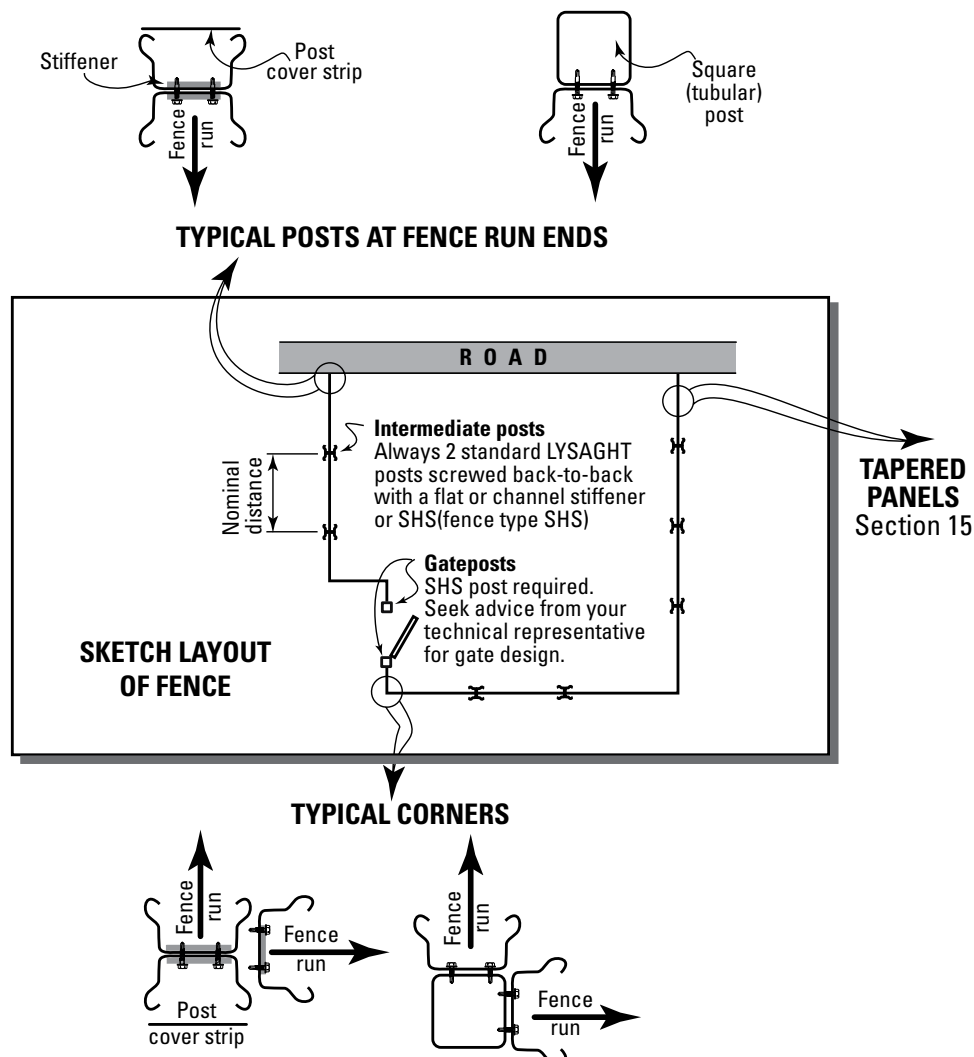


Figure 5.1

Preliminary selection of posts
Non-cyclonic Fence Design & Installation Guide

6 Determine post lengths

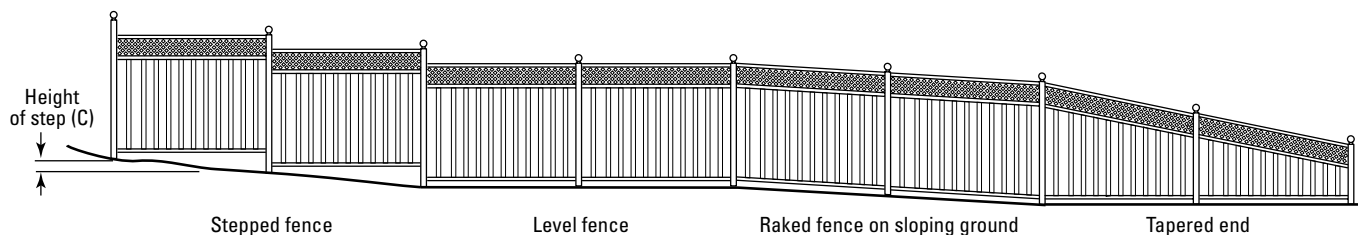


Figure 6.1
Fence installations

If the ground is not all level, consider whether the fence will be stepped or raked (Figure 6.1). For aesthetic reasons, people often choose to step rather than to rake when using a lattice.

Fences may be installed raked on slopes of 1 in 20. Refer to Table 10.1 for measurements.

For steeper slopes you will need to:

- step your fence; or
- cut the infill sheets, lattices and rails (Section 10).

If some of the ground is level and some sloping, or if the slope varies markedly, you might need posts of different lengths.

Determine basic post lengths

Refer to Table 6.2. (For data on tapered ends refer Section 15.)

Basic post length = (Footing depth – 40) + (Height above ground) (NOTE: 4 infill sheet/panel fences must not exceed 1800mm)

Get the footing depth from Section 7, and height above ground from:

Height of post above ground = A + B + C

Where:

A = Nominal Fence Height (Figure 6.2)

B = 50mm ground clearance (Figure 6.2)

C = If a stepped installation: height of the step (Figure 6.1)

Select standard lengths

Use table 6.2 below to select the lengths you need to order. The standard post lengths are 2100, 2400, 2700 and 3000mm.

Table 6.1: Panel width

	4 infills	3 infills	2 infills
NEETASCREEN	3100	2350	1582
SMARTASCREEN	3100	2350	1582
MINISCREEN	—	2350	1582
CUSTOMSCREEN	3138	2370	1602
SPANSCREEN	2875	2175	1475

Table 6.2
Length of posts required

Calculated basic post length (mm)	Maximum (mm)	Length of standard post to use (mm)
2100	2210	2100
2211	2399	2400*
2400	2510	2400
2511	2699	2700*
2700	2810	2700
2811	2999	3000*
3000	3110	3000

* Cut so that dimension E in Figure 6.2 is between 40 and 150 mm.

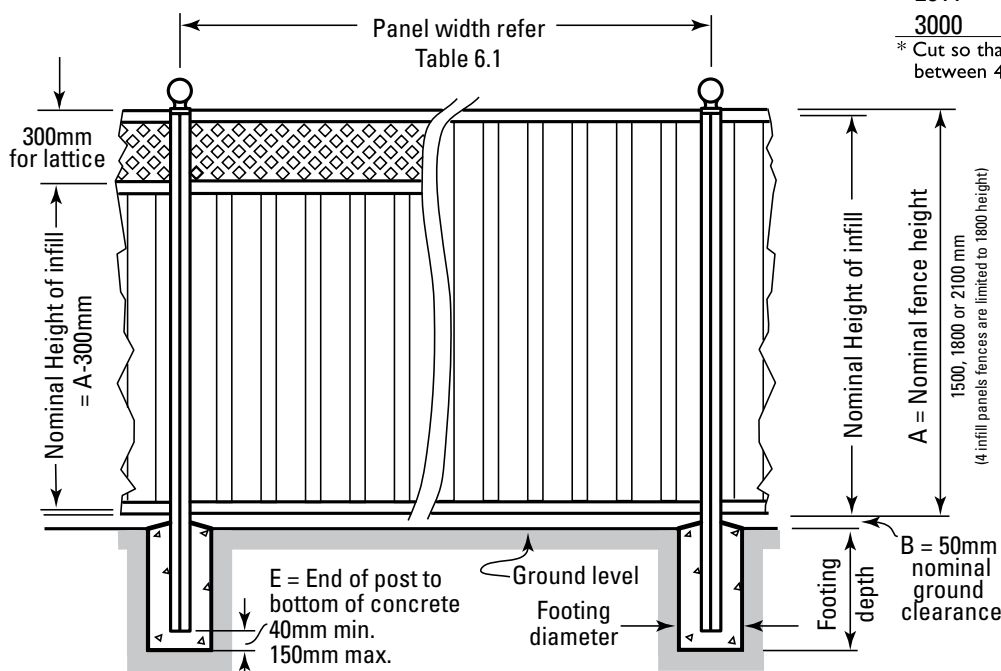


Figure 6.2
Panel arrangement (NEETASCREEN shown)

7. Footings

Select your minimum footing depth

Your fence posts must be embedded in concrete footings of adequate size. Footings must not be placed in uncompacted fill. All footings in Table 7.1 are 200mm diameter.

Depth of footings

Table 7.1 Footings Depth for Fencing by Wind Region (mm)

Nominal Fence Height	Wind region	Terrain category	Soft clay, Loose sand			Medium dense sand & gravel, stiff clay			Rock		
			Fence length (sheets)			Fence length (sheets)			Fence length (sheets)		
				2	3	4	2	3	4	2	3
1500 & 1800 mm	A	2	600	700	900	300	500	500	200	300	300
		2.5	400	600	700	300	400	400	200	200	300
		3	400	500	600	200	300	400	100	200	200
	B	2	700	900	-	400	600	-	300	400	-
		2.5	600	700	900	300	500	500	200	300	300
		3	400	600	700	300	400	400	200	200	300
2100 mm	A	2	600	800	-	400	500	-	200	300	-
		2.5	500	600	-	300	400	-	200	300	-
		3	400	500	-	200	300	-	200	200	-
	B	2	-	-	-	-	-	-	-	-	-
		2.5	600	-	-	400	-	-	200	-	-
		3	500	600	-	300	400	-	200	200	-

Footing diameter = 200mm for Regions A and B

Example

Givens

1. Site in a Sydney built-up suburb.
2. Wind region: Region A
3. Terrain category: Established residential area – Terrain Category 3
4. Soil type: Stiff clay
5. Fence height: 1800mm

Solution

Fence Type NS4 may be used at this site (Section 4)
 Footing required is:
 200mm diameter x 400mm deep

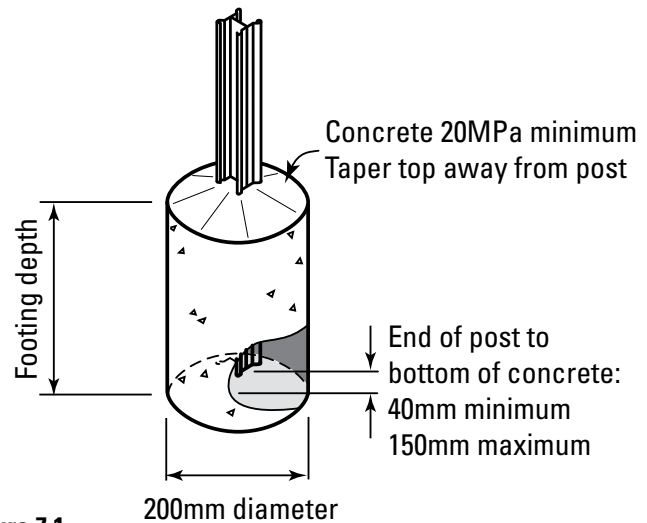
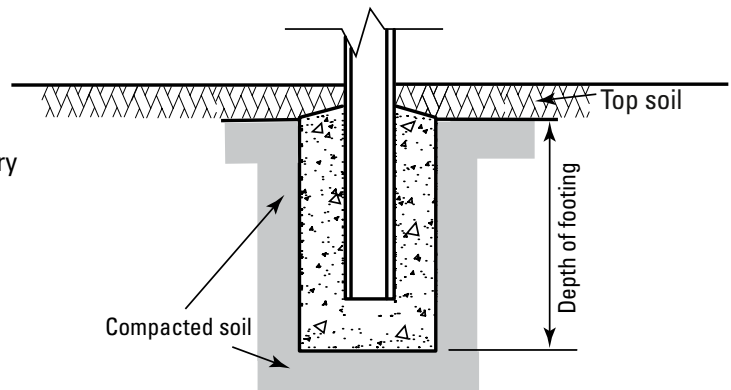


Figure 7.1
Footing dimensions



Top soil shall not be considered when making footing depth calculations.

Figure 7.2
Footing depth

Soil around posts footings shall be compacted as necessary to achieve minimum allowable bearing capacity:

- Soft clay, loose sand = 100kPa
- Medium dense sand and gravel, stiff clay = 200kPa
- Rock = 400kPa

8. Installing a fence: step by step

So far we have talked about selecting your fence. The following section discusses step by step, how to prepare and install your LYSAGHT fence.

What kind of site do you have?

Work out your levels. Is it one straight run, or are there raked or stepped sections?

Making up posts

Start by making up posts by screwing them together. Screwing the posts together requires seven staggered screws. (Refer Figure 8.1).

As a tip, bring your top screw down so it sits below your top rail. Otherwise your top rail is going to get stuck on it every time you go to fit it in. (Refer Figure 8.1.)

Tip: Use 'G' clamps to hold stiffeners and post in place.

Make up the required number of posts. For Fence Type FS4, post stiffeners must be fitted (Figure 8.1). If using stiffeners, screw into place while making up posts.

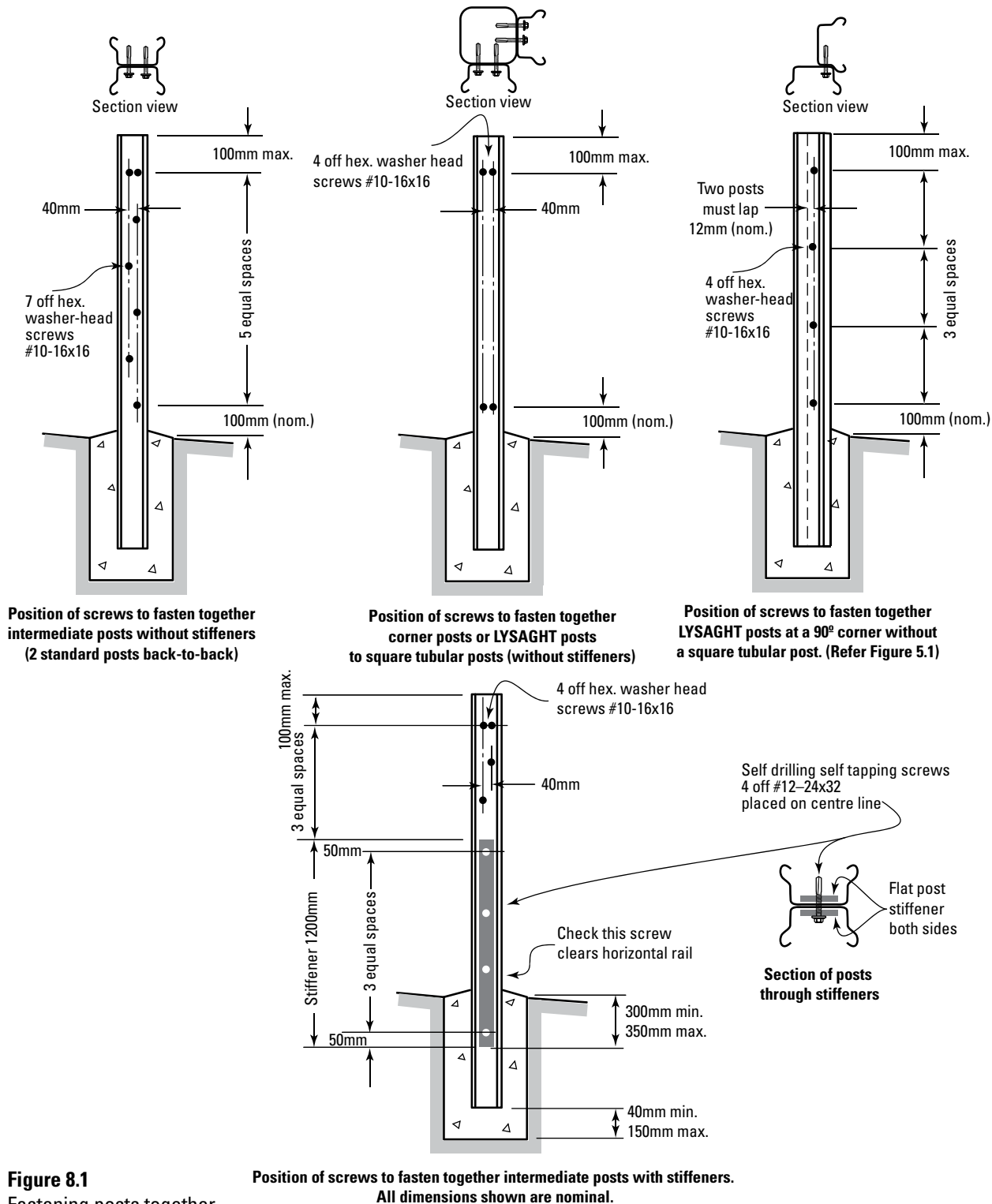


Figure 8.1
Fastening posts together

9. Installing fence posts

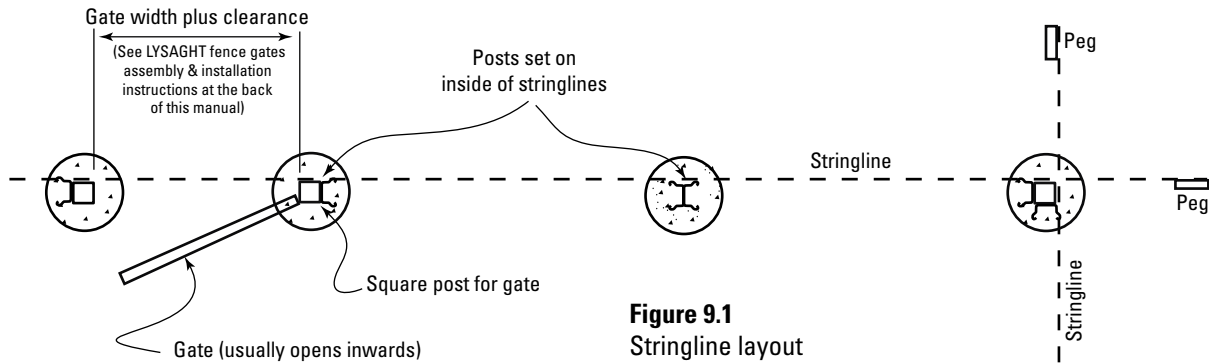


Figure 9.1
Stringline layout

1. Layout stringlines to position your fence

Stringlines mark the outside line of your fence posts (Figure 9.1), and help to set your fence posts at a uniform height.

Determine the exact location of your fence and setup a stringline. Keep the stringline taut and set at the top of two end posts. Place the stakes 500mm beyond the corners of the fence, so as not to obstruct the holes.

2. Layout posts and dig holes

Mark the position of fence posts. Lay the rails on the ground butting end to end between the two end posts so you can see exactly where your posts are going to go. For raked sites, longer rails may need to be used. Refer to the raked section in Section 10.

If there is to be a gate, locate the gate posts as detailed in LYSAGHT Fence gates assembly and installation guide at the back of this manual.

A fence panel can be reduced from the nominal width, without cutting infill sheets, by the increments shown in Figure 13.2. Rails and lattices must be cut to suit a narrow fence panel.

Dig the holes using the hole sizes determined (Section 7).

3. Place the first post

If the ground slopes, start at the high end.

Lay a minimum of 40mm concrete under the end of the post and set your post into the hole. This should be done for every post. Fill the hole with concrete and use your spirit level to get the post plumb. Tamp the concrete down. Ensure that the concrete tapers away from the post. (Figure 7.1). Be careful that concrete doesn't contact the rails above ground.

4. Place remaining posts

Place the second post in its hole and engage a bottom rail with the first and second post. Make sure the bottom rail is 50mm above the finished ground.

A tip is to give the rails a squeeze when you're putting them into or out of your post. This helps prevent scratching.

Fasten the bottom rail with one hex. head screw (#10–16 x 16) from both sides of each post.

Use the stringline to ensure your posts are all the correct height, plumb and in line, before concreting into position.

Wait at least 24 hours for the concrete to dry before installing infill sheets.

Continue installation of posts and bottom rails for the remainder of the run.

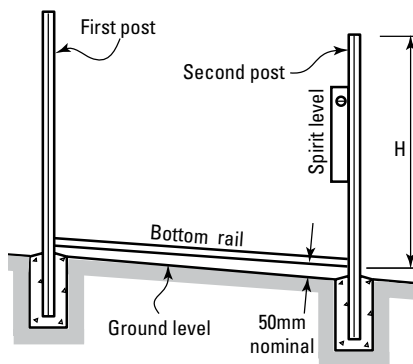


Figure 9.2
Placing remaining posts

Mixing your concrete
Thoroughly mix ingredients: 3 parts 20 mm blue metal; 2.5 parts sand; 1 part cement. Add water and mix well before use. Premixed concrete (20MPa min.) may also be used.



Use stringline to set post heights.



Lay the rails along the string line to determine positions of posts.



Set all the bottom rails into position ensuring a 50mm ground clearance.

10. Preparing raked sections

If your fence requires raked sections, you may need to prepare the rails and infill sheets. If your fence is level or stepped, skip ahead to the infill installation instructions.

Preparing raked rails

For small rakes (<150mm), the increase in the length of top and bottom rails can be ignored. An approximate length of raked rail is shown in the adjacent table. A rail of 3300mm (and a 'Plus Option') are available for this purpose.

The length to cut these raked sections is detailed in the table at right, once you have determined the height of the cut.

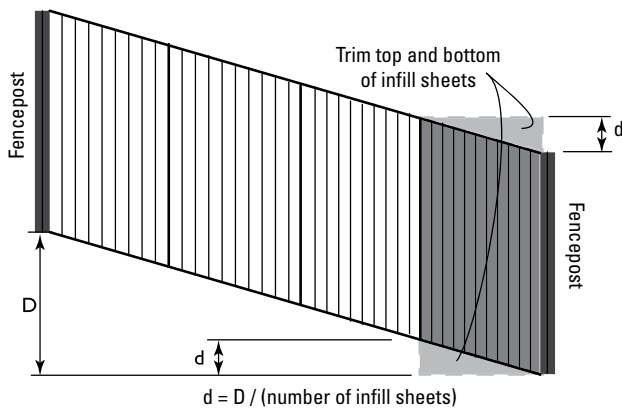


Figure 10.1
Cutting infill sheets for a 4 infill sheets/panel raked fence. Refer to Section 6 for calculation.

Preparing infill sheets

Work out the measure of the cut by resting your spirit level inside the rail (at least the width of a sheet) at the high end of the rail (Refer photo). Measure the width of a sheet, and measure the distance with your tape between the bottom of the level and the inside of the rail. That will show you the angle of your cut. Wherever possible, make the rake on the bottom rail the same as the top.

Measure the height of your fence up from your cut edge and cut at the same angle at the top of the sheet.

Use a coloured pencil, marker or chalk to mark the cut, as a pencil may cause corrosion.

Fine tune rails before screwing them into position.

Ensuring the rails are aligned, and the sheets are neat vastly improves the appearance of your fence.

Once you have installed all the bays, stand back from the fence and have a look at the fence as a whole.

Make sure the lines on your sheets run parallel to your posts. Make sure the joint of the overlap looks flush, without a big gap. Adjust where required.

Screw the rails into position.

Remove any swarf from the installation.



Measure the amount to be cut and mark the sheet. Ensure you measure edge to edge, not rib to rib.



Cut the infill sheets three at a time. This equals a single bay and ensures uniformity. Measure twice, cut once.

Table 10.1 Raked rail lengths

(4 infill sheets/panel) Fence Types						
Raked Rail Length Approx. Infill Sheet Cut (d)						
Height of Step	NS/SmS	SS	CS	NS/SmS	SS	CS
0	3100	2875	3138	-	-	-
150	3104	2879	3141	37.5	37.5	37.5
250	3110	2886	3148	62.5	62	62.5
300	3114	2890	3152	75	75	75
350	3119	2896	3157	87.5	87.5	87.5
400	3125	2902	3163	100	100	100

(3 infill sheets/panel) Fence Types						
Raked Rail Length Approx. Infill Sheet Cut (d)						
Height of Step	NS/SmS /MS	SS	CS	NS/SmS /MS	SS	CS
0	2350	2175	2370	-	-	-
150	2354	2180	2374	50	50	50
250	2363	2189	2383	83	83	83
300	2369	2195	2389	100	100	100
350	2375	2203	2395	116	116	116
400	2383	2211	2403	133	133	133

(2 infill sheets/panel) Fence Types						
Raked Rail Length Approx. Infill Sheet Cut (d)						
Height of Step	NS/SmS /MS	SS	CS	NS/SmS /MS	SS	CS
0	1582	1475	1602	-	-	-
150	1589	1482	1609	75	75	75
250	1602	1496	1621	125	125	125
300	1610	1505	1629	150	150	150
350	1620	1516	1640	175	175	175
400	1632	1528	1651	200	200	200

NS = NEETASCREEN, SmS = SMARTASCREEN, MS = MINISCREEN, SS = SPANSCREEN, CS = CUSTOMSCREEN Measurements = (mm)

11. Installing 2 or 3 infill sheets per panel fences

Installing the infill sheets is where the art is in fencing. It requires getting a few things to line up all at the same time. It's preferable to treat this as a one person job. Two people get in each other's way. The following steps assume a standard fence style, however the steps are similarly applied to a 'Plus' fence option. For the installation of the lattice for a 'Plus' Option style. (Section 14)

Start at the high side. Insert the first sheet flush into the bottom rail, usually about 200mm out from the post. Lift the top rail and slowly slide the sheet into the top rail. Using your knee near the bottom of the sheet and your hand near the top, slowly ease the first sheet along the rails until they contact the post. Remember to move the sheet square or it might kick out of one of the rails.

When the second infill sheet is placed, make sure you place the sheet to allow for the overlap (Figure 13.2). At this stage some minor adjustments may be necessary to get the lap to sit correctly or to fit the sheet into the rail. Gently bump the fence sheet into position as required.

The third sheet is the most difficult, only because there are a few things to get right. Place the bottom of the sheet into the rail, ensuring there is overlap to the second sheet.

It is usually necessary to gently bump, and push this final sheet into position. Roll the top rail away from you and this will assist feeding the top of the sheet into the rail channel. Get the side facing away from you in the bottom rail and then you can push the ridges of the side facing towards you into position with both the rail and the post. Once the sheet is in position, gently tap the top rail down onto the sheets using the heel of your gloved hand.

Do not screw off the top rail until you have 'fine-tuned' the rails by standing back and looking at the whole of the fence. This allows you to make minor adjustments to get the rails aligned.



Lift top rail and place 1st sheet into bottom rail. Slide to end position.



Lifting top rail helps ease 1st sheet into end position.



Place 2nd sheet into bottom rail, ensuring there is sufficient overlap.



Position 3rd sheet. Gentle force can be used.



Lift top rail and rotate until infill sheet slides into rail. Tap top rail down into position.

12. Installing 4 infill sheets per panel fences

Installing the infill sheets is where the art is in fencing. It requires getting a few things to line up all at the same time. It's preferable to treat this as a one person job. Two people can get in each other's way.

Start at the high side. Insert the first sheet flush into the bottom rail, usually about 200mm out from the post. Screw one end of the top rail to the post with a single screw. Lift the top rail and slowly slide the sheet into the top rail. Using your knee near the bottom of the sheet and your hand near the top, slowly ease the first sheet along the rails until they contact the post. Remember to move the sheet square or it might kick out of one of the rails.

When the second infill sheet is placed, make sure you place the sheet to allow for the overlap (Figure 13.2). At this stage some minor adjustments may be necessary to get the lap to sit correctly or to fit the sheet into the rail. Gently bump the fence sheet into position as required.

The 3rd sheet is installed in the same way as the second sheet.

The final sheet is the more difficult, only because there are a few things to get right. Place the bottom of the sheet into the rail, ensuring there is overlap to the third sheet.

It is usually necessary to gently bump, and push this final sheet into position. Roll the top rail away from you and this will assist feeding the top of the sheet into the rail channel. Get the ribs facing away from you in the bottom rail and then you can push the ridges of the side facing towards you into position with both the rail and the post. Once the sheet is in position, gently tap the top rail down onto the sheets using the heel of your gloved hand.

Do not 'screw off' the top rail until you have fine-tuned the rails by standing back and looking at the whole of the fence. This allows you to make minor adjustments to get the rails aligned.



Lift top rail and place 1st sheet into bottom rail. Slide to end position.



Lifting top rail helps ease 1st sheet into end position.



Place 2nd & 3rd sheets into bottom rail, ensuring there is sufficient overlap.



Position 4th sheet. Gentle force can be used.



Lift top rail and rotate until all infill sheets slide into rail. Tap top rail down but do not fasten into position yet.

13. Finishing off the fence installation

Align and fine tune rails before screwing them into position

Do not screw off the rail yet.

Ensuring the rails are aligned, and the sheets are neat vastly improves the appearance of your fence.

Once you have installed all the bays, stand back from the fence and have a look at the fence as a whole.

Make sure the lines on your sheets run parallel to your posts. Make sure the joint of the overlap looks flush, without a big gap. Adjust where required.

Once you have made these adjustments, screw the rails into position. Mid rail screws are required top and bottom on NS4 fences and FS4 fences. (4 infill sheets per panel fences)

Remember to wipe off the fence to remove any swarf from the installation.



Screw off top rail and make it as close to parallel with the bottom rail as possible. Stand back and look at your work as you go along.

Fixing the infill sheets

Four infill sheet panel fences

The four infill sheet panel fence (NEETASCREEN, SPANSCREEN, CUSTOMSCREEN, SMARTASCREEN) requires added fasteners through the top and bottom rails at the mid-point of the panel.

At the top rail a screw should pass through the rail from one side into the infill sheet (Figure 13.1). The screw should pass through the crest of the lap to stitch both lapping infill sheets (see Figure 13.2 for the laps), thus the screw passes through two thicknesses of infill sheet.

At the bottom rail one or more screws are required as detailed below;

- For the SPANSCREEN fence panel - a screw should pass through the bottom rail from one side into the infill sheet (Figure 13.1), as described for the top rail.
- For the NEETASCREEN, CUSTOMSCREEN and SMARTASCREEN fence panels - a screw should pass through the bottom rail from both sides into the infill sheet. One screw through the lap as described for the top rail, and one screw from the other side (offset from the lap fixing) into a single thickness of infill sheet. (Figure 13.1)

Fixing the centre rail for MINISCREEN fences

Only the MINISCREEN fence style requires a centre rail. For MINISCREEN fences, fasten centre rails halfway up the infill sheets. Use at least seven (7) Ripple-type screws through the infill sheets into the centre rail. One screw should pass through the laps (Figure 13.2).

Non-cyclonic Fence Design & Installation Guide

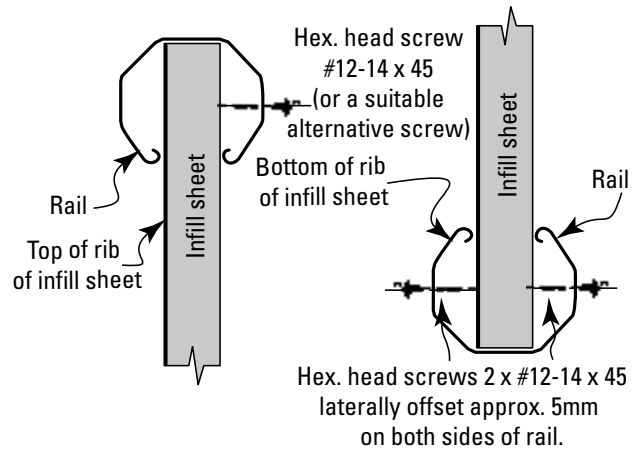
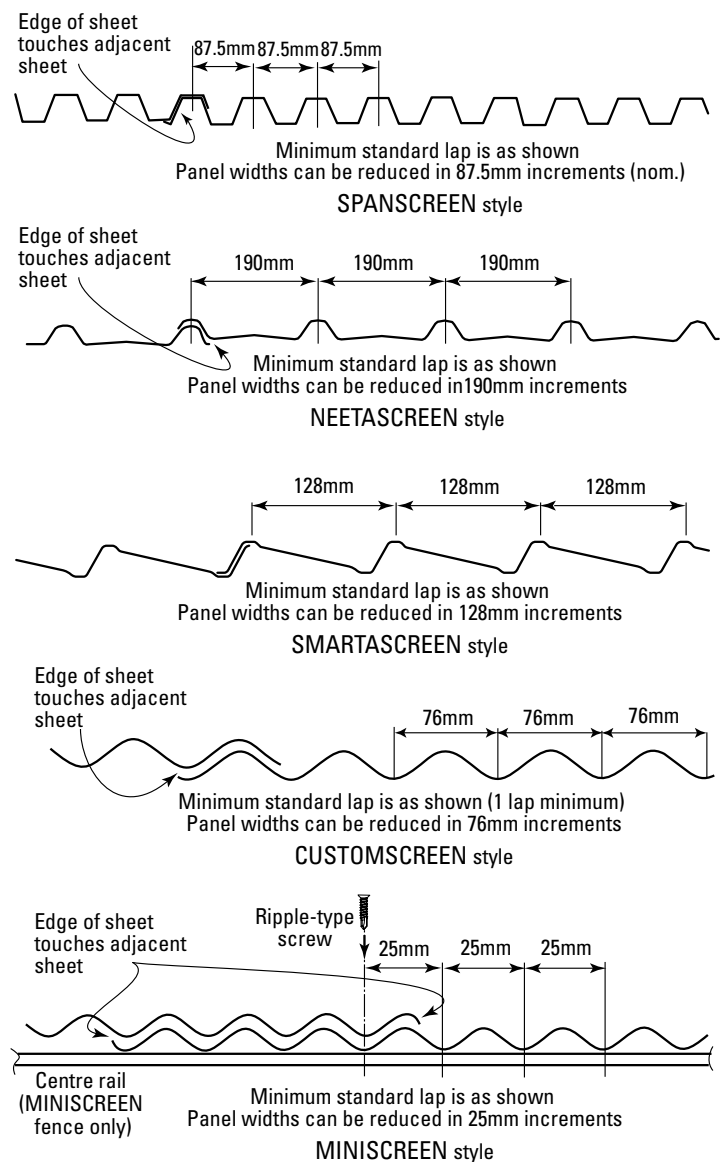


Figure 13.1
Fixing infill sheet to rail on a four sheet/panel fence



Dimensions are rounded to nearest mm.

Figure 13.2
Sheet overlaps

14. Installing 'Plus Option'

Inserting the lattice or slats

Engage a top rail onto the top of a lattice or slats (Figure 14.2 for correct orientation).

Lower the rail and lattice or slats onto the top of a fence panel, engaging the ends of the rail with the posts (Figure 14.1).

Fix with three screws (#10–16 x 16) along the bottom flange of the lattice or slats to the top rail of the fence panel. (Figure 13.2) Protect the paintwork with a piece of cardboard between the drill body and the lattice.

Fix the top rail to the lattice or slats with three screws (Figure 14.2).

Fasten the top rail to the posts with one hex. head screw (#10–16 x 16) on both sides of each post.

A component (Edge cover strips used for gates) is available to cover edges of the lattice or slats if it is trimmed in length or use flashing/trim as described in gates.

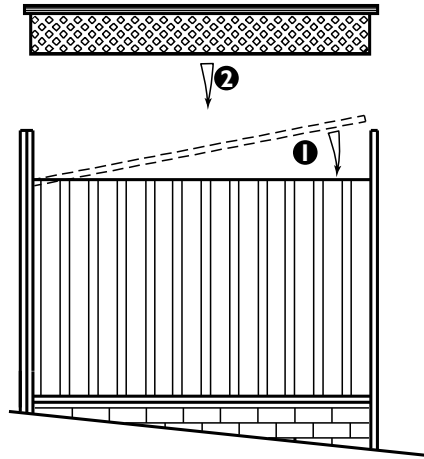


Figure 14.1
1 Rail installation at top of infill sheets
2 Installation of lattice

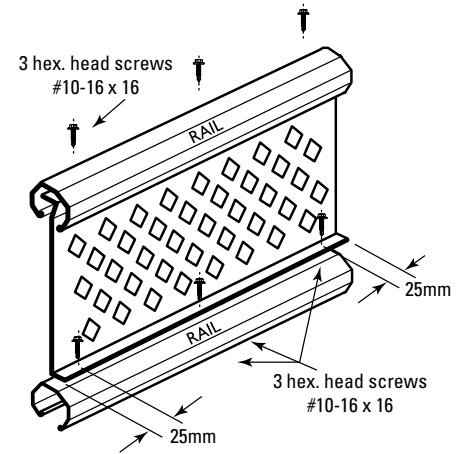


Figure 14.2
Fastening of 'Plus Option' (lattice with NEETASCREEN rails shown)

15. Tapering ends of fences

At the end of a fence run, where the fence doesn't form a corner (sometimes called a free end), the panels experience increased wind loadings—particularly where your fence extends beyond the alignment of your house.

Tapering of 1500mm high fences is not mandatory in Terrain Category 3 of wind region B and all of wind region A. In all other cases your fence must be tapered in height over the last two panels (Figure 15.1).

Cut the top of the infill sheets in a manner similar to that shown for a raked fence (Figure 10.1).

A rail of 3300mm is available for this purpose.

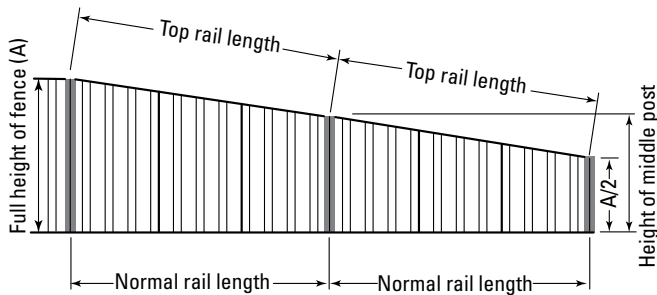


Figure 15.1
Tapering ends of fences

4 PANEL

	Fence Style	Half Fence Height	Height of Middle Post	Normal Rail Length	Top Rail Length
1500	NEETASCREEN	750	1125	3100	3122
	SMARTASCREEN	750	1125	3100	3122
	CUSTOMSCREEN	750	1125	3138	3160
	SPANSCREEN	750	1125	2875	2900
1800	NEETASCREEN	900	1125	3100	3132
	SMARTASCREEN	900	1125	3100	3132
	CUSTOMSCREEN	900	1350	3138	3170
	SPANSCREEN	900	1350	2875	2910
2100	NEETASCREEN	1050	1575	3100	3144
	SMARTASCREEN	1050	1575	3100	3144
	CUSTOMSCREEN	1050	1575	3138	3181
	SPANSCREEN	1050	1575	2875	2922

3 PANEL

	Fence Style	Half Fence Height	Height of Middle Post	Normal Rail Length	Top Rail Length
1500	NEETASCREEN	900	1350	2350	2380
	SMARTASCREEN	900	1350	2350	2380
	MINISCREEN	900	1350	2350	2380
	CUSTOMSCREEN	900	1350	2370	2400
	SPANSCREEN	900	1350	2175	2207
1800	NEETASCREEN	900	1350	2350	2393
	SMARTASCREEN	900	1350	2350	2393
	MINISCREEN	900	1350	2350	2393
	CUSTOMSCREEN	900	1350	2370	2412
	SPANSCREEN	900	1350	2175	2221
2100	NEETASCREEN	1050	1575	2350	2408
	SMARTASCREEN	1050	1575	2350	2408
	MINISCREEN	1050	1575	2350	2408
	CUSTOMSCREEN	1050	1575	2370	2427
	SPANSCREEN	1050	1575	2175	2237

2 PANEL

	Fence Style	Half Fence Height	Height of Middle Post	Normal Rail Length	Top Rail Length
1500	NEETASCREEN	750	1125	1582	1626
	SMARTASCREEN	750	1125	1582	1626
	MINISCREEN	750	1125	1582	1626
	CUSTOMSCREEN	750	1125	1602	1645
	SPANSCREEN	750	1125	1475	1522
1800	NEETASCREEN	900	1350	1582	1645
	SMARTASCREEN	900	1350	1582	1645
	MINISCREEN	900	1350	1582	1645
	CUSTOMSCREEN	900	1350	1602	1664
	SPANSCREEN	900	1350	1475	1542
2100	NEETASCREEN	1050	1575	1582	1667
	SMARTASCREEN	1050	1575	1582	1667
	MINISCREEN	1050	1575	1582	1667
	CUSTOMSCREEN	1050	1575	1602	1685
	SPANSCREEN	1050	1575	1475	1565

Table 15.1
Tapering ends of fences

16. Installing infill strips and post caps

Post cover strips

Cover strips are used to complete the open side of two standard LYSAGHT posts screwed back-to-back (Figure 16.1).

Cut the strips to an appropriate length and slide vertically in place. Some posts require a strip for the full length of the post. Short pieces are needed on stepped fences (Figure 16.1).

Post caps

All post caps must be positively secured to your fence with either neutral cure silicone sealant or hex. head screws (Figure 16.1).

For a single standard post, it is easy to cut a cap in half with a sharp knife in the groove moulded into the underside — trim the edges straight.

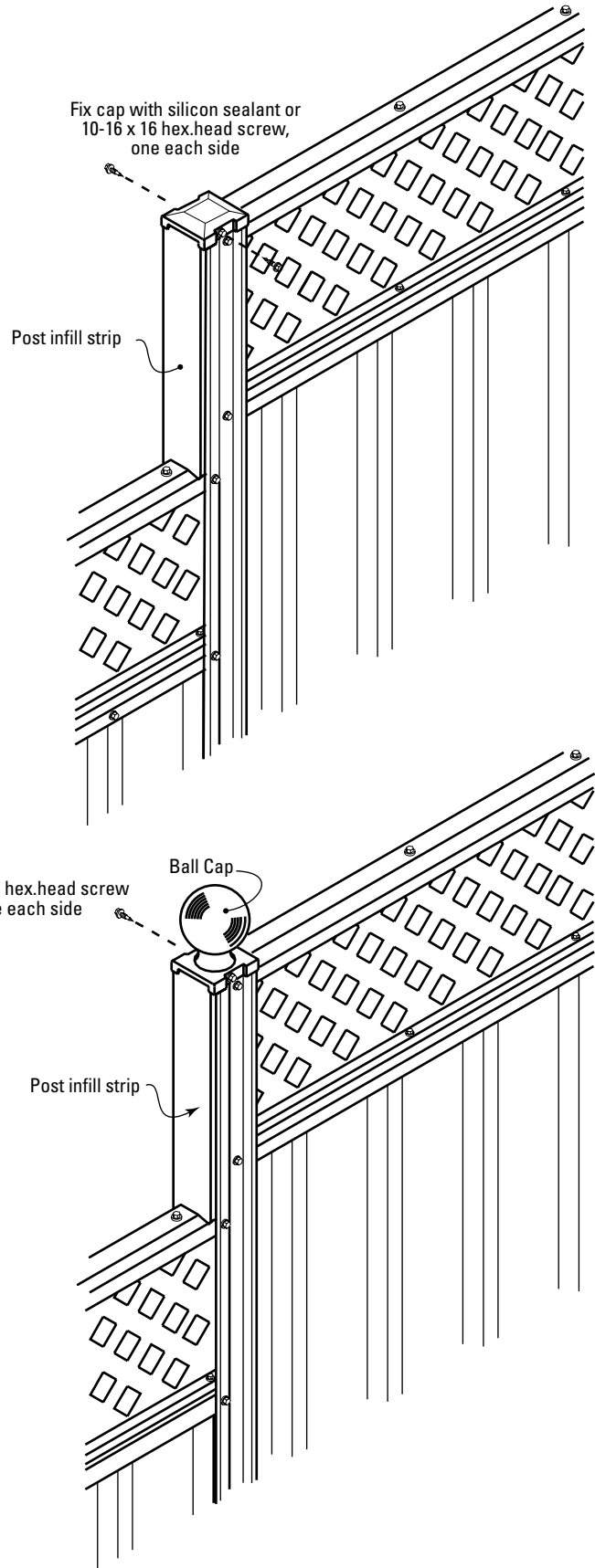


Figure 16.1
Installation of Ball Caps and post infill strips

17. Gate sizes, gate combinations and gate kits

There are a large range of gate sizes, gate combinations and gate accessories available, check with your LYSAGHT® fencing supplier for availability in your area. There are a range of kits available to simplify the selection of the components that make up the gate system options.

Our gate systems are designed to perfectly complement our fences. Detailed instructions for the assembly of the gate system are given, together with a set of pictorial instructions. Please refer to both to help you visualise the process.

Tools required

Refer to Section 3 for the range of tools required for the fence assembly and installation. With particular application to the gate assembly and installation the tools required are; screw gun, tin snips, safety gloves plus glasses, marker and tape measure; fine toothed metal file and square.

Gate widths, gate post spacing and footings

For gate widths and post clearances see Table 17.2 below.

Single Gate kits

For single gates, posts clearance must be the width of the gate, plus 20mm (i.e. 10mm post/gate clearance on either side).

Double Gate kits

For double gates, posts clearance must be the width of the double gates plus 30mm (i.e. 10mm post/gate clearance on

either side and 10mm gate/gate clearance).

Gate kits

Gate kits are available for a single gate of Standard Width Gates and Extra Wide Gates. Combinations of these gates can then be made to make up various combinations of double gate systems. The contents of all gate kits generally consist of the following (Table 17.1):

Gate accessory kits

Gate accessory kits are available which include hinges, latch/lock set, handle, drop bolt, stile caps and appropriate fasteners.

Gate accessories kits are available in an economy, standard and premium packages. Contact your BlueScope Lysaght office for details.

Table 17.1

Contents of a Gate Kit	Quantity
Stiles	2
Bottom Rail *	1
Top Rail *	1
Lower Top Rail * #	1
Lower Top Rail Clip (Lattice Gate Clip) #	2
Lattice #	1
Centre Rail ^	1
Centre Rail Clip ^	2








Notes * rails are identical # PLUS version only ^ MINISCREEN only

Fasteners (#10-16x16 Ripple type) included in kit.

Components that must be ordered separately include: Infill sheets, gate posts, gate accessories, all other fasteners, edge cover strips for infills (if required), trims for lattice (if required).

Table 17.2

Gate configuration options

		Fence System					
		NEETASCREEN	SMARTASCREEN	MINISCREEN	CUSTOMSCREEN	SPANSCREEN	
Gate Dimensions (mm)							
Standard Width Gate (Note 2)		Gate width (Note 3)	885	885	910	910	824
		Lattice length	815	815	815	815	
		Rail length	815	815	840	840	754
				Note 6	Note 5	Note 5	
Extra Wide Gate (Note 2)		Gate width (Note 3)	1645	1645	1655	1675	1535
		Lattice length	1575	1575	1575	1575	
		Rail length	1575	1575	1585	1605	1465
				Note 6	Note 5	Note 5	
Distance between Posts (mm) (Note 4)							
Single Gate:							
Standard Width Gate		905	905	930	930	844	
Extra Wide Gate		1665	1665	1675	1695	1555	
Double Gate combinations:							
2xStandard Width Gate		1800	1800	1850	1850	1678	
2xExtra Wide Gate		3320	3320	3340	3380	3100	
1xStandard Width Gate 1xExtra Wide Gate		2560	2560	2595	2615	2389	

Notes: 1) The above dimensions are for the standard fence system and the PLUS fence system

2) Standard Width gate = 1 infill sheet; Extra Wide Gate = 2 infill sheets

3) Overall width of gate

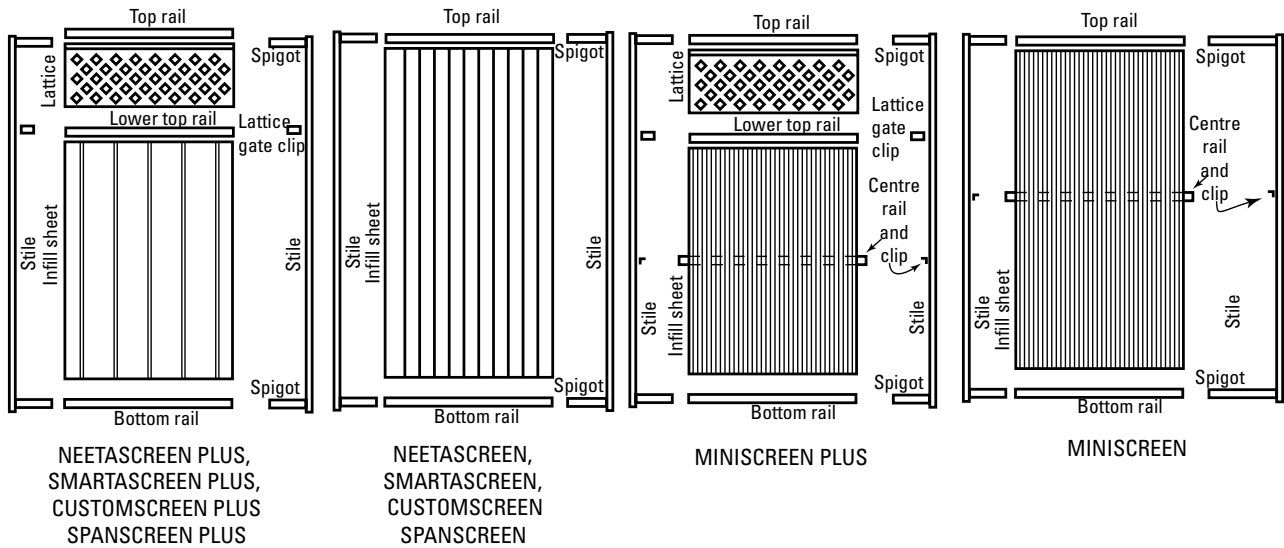
4) Face-to-face internal dimension between posts

5) Lattice may require a trim

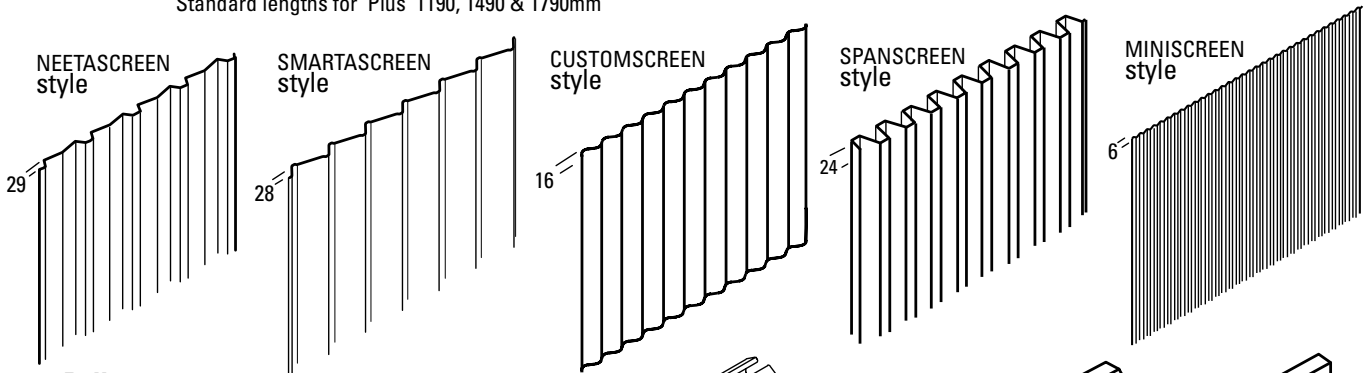
6) Edge Cover Strip for infill may be required

18. Components for gate assembly and installation

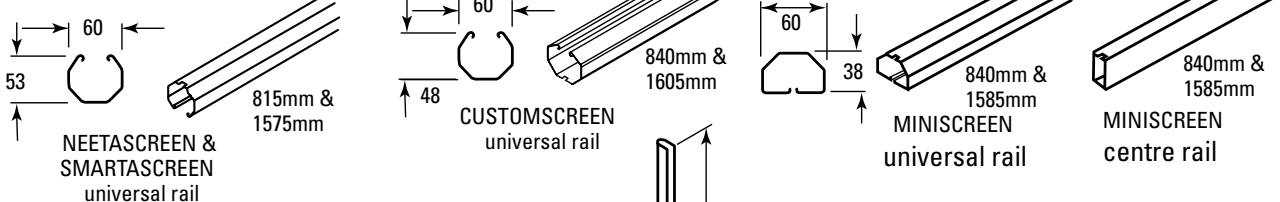
Detailed below is the componentry required for assembly and installation of your new fence gate. Ensure you determine the best option and required components from the following pages prior to placing your order. NOTE: *CUSTOMSCREEN components are available in SA only. Please check with your local LYSAGHT® fencing supplier for availability of components in your area.*



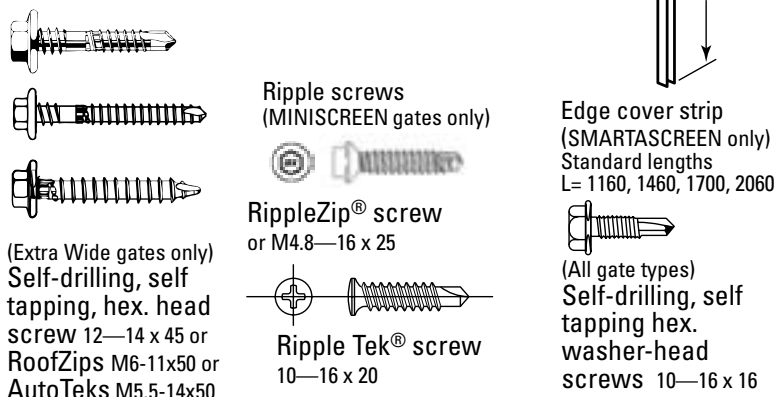
Infill sheets Standard lengths 1490, 1790 & 2090mm
Standard lengths for 'Plus' 1190, 1490 & 1790mm



Rails



Fasteners



'Plus Options'

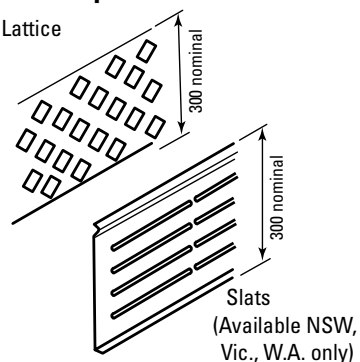


Figure 18.1
Gate components

19. Installation of gate posts and gate

For gate assembly, see following Sections 20-21

1) Select post size - 60x60mm for Standard Width Gate, 65x65mm for Extra Width Gate. Footings for gate posts must be prepared and constructed in accordance with the fence installation guidelines (Section 11).



2) Measure the gap where you are going to position the gate to know where to set the posts. Measurements should allow room for the gate to swing, and for space between stiles & posts. (Recommended allowances are given on Table 17.2 of this manual.)



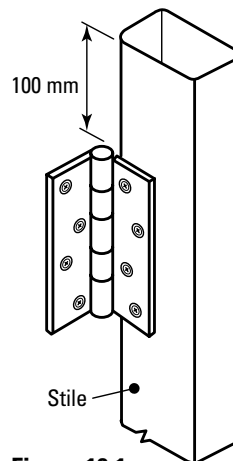
3) Set the level at the height required to swing clear of the ground. Use a measuring tape or the level to show where gate aligns with the post and mark this position (using a compatible marker, not a lead pencil.)



4) Set the second post so the post tops align and check it is plumb. Measure the position of gate height and mark on post.



5) Use the level to double check plumb and gate positioning. Remember that a level gate swings free and easy.

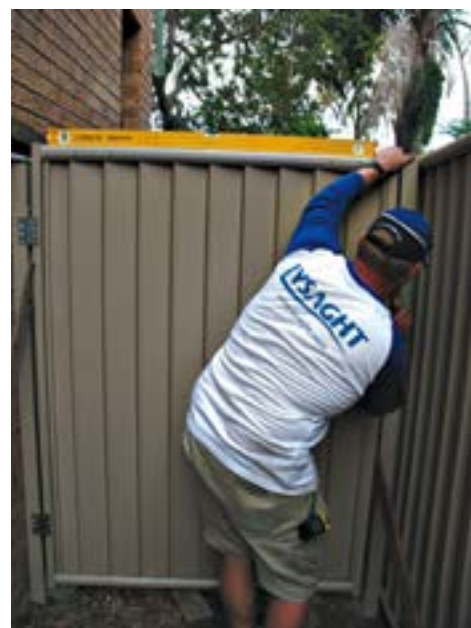


6) Fit the hinges to the selected stile of the gate, using 4 screws per hinge.

Install the hinges on the wide face of the stile (not on the narrow face) (Figure 19.1).

To avoid rust stains, it is important to brush and shake out drill swarf from the gate and rails.

Figure 19.1
Fixing of hinges



7) Hang the gate. Attach the latch, handle and drop bolt as required.

8) Clean off any marks, hose down the completed gate, and fit the post caps to the stiles.

20. Gate assembly - preparation steps (SPANSCREEN, NEETASCREEN, SMARTASCREEN & CUSTOMSCREEN gates)

Infill sheet

- 1) Lay sheet(s) on a horizontal surface. Use some soft material to protect the COLORBOND steel finish.
- 2) For extra-wide gates: overlap sheets to the desired width (Figure 20.1). Join the two sheets with hex. head screws (#10-16 x 16), through the overlaps, at both top and bottom edges (Figure 20.2).
- 3) Using tin snips, notch the four corners. The top and bottom notches are different. (Figure 20.3).
- 4) If required, fit edge cover strip to one side of the infill sheet for SMARTASCREEN or SPANSCREEN gates. (Figure 20.4)

Gate Lattice or Slats

- 5) If required, trim the lattice to fit the width of your gate. Equally trim both ends to retain a balanced effect. (Figure 20.6) Notch the top leg of the lattice/slats on both ends. (Figure 20.5)

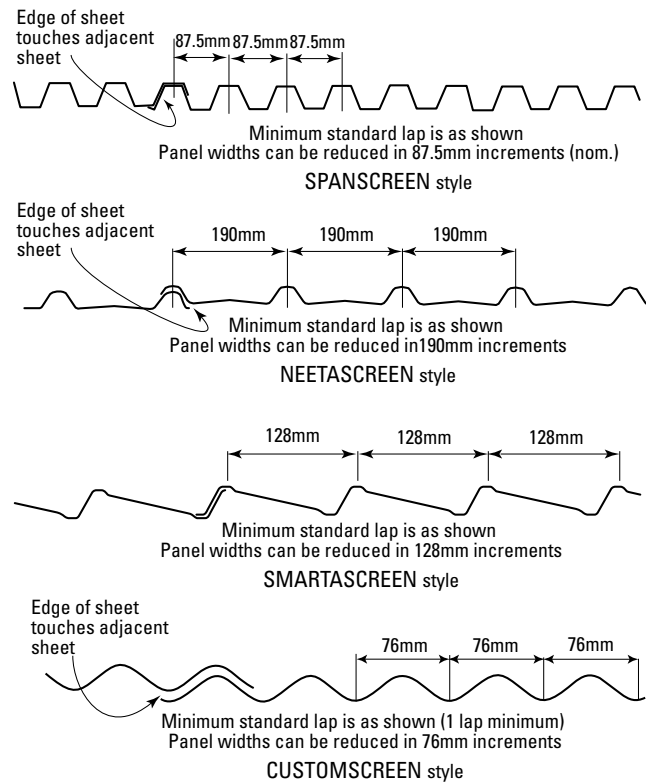


Figure 20.1

Sheet overlaps for extra wide gates

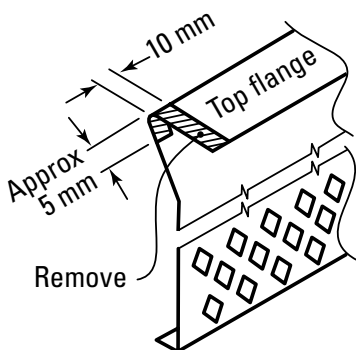


Figure 20.5

Notch at top of lattice

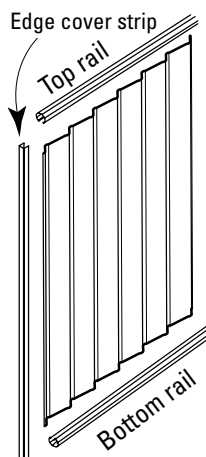


Figure 20.4

Fit Edge Cover Strip (SPANSCREEN or SMARTASCREEN)

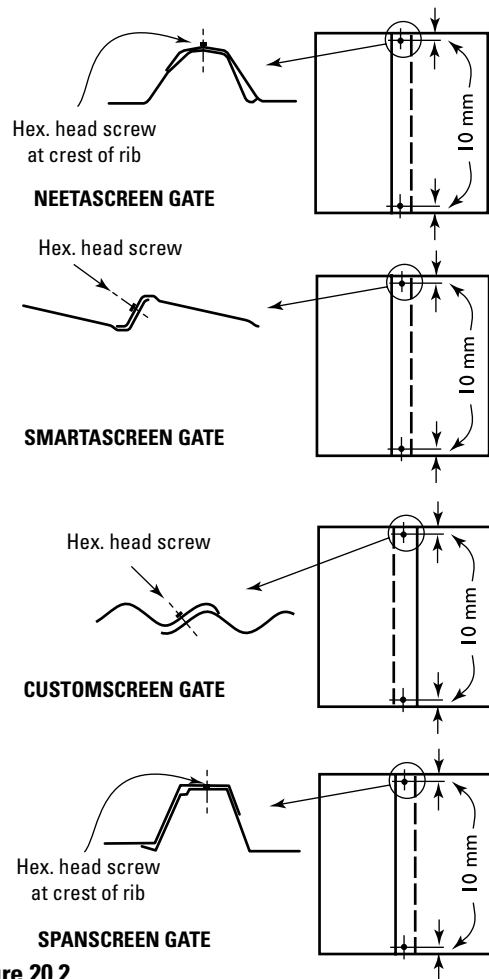


Figure 20.2

Joining of sheets for extra wide gates

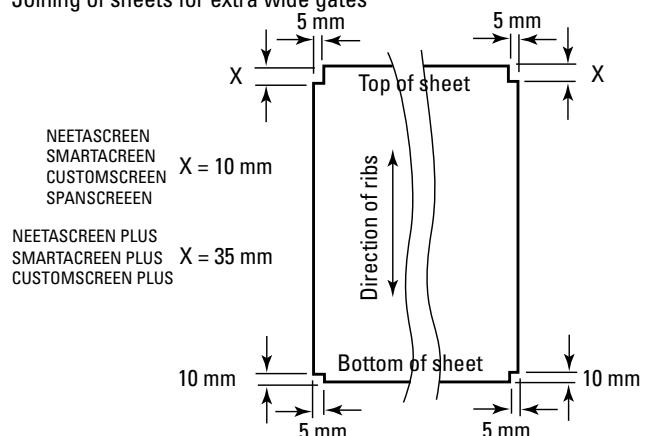


Figure 20.3

Notching of corners

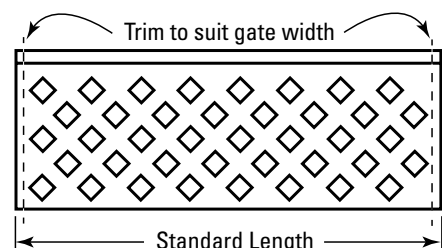


Figure 20.6

Length of lattice

Non-cyclonic Fence Design & Installation Guide

21. Gate assembly (SPANSCREEN, NEETASCREEN, SMARTASCREEN & CUSTOMSCREEN gates)

1. Complete the preparation steps if they are not already done.
2. Lay out all the components (Figure 21.1) on some soft material to protect the COLORBOND steel finish.
3. For gates with no lattice, go to step 5.
4. For 'PLUS OPTION' (with lattice/slats) gate:

Mark the position of the two lattice gate clips. Fasten the clips to the stiles using two hex. head screws (#10-16 x 16) for each (Figure 21.2).
5. Lay the infill sheet(s) on a horizontal surface. Slide the top rail (lower top rail if lattice is used) onto the top of a sheet(s). A rubber mallet or piece of timber can help.
6. Fit the bottom rail similarly.
7. Insert the spigots of the stiles into the top and bottom rails.

If a lattice is used, ensure that the lower top rail fits neatly onto the lattice gate clips. (Figures 21.1, 21.3)

Even up the sheets by bumping the ribs with the palm of your hand.
8. Hold both stiles firmly in place and drive one hex. head screw (#10-16x16) in each of the four corners, 20mm from the inside edge of the stile (Figure 21.3).

9. Check squareness by measuring the gate's diagonals. Drive a second hex. head screw (see below) in each of the four corners, at first inner rib (non side-lap rib) of infill sheet from the stile for NEETASCREEN, SPANSCREEN and SMARTASCREEN and second inner rib for CUSTOMSCREEN (Figure 20.3).
 - For standard width gate (with or without 'Plus' option) use #10-16x16 screws.
 - For extra wide gate (without 'Plus' option) use #12-14x45* screws.
 - For extra wide gate (with 'Plus' option) at top rail use #10-16x16 screws and at bottom rail use #12-14x45* screws.

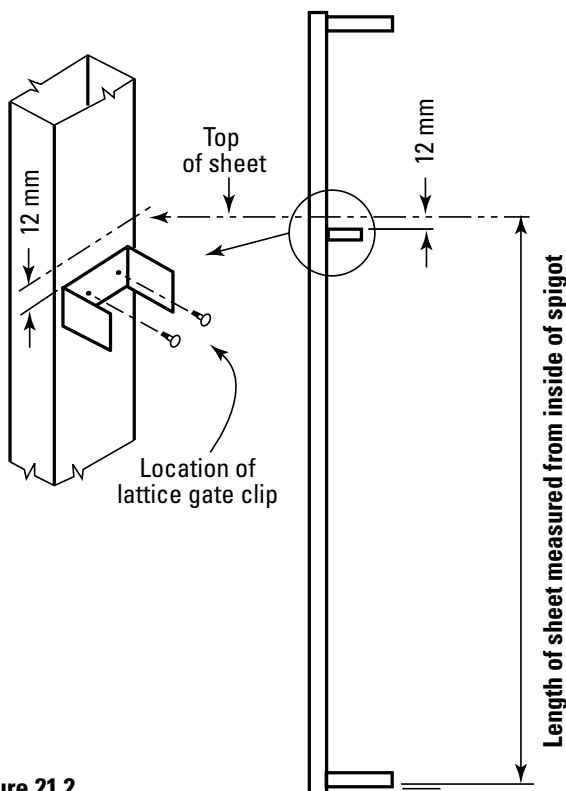


Figure 21.2
Positioning of lattice clips for gates with lattice or slats.

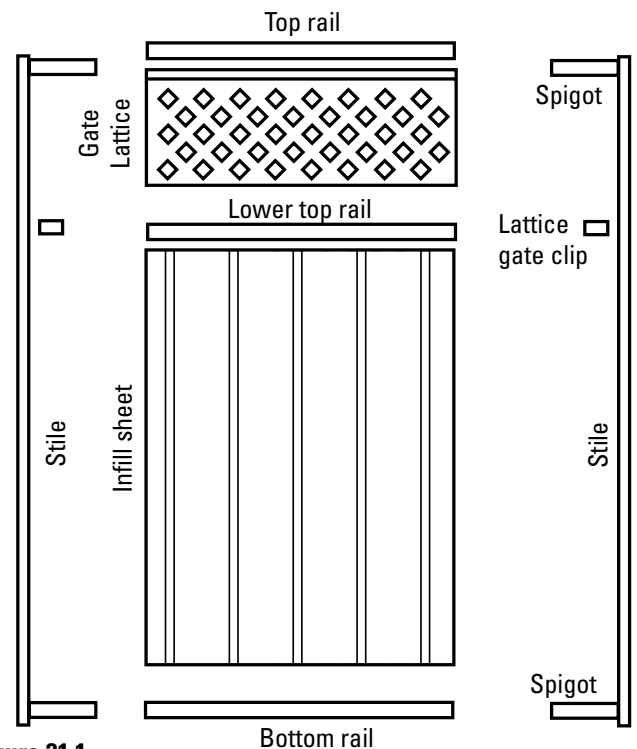


Figure 21.1
Initial layout of parts

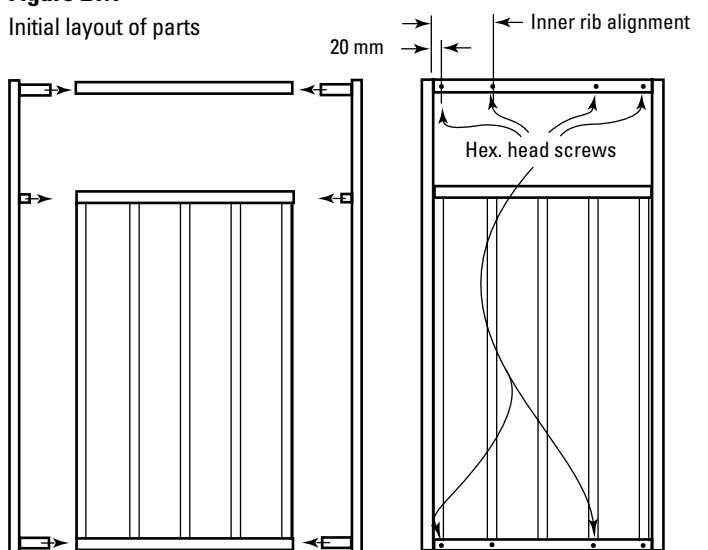


Figure 21.3
Assembly of stiles (NEETASCREEN PLUS shown)



10. For extra wide gate with 'Plus' option additional screws are required (Figure 21.4):

- Lower top rail at corners passing through the lattice clip at Position A #10-16x16.
- Lower top rail at corners passing through the inner rib alignment at Position C #12-14x45*.
- Lower top rail & bottom rail passing through the lapped rib at Position B #12-14x45*. Take care to miss the screw earlier positioned that stitched the in-fill sheets together.

11. Turn the gate over and drive two #10-16x16 hex. head screws in each corner, placed in alignment to those in Steps 8 and 9.

For gate (standard width and extra wide) with 'Plus' option, drive an additional #10-16x16 screw into the two corners of the lower top rail passing through the lattice or slats clip in alignment with Position A (Figure 21.4).

12. If your gate includes a 'Plus' option (lattice or slats), insert it into the top rail. Swing the bottom of the lattice/slats in and secure it to the lower top rail using 3 hex. head screws #10-16x16 for standard width gates, or 3 for extra wide gates. Secure it also to the top rail: 2 screws for standard width gates, and 3 screws for extra wide gates. (Figure 21.5)

13. For CUSTOMSCREEN, ensure the lattice is centred. If desirable, the gaps on either side of the 'Plus' option can be filled with a suitably sized flashing/trim and fix with rivets top and bottom to lattice/slats and stile (Figure 21.6)

If the lattice/slats has been trimmed to suit the width of the gate, then a similar flashing/trim may be appropriate.

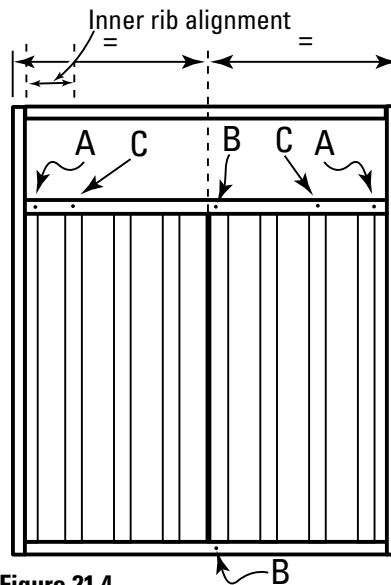


Figure 21.4
Location of added fasteners for extra wide 'Plus' gates

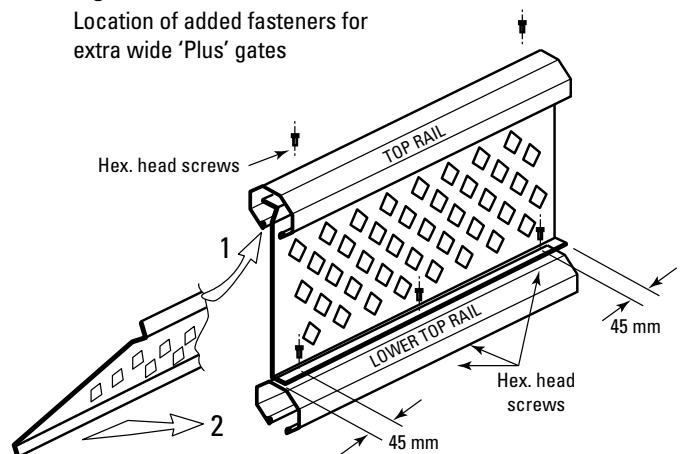
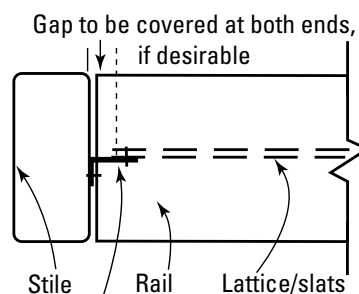


Figure 21.5
Fixing of 'Plus' option (standard width gate, lattice shown)



Trim/flashing to match the colour of the lattice/slats. Fix with rivets top and bottom to lattice/slats and stile.

Figure 21.6
Plan detail - Stile to lattice trim and stile.

22. Gate assembly - preparation steps

(MINISCREEN gates)

Infill sheet

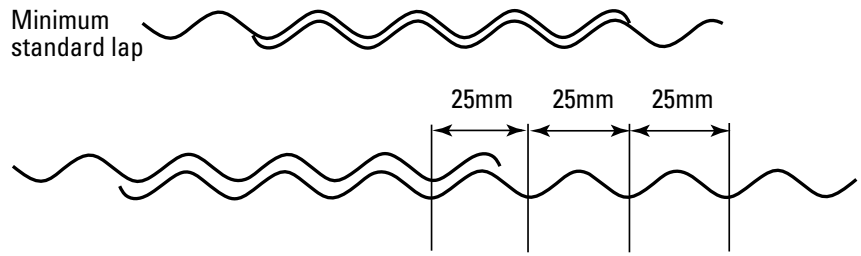
- 1) Lay sheet(s) on a horizontal surface.
Use some soft material to protect the COLORBOND steel painted finish.
- 2) For extra-wide gates: overlap sheets to the desired width (Figure 23.1). Join the two sheets with hex. head screws #10–16x16 through the overlaps, at both top and bottom edges (Figure 23.2).
- 3) Using tin snips, notch the four corners. The top and bottom notches are different. (Figure 23.3).

Lower top rail and gate lattice

- 4) If required, trim the lattice to fit the width of your gate. Equally trim both ends to retain a balanced effect. (Figure 23.5)
- 5) Notch the top leg of the lattice on both ends. (Figure 23.4)
- 6) Remove the internal lips of the lower top rail for 5 mm at both ends. (Fig. 23.6)

General

- 7) File all cut edges to remove burrs.



Gate widths can be reduced in 25mm increments

Figure 22.1: Sheet overlaps for extra wide gates

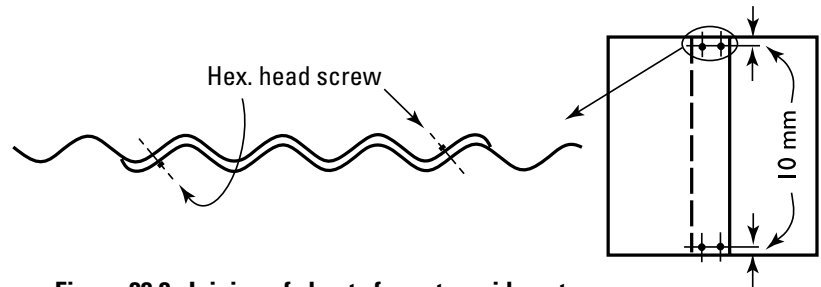
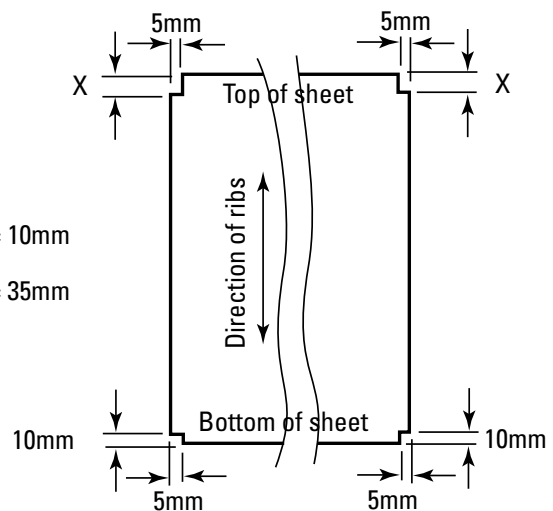
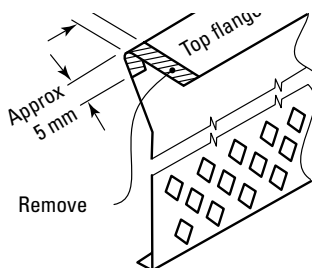


Figure 22.2: Joining of sheets for extra wide gates

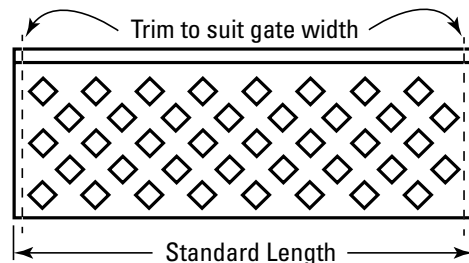


MINISCREEN: X = 10mm
MINISCREEN PLUS: X = 35mm

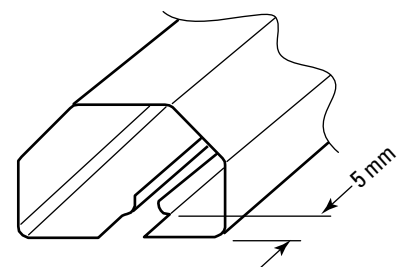
Figure 22.3: Notching of corners



**Figure 22.4
Notch at top of lattice**



**Figure 22.5:
Length of lattice**



**Figure 22.6:
Notching of lower top rail**

23. Gate Assembly (MINISCREEN gates)

1. Complete the preparation steps if they are not already done.
2. Lay out all the components (Figure 23.1) on some soft material to protect the COLORBOND steel finish.
3. If your gate includes a 'Plus Option' (lattice or slats), mark the position of the two lattice gate clips. Fasten the clips to the stiles using two hex. head screws #10-16x16 for each (Figure 23.3).
4. Mark the position of the two centre rail clips, with the inner edge of the clip 2mm from the centreline of the stile, and fasten them to the stiles using a hex. head screw #10-16 x 16 for each (Figure 23.3).
5. Lay the infill sheet(s) on a horizontal surface. Slide the top rail (lower top rail if 'Plus' option is used) onto the top of a sheet(s). A rubber mallet or piece of timber can help.
6. Fit the bottom rail similarly.
7. Insert the spigots of both stiles into the top and bottom rails and locate the centre rail on its clips. If a lattice is used, ensure that the lower top rail fits neatly onto the lattice gate clips (Figure 23.2). Even up the sheets by bumping the ribs with the palm of your hand.
8. Hold both stiles firmly in place and drive one hex. head screw #10-16 x 16 in each of the four corners, 20mm from the inside edge of the stile (Figure 23.2).
9. Check squareness by measuring the gate's diagonals. Drive a second hex. head screw (#10-16x16) in each of the four corners, 170mm from the stile (Figure 23.2).

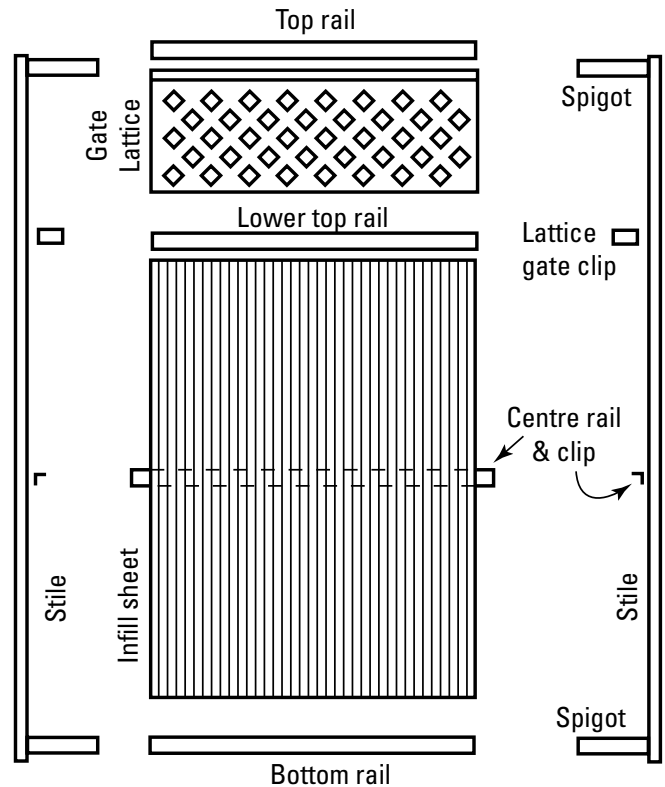


Figure 23.1
Initial layout of parts (showing 'Plus' option)

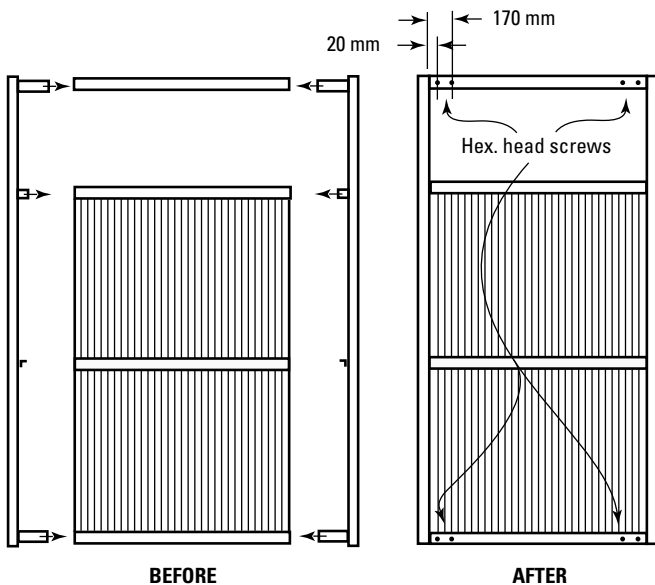


Figure 23.2
Assembly of stiles (MINISCREEN PLUS shown)

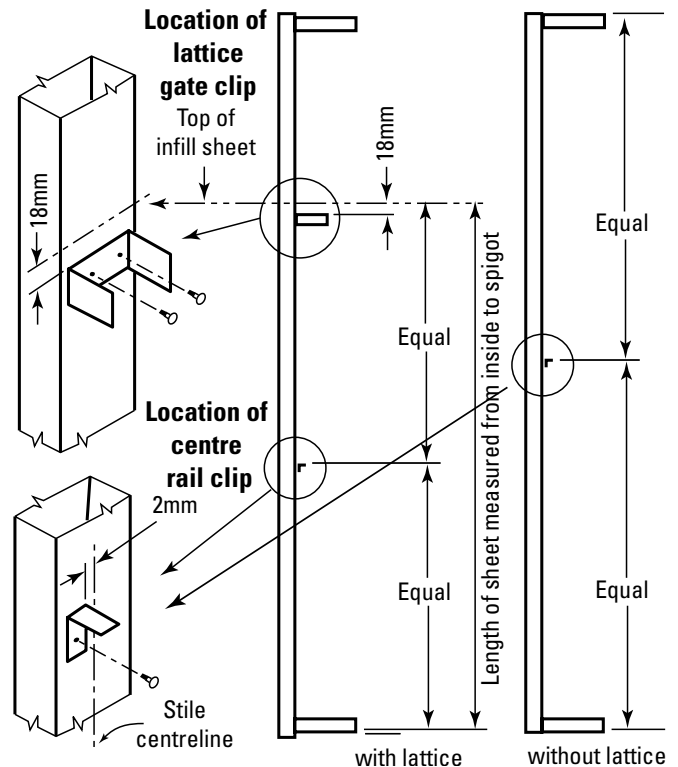


Figure 23.3
Positioning of clips for gates

10. For gate with 'Plus' option, drive an additional #10-16x16 screw into the two corners of the lower top rail passing through the lattice clip in alignment with Position A (Figure 23.4)
11. Turn the gate over and drive a hex. head screw in each corner, placed similarly to those in Step 8.
12. Drive a second hex. head screw (see below) in each corner, placed similarly to those in Step 9.
 - For standard width gate (with or without lattice) use #10-16x16 screws.
 - For extra wide gate (without lattice) use #12-14x45* screws.
 - For extra wide gate (with lattice) at top rail use #10-16x16 screws and at bottom rail use #12-14x45* screws.
13. For extra wide gate with lattice additional screws are required (Figure 23.4)
 - Lower top rail at corners passing through the lattice clip at Position A - #10-16x16
 - Lower top rail at corners passing through the inner rib alignment at Position C - #12-14x45*
 - Lower top rail & bottom rail passing through the lapped in-fill sheets at Position B - #12-14x45*.
14. Fix the in-fill sheet(s) to the central rail with a minimum of 3 Ripple screws for standard width gate and 5 Ripple screws for extra wide gate. For the extra wide gate one screw must pass through the lap of the in-fill sheets.
15. If your gate includes a lattice, insert it into the top rail. Swing the bottom of the lattice in, and secure it to the lower top rail using 3 hex. head screws for standard width gates, or 3 for extra wide gates. Secure it also to the top rail: 2 screws for standard width gates, and 3 screws for extra width gates. (Figure 23.5)
16. Ensure the lattice is centred. If desirable, the gaps on either side of the 'Plus' option can be filled with a suitably sized flashing (trim and fix with rivets top and bottom to lattice/slats and stile - Figure 23.6)

If the lattice/slats has been trimmed to suit the width of the gate, then a similar flashing/trim may be appropriate.

* Or a suitable alternative.

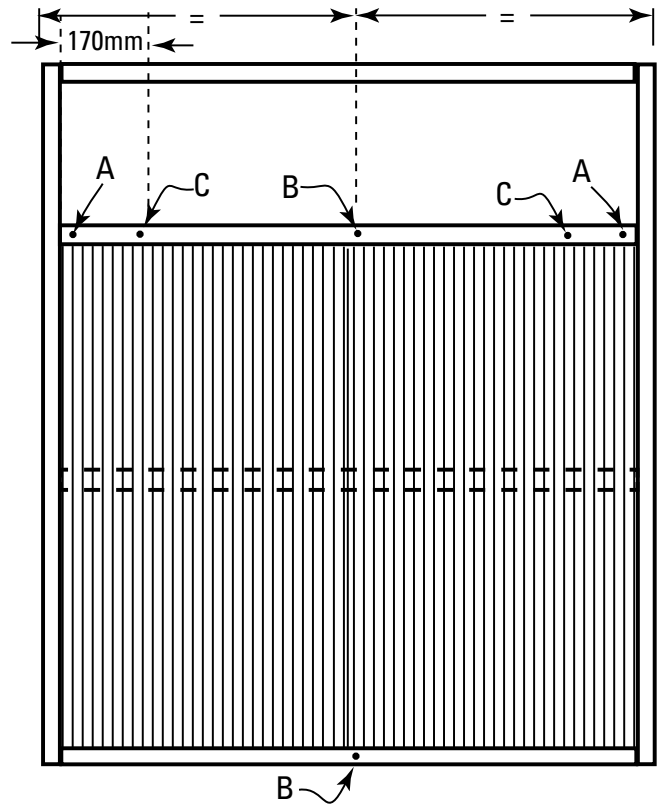


Figure 23.4

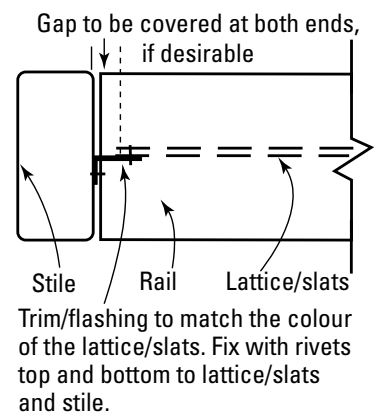


Figure 23.6

Plan detail - Stile to lattice angle trim

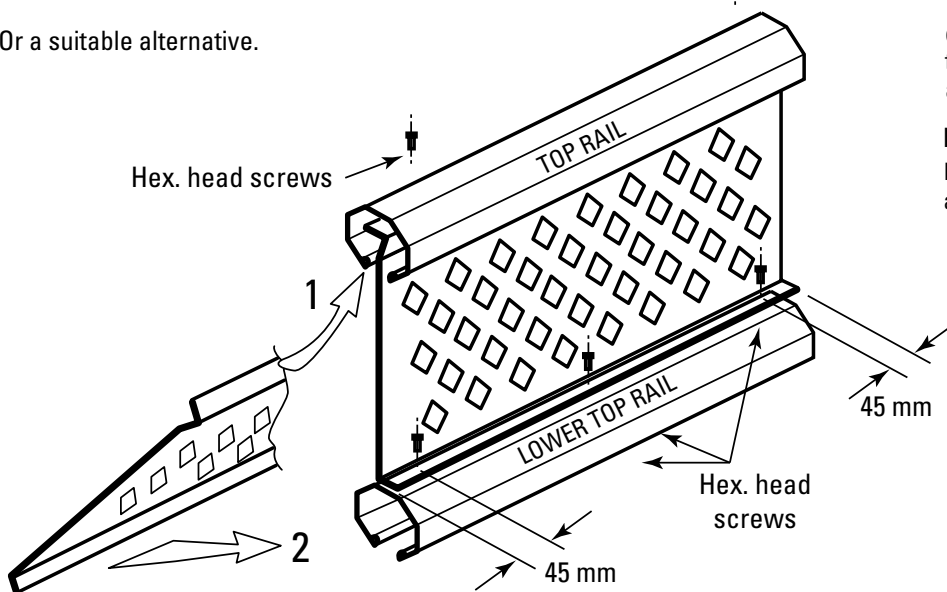


Figure 23.5
Fixing of lattice
(Standard width gate shown)

24. Adding a 'Plus Option' to an existing LYSAGHT fence

Conversion kit components*

Component	Quantity
Extension posts	2
Ball cap	1
Top rail	1
Lattice (or Slats)	1
Fasteners	16

* (per panel)

Step 1

Remove existing screws from post and top rail junction of existing fence, as shown in Figure 24.1.

Step 2

Slide post extension down over top of existing post till cut out meets existing top rail. Fasten with 2 screws, as shown in Figure 24.2.

Step 3

Engage a top rail onto the top of a lattice or slats (Figure 24.4 for correct orientation).

Lower the rail and lattice onto the top of a fence panel, engaging the ends of the rail with the posts (Figure 24.3).

Fix with three hex. head screws along the bottom flange of the lattice or slats (Fig. 24.4). Protect the paintwork with a piece of cardboard between the drill and the lattice.

Fix the top rail to the lattice or slats with three hex. head screws (Figure 24.4).

Fasten the top rail to the post extensions with one hex. head screw on both sides of each post.

Step 4

Place the post cap over top of post extension and top rail. They can be secured with one screw on either side of the post (Figure 24.5).

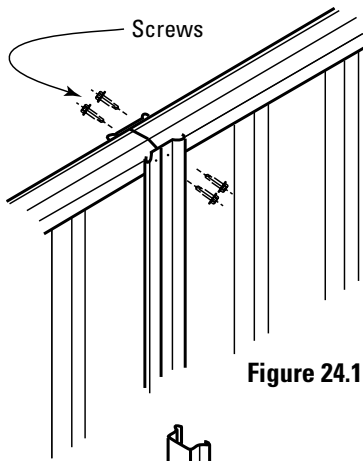


Figure 24.1

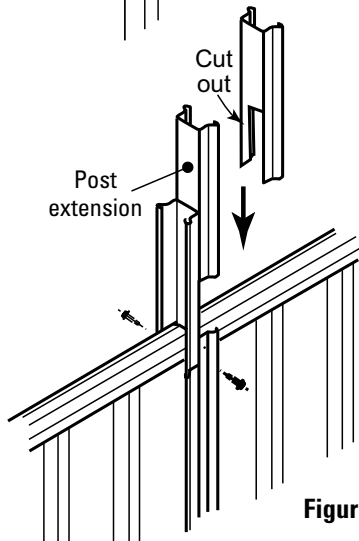


Figure 24.2

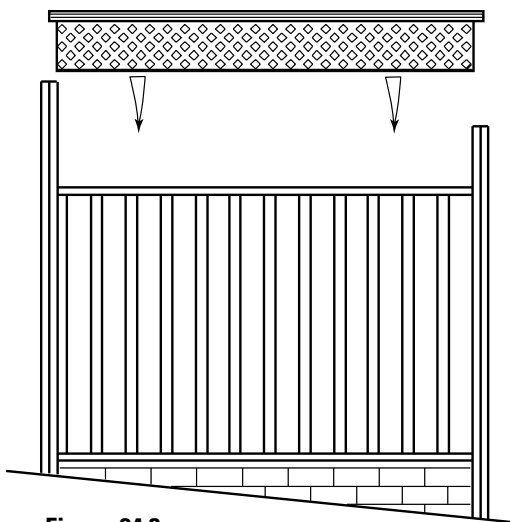


Figure 24.3

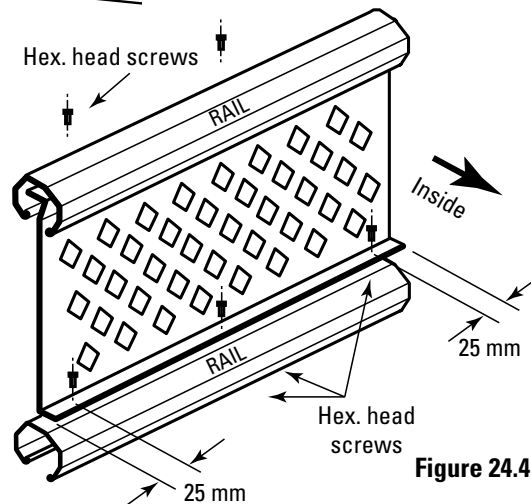


Figure 24.4

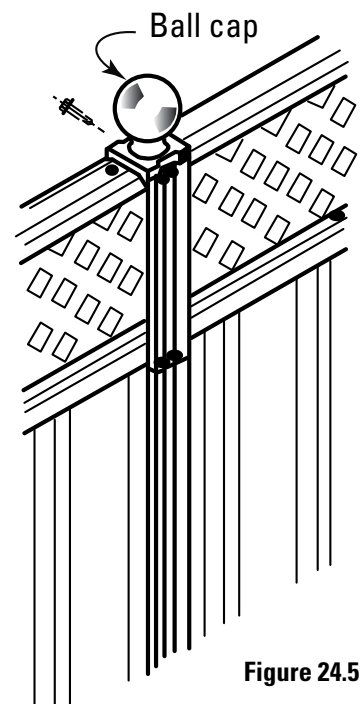


Figure 24.5

25. Post caps installation

The range of plastic post caps provides a safety barrier by covering sharp edges on posts of all heights. They improve the look of your fence and in turn add value to your home. They are very easy to use and install. They push on easily over the outside of the top of the post and may be fitted during or after construction. To prevent accidental or intentional removal we recommend that they be screwed into position.

The benefits of using the plastic Post Cap include:

- Provides safety from cut or exposed edges.
- Colour matched to the COLORBOND steel fencing colours.
- Inexpensive when compared to metal powder-coated caps.
- While sturdy and strong and flexible allowing for an easy fit

There are 2 different types of post caps: the LYSAGHT Post Cap and the Ball Cap.

LYSAGHT Post Cap

The LYSAGHT Post Cap is suitable for the LYSAGHT posts (C-Post) when using universal rails for all LYSAGHT fences. It comes as a double cap suitable for back-to-back posts.

It has a cutting guide for easy on-site cutting for single post applications, such as a stepped fence or at the end of a run. Just nick either side of the post cap, bend back and slice along the fold. Place over the outside of the post for a firm and perfect fit.

These post caps can be screwed in on the side or through the top.

Ball Cap

This cap is used where a point of difference is desired and is particularly recommended for use in our "Plus Option" fence styles. The Ball Cap gives a sense of style to your fence, setting it apart from other fences by adding that special touch. This is a double cap so it only fits on back-to-back LYSAGHT posts. At the end of a run, another post plus an infill strip can be purchased to continue the look.

Other post caps

There are other plastic caps (black) in the LYSAGHT range:

- For the tubular square posts, 60 x 60 and 65 x 65 black plastic caps.
- The gate accessory kits also come with stile caps (plugs) in the size 57 x 35mm.

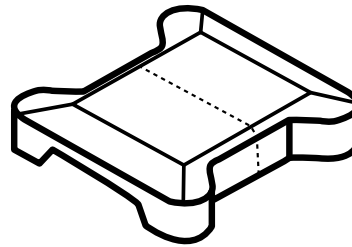


Figure 25.1
LYSAGHT Post Cap

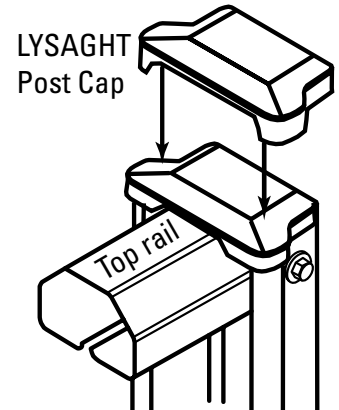


Figure 25.2
MINISCREEN
(and Plus Option)

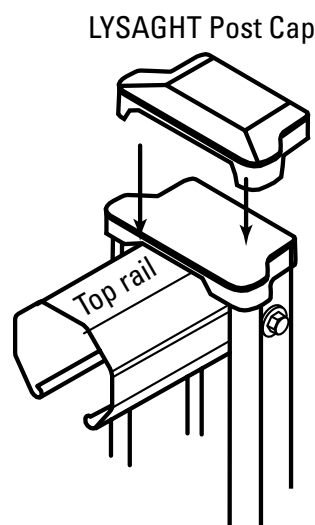


Figure 25.3
NEETASCREEN (& PLUS),
CUSTOMSCREEN (& PLUS)
SMARTASCREEN (& PLUS)
SPANSCREEN (& PLUS)
using universal rail

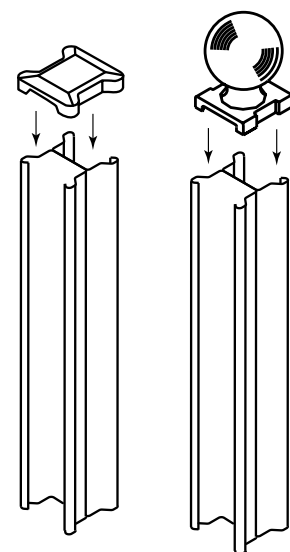


Figure 25.4
LYSAGHT Post Cap and Ball Cap



Product Descriptions

All descriptions, specifications, illustrations, drawings, data, dimensions and weights contained in this catalogue, all technical literature and websites containing information from BlueScope Lysaght are approximations only. They are intended by BlueScope Lysaght to be a general description for information and identification purposes and do not create a sale by description. BlueScope Lysaght reserves the right at any time to:

- (a) supply Goods with such minor modifications from its drawings and specifications as it sees fit; and
- (b) alter specifications shown in its promotional literature to reflect changes made after the date of such publication.

Disclaimer, warranties and limitation of liability

This publication is intended to be an aid for all trades and professionals involved with specifying and installing LYSAGHT products and not to be a substitute for professional judgement.

Terms and conditions of sale available at local BlueScope Lysaght sales offices.

Except to the extent to which liability may not lawfully be excluded or limited, BlueScope Steel Limited will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, consequential loss or damage such as loss of profit or anticipated profit, loss of use, damage to goodwill and loss due to delay) however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

© Copyright BlueScope Steel Limited November 21, 2012

Technical enquiries: steeldirect@bluescopesteel.com or call 1800 641 417

www.lysaght.com

Please check the latest information which is always available on our website.

LYSAGHT, NEETASCREEN, SMARTASCREEN, MINISCREEN, CUSTOMSCREEN, SPANSCREEN® NEETASCREEN PLUS, SMARTASCREEN PLUS, MINISCREEN PLUS, CUSTOMSCREEN PLUS, SPANSCREEN PLUS® and COLORBOND are registered trademarks of BlueScope Steel Limited, ABN 16 000 011 058. Ripple Tek and RippleZip are registered trademarks of ITW Buildex. The LYSAGHT range of products is exclusively made by or for BlueScope Steel Limited trading as BlueScope Lysaght.



9 320075 071844

