

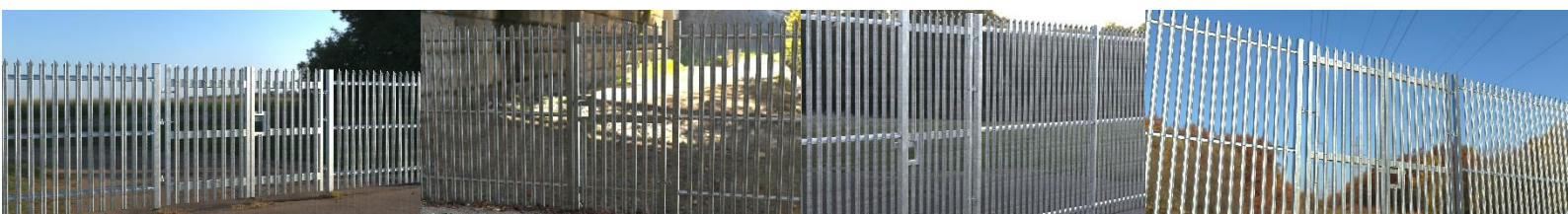
PaliFence[®] SR1 (A1)

Operations, Maintenance & Installation Manual

Gates Single Leaf and Double Leaf from
1.8m height to 3.0m, & 1.0m wide to 10.0m



RedBookLive



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1.0 Copyright and Disclaimer

Disclaimer

While every attempt has been made to verify the accuracy of the content in this manual upon its release, we cannot accept liability for any losses or damages resulting from inaccuracies. All tasks outlined must be carried out by certified professionals. Any deviation from these instructions nullifies any guaranteed entitlement or liability from the manufacturer.

Copyright

The copyright of this manual is owned by First Fence Ltd and is protected at all times. Reproduction of this manual by any means is strictly prohibited without prior written consent from First Fence Ltd.

Contact

For inquiries regarding PaliFence®, LPS 1175 standards, deviations, the contents of the manuals, or technical specifications, please direct your questions to:

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2.0 Preface

O&M Guide

The PaliFence[®] O&M manual will detail the standard requirements, safety, site assessment, installation and bill of materials associated with the PaliFence[®] gate range.

LPS 1175 Outlined

LPS 1175 is a security standard developed by the Loss Prevention Certification Board (LPCB) in the United Kingdom. It specifies requirements and testing procedures for the resistance of various security products, including gates, to forced entry attempts. Gates that meet the LPS 1175 standard are rigorously tested against different levels of attack, providing assurance of their effectiveness in deterring intruders and protecting property.

Certification

The PaliFence[®] range is designated with an "SR1 (A1)" rating, providing basic resistance against forced entry attempts, and deterring opportunistic intruders. The tools used for such attempts, as outlined in LPS 1175 issue 8.1 table 1, include handheld implements easily concealed and wielded by opportunists.

A copy of the LPS 1175 standards can be obtained via the BRE or directly from the contact details in section 1.0.

A copy of the PaliFence[®] LPS 1175 certificate can be obtained on the <https://firstfence.co.uk>

A copy of the PaliFence[®] Red Book Live listing can be obtained on www.redbooklive.com

Component and Material Registers

All materials and components utilised in the production, storage, and distribution of PaliFence[®] are sourced and documented within the PaliFence[®] Drawing Register, Material Register, and Critical Components list.

These undergo an LPCB Factory Production Control (FPC) audit at least once per year to ensure compliance in manufacturing and storage of any certified LPS 1175 products.

3.0 Safety

Competence

The PaliFence® gate range must be installed by a person of competence, defined as an individual who possesses the necessary knowledge, skill and experience in the installation of fences and gates.



Liability

The installation guide should be understood and followed in section 5.0 before any installation activities commence. If any area of the installation is unclear, the installer must contact the manufacturer, outlined in section 1.0 'Contact'. First Fence Limited take no responsibility for incorrectly installed systems, product, material or components.

Personal Protective Equipment

Site specific installation methods should always be followed, in addition to using the following PPE equipment:



Risk Assessment

It is the responsibility of the installer to adhere to local risk assessments before installation, including and not limited to the following examples:

Activity	Risk Assessment Requirements and Not Limited to:
Breaking ground for post hole excavations	Noise Vibration Manual Handling
Post installation	Hazardous Substances (COSHH) Manual Handling
Installation of pales	Working at Height Noise Vibration
Installation of fixings	Working at Height Noise Vibration

4.0 Installation

Tools Legend

Safety Gloves

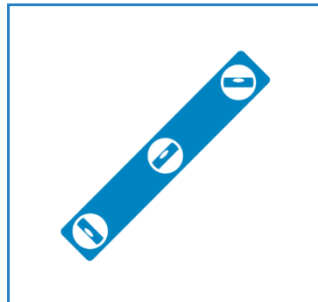


Required for all material handling

Required for any COSHH tasks including post mix

Required for any installation tasks

Spirit Level



Required for plumb installation of posts and hanging of gates

Shovel / Excavation



Required for excavation of holes to suit post foundations

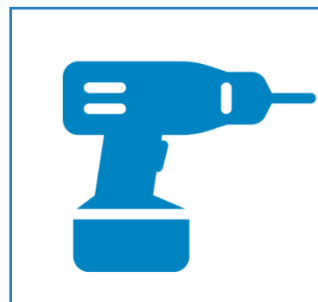
Time



Required for post mix curing time

Required for patched fixing curing time

Drill / Buzz Gun



Required for shear nut installation on pales and rails

Attack Face

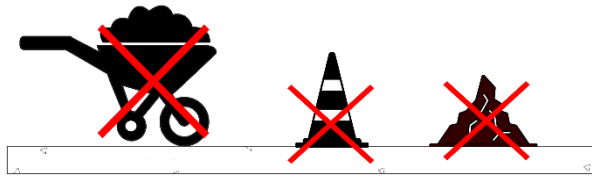


Defines the outside / attack side / face of the PaliFence® system

Site Preparation

Gate Line

Before proceeding with gate installation, it's crucial to physically mark out the intended area for the gate installation, remove any obstructions and gauge any changes in gradients:

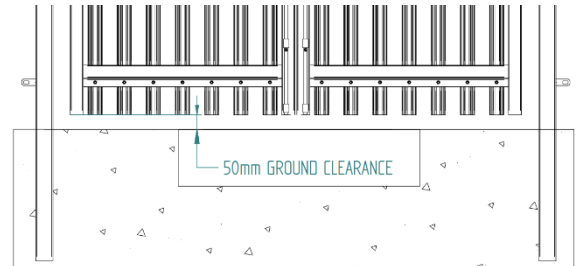


1



Gradients

Unlike the PaliFence® fencing that can rake up to 30°, all PaliFence® gates must be installed in a level position, ensuring the ground is also level from post to post, and 50mm clearance is maintained between the ground and the bottom of the pale:



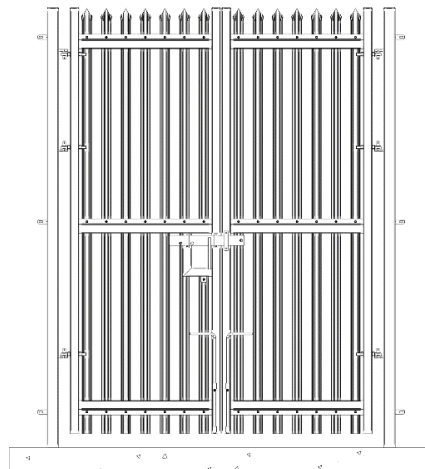
2



Note: For any area of installation on weaker substrates, verges or banks, First Fence Limited are able to provide longer posts for deeper in-ground contact.



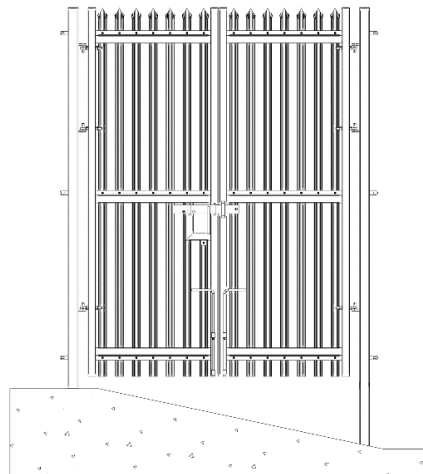
Compliant Installation:



2a



Non-Compliant Installation:



2b



5.0 Post Installation

The total width of a PaliFence® gate set including posts uses the following formula:

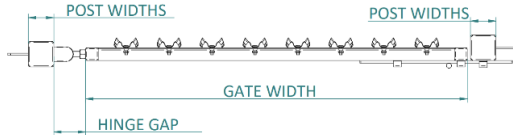
Single Leaf Set:

Post Widths + Gate Width + 110mm

Double Leaf Set:

Post Widths + Gate Width + 210mm

Find the outer point for both posts (for single or double)



1



Subtract 50% of each post dimension from both ends to find the centre point for the centre of the foundation hole.

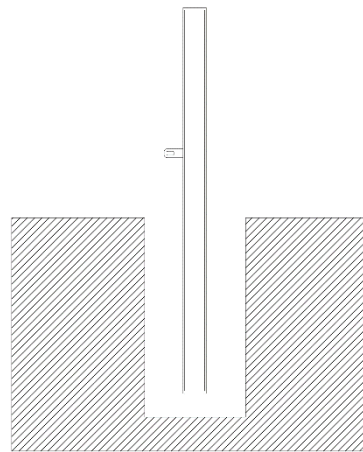


2

Note: if adjoining adjacent fencing, place the gate in a position that doesn't leave a shortfall.



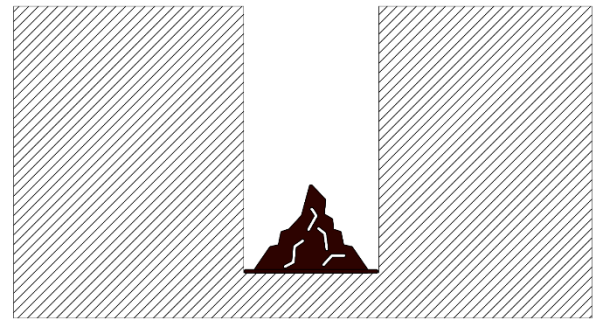
Dig your foundation holes in accordance with the matrix highlighted in Appendix A, table one.



3



If your foundations are too deep, compact subbase into the hole to ensure compliance to foundation depth in Appendix A, table one.



4



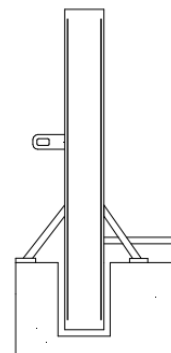
Once the foundation depth has been met, plate each post in the foundation hole. It's essential that the weld on gate hooks face in-line towards the other post. It's also essential the catch on the catch leaf is installed on the inside of the gate / fence line.



5



Pour the concrete or post mix, ensuring a minimum grade of C20/C25, following the recommended quantity in appendix B. Once concrete has been poured, assemble a timber jig to support both posts and ensure both axis are kept in the plumb position.



6

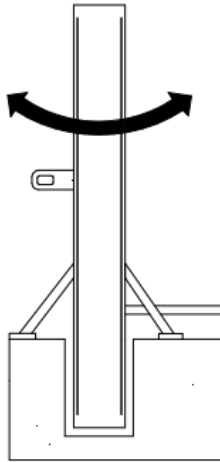


NOTE: Any deviations from the above installation guidance will potentially weaken the finished gate, resulting in invalidation on the LPS 1175 SR1 (A1) certification!



Post Installation (Continued)

Halfway through the curing time, check the levels are still true.



7



Once cured, remove the timber supports.



8



NOTE: Any deviations from the above installation guidance will potentially weaken the finished gate, resulting in invalidation on the LPS 1175 SR1 (A1) certification!



For bolt down systems:

Follow the same spacing guidance as per step 1, ensure ground anchors are at least M12 x 125mm and that four are used per base plate.

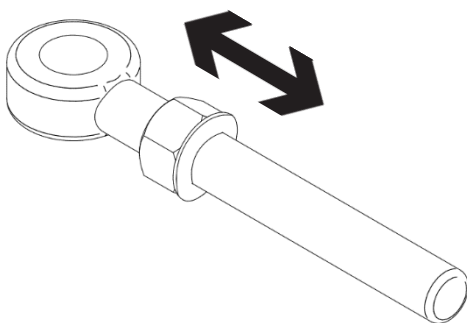
All substrate material must be equal depth or greater than the length of the ground anchor and must be of solid concrete material (i.e. no loose asphalt or similar).

All holes to be clear of dust and debris to ensure maximum insertion of the ground anchor.

6.0 Hanging Installation

Note: Frames should be installed before the pales are attached.

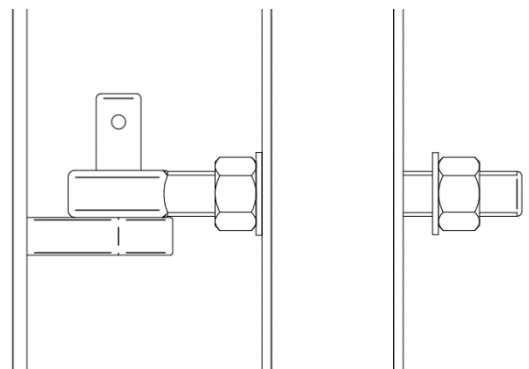
Remove the outer washer and nut from each of the eyebolts, and then wind the inner nut and washer all the way to the eyebolt.



1



Place two eyebolts on the upright facing pins and in the same direction.

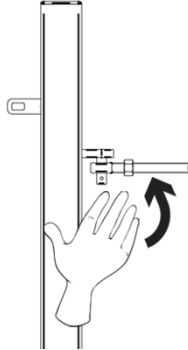


2



6.0 Hanging Installation (continued)

Using another person, the third eyebolt should be manually held onto the top inverted hook and in-line with the two other eyebolts.

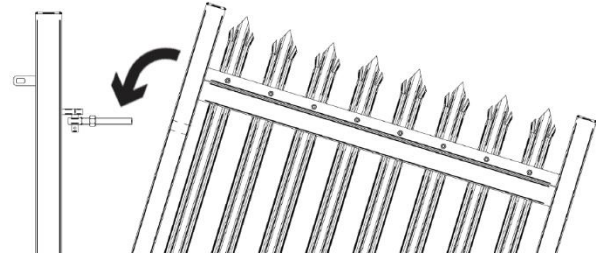


3

Note: Remember to consult HSE guidelines on working at height.



With the gate suspended in the vertical upright position, slowly guide the gate towards the eyebolts, ensuring the eyebolts meet and feed through the boss holes in the gate frame.

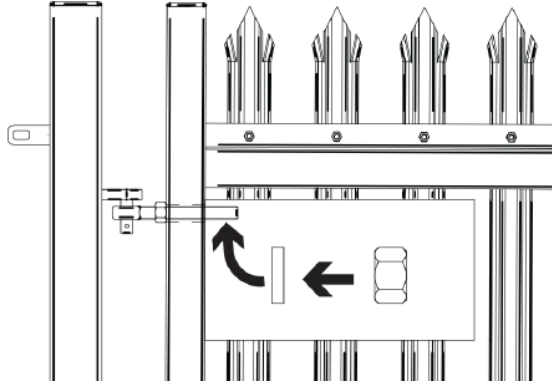


4

Note: A lifting assessment should be carried out before any lifting works, as the weight, height and width of the gate will affect the lifting method.



Secure washers and nuts onto the exposed thread of the eyebolt and hand tighten.

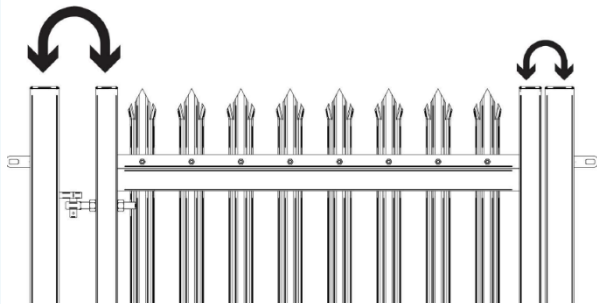


5

Note: Ensure the weight of the gate is still taken at the point of hand tightening the washers and nuts.



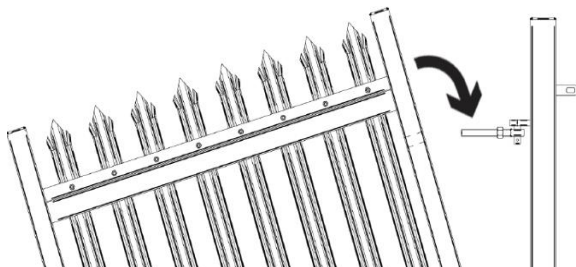
Using both nuts, adjust in and out on each hinge to ensure the gate is level to the ground, 50mm is maintained between the ground and pale, and that 10mm is maintained between leaves or leaf and catch post.



6



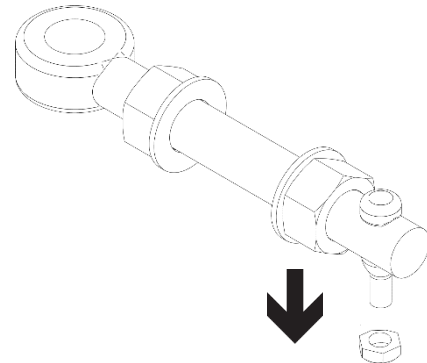
If installing a double leaf, repeat the process.



7



Once the gates are adjusted as per step 6, shear off the hinge nuts for anti-tamper resistance.

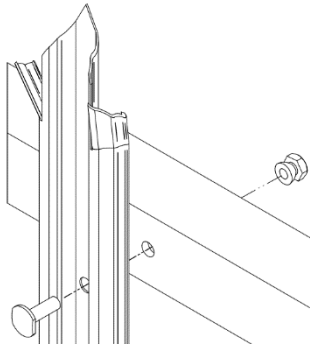


8



7.0 Pale Installation

Install the pale with the supplied M8 x 25mm patched T-Bolts in the corresponding hole with the adjacent rail and shear the nut off on the inside of the gate.

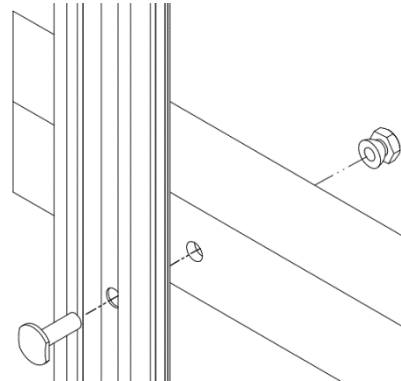


1

Note: T-Bolts will always be fed from the attack side. Any substituted bolts will invalidate the LPS 1175 SR1 (A1) certification.



Follow step 1 for the two remaining rails (three rails in total per gate)



2



8.0 Patch fixing information



NOTE: PaliFence® rail and pale fixings have been developed specifically for the LPS 1175 SR1 (A1) testing. Any variations, substitution or adaptations to the below fixing specification will invalidate the certification!



What is a patched fixing?

When applied, the patch permanently fuses to the screw thread, increasing removal torque by acting as a wedge. This ensures the screw locks securely in any position during assembly, providing top-notch vibration resistance and torque for controlled loading in various applications.

Recommended installation advice?

Patched Fixing	Shear Nut Usage	Storage	Installation Temperature	Curing Time	COSHH
M8 x 25mm Patched T-Bolt	Must use galvanised shear nuts provided in the PaliFence® kit.	Must be stored in a dry environment, ideally more than 5°C	Fixings should be installed in temperatures greater than 5°C	Patched fixings reach maximum curation at 48 hours	No COSHH data to hand.
M12 x 30mm Patched Bolt					

Can Patched fixings be re-used?

For maximum strength, it's recommended to not re-use any patched fixings that shake or vibrate loose. A new fixing should be applied, following the above installation advice.

Can alternative fixings be sourced?

Installers must use the supplied fixings. Any deviations away from the specification will invalidate the certification.

9.0 Installation Sign Off Checklist



NOTE: to ensure PaliFence® remains within the certified scope and effective to LPS 1175 SR1 (A1) standards, it is essential the below checklist has been followed and signed off by the site supervisor.



Action	Description	System	Remedial Action	Pass or Fail?	Initial	Date
Bottom rail to be 200mm from the floor level	PaliFence® must maintain 200mm ground clearance from floor to rail, to prevent a 225mm x 400mm elliptical passing under.	Dig In / Bolt Down	If fail, re-install posts following 'Post Installation' step 2, ensuring only xmm is buried below ground, outlined in Appendix A, Table One.			
Max 50mm ground clearance	Ensure the gap between the ground and pale is 50mm maximum gap.	Dig In / Bolt Down	If fail, re-install posts following 'Post Installation' step 4, ensuring only xmm is buried below ground, outlined in Appendix A, Table One.			
Missing patched bolts	Pales installed without patched fixings	Dig In / Bolt Down	Remove the pale, don't sign off and ask First Fence Limited for replacement fixings.			
Patched bolts fitted the wrong way	Bolts thread through from the inside to the face, shear nuts on the outside	Dig In / Bolt Down	Remove the pale(s), don't sign off and ask First Fence Limited for replacement fixings.			
Misaligned pales and rail holes	Any pales that exceed 135mm centres	Dig In / Bolt Down	Replace the rails to ensure certified centres are maintained.			
Insecure bolt down posts	Bolt down posts that move under pressure from force including wind	Bolt Down	Ensure shims are used to maintain plumb level and guarantee maximum torque from the ground anchor.			
Above remedial action fails to stabilise posts	As per above	Bolt Down	Revert to PaliFence® Dig In system.			
Bent or Deformed Pales, Posts or Rails	Any deformity to the pale, post or rails caused potentially from transit or similar.	Dig In / Bolt Down	The pressures and forces applied during transit may invalidate certification if components are deformed before installation. Replace as necessary.			

Sign off declaration:

I hereby confirm that PaliFence® has been assembled and installed in accordance with the above requirements, and any remedial works have been carried out before the final signoff:

Site Supervisor

Sign off Date

Relationship to the Client

Signature

10.0 Maintenance Schedule

First Fence Limited recommends the following actions, to be built into a periodic check of the physical perimeter system:

Check Area	Result	Action
Deformed post, rail or pale	Deformation causing an opening bigger than specified on the drawings.	If deformed due to manual force, conduct an analysis if PaliFence® meets your security requirements.
Surface damage to post, rail or pale	Chipped paint or exposed steel	Use a Zinc spray to slow down and prevent further oxidation of raw steel.
Shrubs, growth and trees	Force through natural growth	Ensure a clear shrubbery line alongside both sides of the fence.
Loose shear nuts on pales or rails	Check if all shear nuts are secure by hand on the inside of the premises	If loose, replace the fixing immediately.

Take the hassle out of your maintenance schedule:

First Fence Limited offer an annual inspection programme for your certified LPS 1175 Fence and Gates, ensuring maximum chance of compliance at all times.

Included in Maintenance Schedule	Result	Actions
Annual perimeter check	Checking for and against the LPS 1175 standard: - Deformities - Deflection - Damage - Forced entry	A personalised quote to remedy any corrective works, if required
Annual gate service	As per above, and checking for: - Increased friction - Operational changes - Changes in operation since sign off	A personalised quote to remedy any corrective works, if required

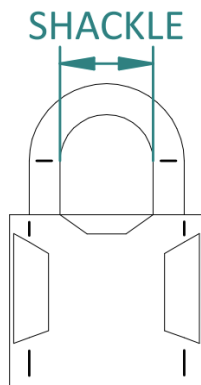
Contact our LPS 1175 Product Champions today to include this quote onto your sales order.

highsecuritymaintenance@firstfence.co.uk

**Maintenance schedule fees vary based on size, layout and access of sites, on a site-by-site basis and certification basis. Multiple LPS 1175 ranges may incur an additional fee.*

11.0 Operational Notes

The PaliFence® range must only be used with the following approved lock types.



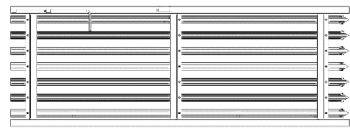
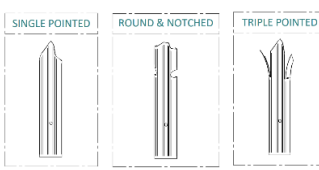
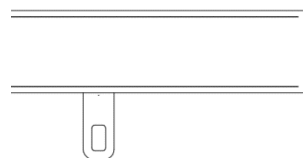
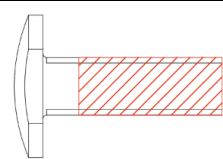
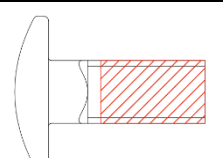
Henry Squire & Son Padlock List		
Product Name	Shackle (mm)	Security Rating
SS50S	26.0	2
SS50CS	16.0	2
SS65S	29.0	3
SS65CS	19.0	3
SS80S	34.5	3



NOTE: padlocks meeting the above requirement can be purchase from any source but must be of certified specification as per the above table. Any deviation to this will invalidate the certification.



12.0 Bill of Materials

Image	Component	Qty (Per Kit)
	PaliFence® Slider Leaf	1
	PaliFence® Catch Leaf (if a double gate set*)	1*
	PaliFence® Pales	_**
	PaliFence® Fish Plates (welded to both posts)***	6***
	Patched T-Bolt M8 x 25mm c/w Shear Nuts	_**
	Patched M12 x 30mm bolts c/w Shear Nuts	6

*Catch leaf supplied on double gate sets only

**Pale quantity and fixings vary depending on width

***Fish plates are already welded to both posts to connect adjoining fence line

Appendix A, Table One:

Foundation Depth Table

Box Section Hinge / Catch Post	Formula	Foundation Depth
80x80mm SHS	Length = Gate Height + 700mm	700mm
100x100mm SHS	Length = Gate Height + 700mm	700mm
120x120mm SHS	Length = Gate Height + 1000mm	1000mm
150x150mm SHS	Length = Gate Height + 1000mm	1000mm
200x200mm SHS	Length = Gate Height + 1000mm	1000mm

Appendix B

Post Mix Quantities Per Post – Single Leaf

	<i>PaliFence® Single Gate Widths</i>									
<i>PaliFence® Gate Height</i>	<i>1.0m</i>	<i>1.2m</i>	<i>1.5m</i>	<i>2.0m</i>	<i>2.5m</i>	<i>3.0m</i>	<i>3.5m</i>	<i>4.0m</i>	<i>4.5m</i>	<i>5.0m</i>
<i>1.8m</i>	3	3	4	4	4	4	4	4	4	4
<i>2.0m</i>	3	3	4	4	4	4	4	4	4	4
<i>2.4m</i>	4	4	4	4	4	4	4	4	4	4
<i>3.0m</i>	4	4	4	4	4	4	4	4	4	4

Post Mix Quantities Per Post – Double Leaf

	<i>PaliFence® Double Gate Widths</i>								
<i>PaliFence® Gate Height</i>	<i>2.0m</i>	<i>3.0m</i>	<i>4.0m</i>	<i>5.0m</i>	<i>6.0m</i>	<i>7.0m</i>	<i>8.0m</i>	<i>9.0m</i>	<i>10.0m</i>
<i>1.8m</i>	4	4	4	4	4	4	4	5	5
<i>2.0m</i>	4	4	4	4	4	4	4	5	5
<i>2.4m</i>	4	4	4	4	4	4	4	5	5
<i>3.0m</i>	4	4	4	4	4	5	5	5	5