# In-Line Sliding Patio Door
## Contents

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DATE</th>
<th>ISS</th>
<th>REFERENCE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTENTS</td>
<td>OCTOBER 2016</td>
<td>16</td>
<td>TM-0002</td>
<td>2</td>
</tr>
</tbody>
</table>

### Introduction
- 03

### Deductions & Part Breakdown
- Deductions and Part Breakdown Table 04

### Assembly Section Drawings
- Patio Style Assembly Section Reference 06
- Assembly Sections 07
- Vertical Sections 15
- Horizontal Sections 16

### Routing
- Blank Handle Routing 17
- Lock Routing 18
- Handed Lock Routing 19

### Drainage
- Sash Drainage 20
- Outer Frame Drainage 20
- Jamb Trim Drainage 21
- Low Threshold Drainage 21
- Midrail Drainage 22

### Frame Jointing & Preparation
- End Preparation 1200 23
- End Preparation 22480-1251/1252 24
- Jointing 1200 25
- Jointing 22480/7756/1251 26
- Jamb Trim Preparation 27
- 1256 Pre Drilling for Roller Adjustment 28

### Assembly
- Patio Meeting Profile Fixing 29
- Sash Meeting Profile End Cap Fixing 30
- Roller Fixing 31
- Interlock Positioning 32
- shootbolt Fixing 33
- Anti-Lift Bracket 34

### Threshold
- Low Threshold Assembly 36
- Thermally Broken Low Threshold Assembly 37

### Venting
- Frame Gas Venting 38
- Frame Venting 38

### PAS24 Security
- Introduction 42
- Product Build Specification 43
- 1364 L/R Security Handle Preparation 44
- Interlock Bolt Fitting 45
- Security Keep Rail Fitting 50
- Security Glazing Clips 53

### Technical Specification
- Patio Door Technical Specification 54

### Survey & Installation
- General 56
- Survey Notes 56
- Preparation of Structural Opening 56
- Installing the Frame 57
- Glazing 59
- Perimeter Sealing 60
- Assembling the Frame 61

### Maintenance
- Introduction 64
- Glass & Weatherseal Maintenance 64
- Outer Frame & Sash Maintenance 64
- Hardware Maintenance 65
- Furniture & Fittings Maintenance 65

### Product Chart
- Patio Door Chart 66

### Issue Record
- Technical Manual Issue Record 67

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Dimensions in MM
All dimensions are nominal.
DO NOT SCALE
The In-line Sliding Patio Door uses a dedicated 86mm deep frame profile which reduces to 70mm deep at the rear which makes it compatible with the full range of 70mm ancillary profiles, add-ons, cills etc. from Profile 22.

The system also offers a choice of 60mm deep sash profiles (chamfered and feature), provided with co-extruded glazing gasket. 28mm glazing is offered as standard using 2365 (bevelled) & 2395 (feature) glazing beads. 24mm glazing is also available using 2335 (bevelled) & 2355 (ovolo) glazing beads. Unfortunately triple glazing above 28mm cannot be accommodated.

2, 3 & 4 pane door options are available, where the minimum/maximum sash width/height is 785/1960mm and 1500/2274mm respectively.

White and a number of popular foiled finishes are available from stock. Additional non-stock foiled finishes are also available via our foilexpress service. For a full list of foil finishes and their availability please refer to the Patiomaster Palette brochure.

A bi-parting 6 point hook lock is standard with a shootbolt option to the head. Handle finishes are white, brass equivalent, black, chrome, gold anodised and silver anodised. To reduce the likelihood of free movement on the two sliding sashes on a 4-pane patio, it is recommended that a shootbolt be fitted.

The following low threshold options are available:
- Silver anodised - Designed primarily for internal use only.
- Thermally broken (black or white painted) - This incorporates a black PVC-U threshold and is suitable for sheltered external applications.

Enhanced security performance is available for 2-pane doors only. For full details please refer to the PAS24 details contained in this manual.
### In-Line Sliding Patio Door
Parts Breakdown/Deduction Chart

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>2 PANES QTY</th>
<th>2 PANES QTY</th>
<th>3 PANE END SLIDER QTY</th>
<th>3 PANE CTR SLIDER QTY</th>
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<td>1200</td>
<td>OUTER FRAME WIDTH</td>
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<td>OW 2</td>
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<td>OW 2</td>
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<td></td>
<td>OUTER FRAME HEIGHT-MECH. JOINED TO CILL ONLY (LOW THRESHOLD)</td>
<td>OH-11 2</td>
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<tr>
<td></td>
<td>OUTER FRAME HEIGHT - WELDED</td>
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<td>OH 2</td>
<td>OH 2</td>
<td>OH 2</td>
<td>OH 2</td>
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<tr>
<td>1251/1252</td>
<td>SASH WIDTH</td>
<td>(OW/2)-2</td>
<td>(OW/3)+23</td>
<td>(OW/3)-5</td>
<td>(OW/4)+14</td>
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<td>SASH HEIGHT (STD THRESHOLD)</td>
<td>OH-84 4</td>
<td>OH-84 6</td>
<td>OH-84 6</td>
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<td>OH-84 8</td>
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<td>OH-58 4</td>
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<td>(OW/3)-63 3</td>
<td>((OW/3)x2)-90 1</td>
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<td>OW-359 1</td>
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<td>(OW/3)-82 1</td>
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<td>22480</td>
<td>MIDRAIL MECH. JOINED</td>
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**Notes:**

- Width deductions are based on equal glass sizes.
- Max. Sash height must not exceed 2.5 x sash width.
- On a 4 pane slider the master door is the left hand sash when viewed from inside.
- SMH - Standard Midrail Height

**Handles:**

- Left Hand - view from inside, door sliding to the left.
- Right Hand - view from inside, door sliding to the right.

*For simplicity 1252 feature sash will not be referred to within this manual as all technical details are the same as 1251. Where details differ this will be clearly identified.

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**Dimensions in MM**

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**DO NOT SCALE**
### In-Line Sliding Patio Door

#### Parts Breakdown

<table>
<thead>
<tr>
<th>Section</th>
<th>Date</th>
<th>Iss</th>
<th>Reference</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDUCTIONS &amp; PARTS BREAKDOWN</td>
<td>OCTOBER 2016</td>
<td>16</td>
<td>TM-0002</td>
<td>5</td>
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</table>

#### Notes:
1. OH = Outer Frame Height  
2. OW = Outer Frame Width  
3. SH = Sash Height  
4. SW = Sash Width  
5. All Deductions exclude weld allowance.  

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#### Dimensions in MM  
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DO NOT SCALE.

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#### Use 1258 to lock jamb. A standard height sash reinforcement of 1628mm can be used with sashes which fall within the height of 1960mm-2274mm.

#### 4. Fully reinforce sliding sashes and only interlock jambs on fixed sashes.

#### 5. Do not reinforce white, cream foil & white foil outer frames.

#### 6. All other foiled outer frames and fixed/sliding sashes must be fully reinforced.
In-Line Sliding Patio Door
Patio Style Assembly Section Reference

SECTION DATE ISS REFERENCE PAGE
ASSEMBLY SECTION DRAWINGS OCTOBER 2016 16 TM-0002 6

2 PANE END SLIDER

3 PANE CENTRE SLIDER

3 PANE END SLIDER

4 PANE SLIDER

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Assembly Section A

1200 OUTER FRAME
1254 CLOSURE PROFILE
1251 SASH
SEE NOTE WEDGE LEAF
2395 BEAD

Assembly Section B

1253 HEAD/JAMB PROFILE
1257 SASH REINFORCEMENT
2395 BEAD

Assembly Section C

1351 BRUSH SEAL
1373 BUMP STOP
2395 BEAD
1251 SASH

Note:
When positioning the fixed leaf, wedge the leaf towards the outside of the door before fixing to optimise the clearance between the and sliding leaf.
In-Line Sliding Patio Door  
Assembly Sections D and E

Assembly Section D

- 1274 INTERLOCK
- 1251 SASH
- 2395 BEAD
- 1257 SASH REINFORCEMENT
- 1289 COVER TRIM

Secure to interlock with silicone

Assembly Section E

- 1360 HANDLE
- 1258 ROUTED STEEL FOR SASH JAMB LOCK
- 2395 BEAD
- 1395 HOOK LOCK
- 1396 HOOK LOCK KEEP
- 1260 OUTER KEEP REINF.
- 1351 BRUSH SEAL
- 1253 HEAD/JAMB PROFILE
- 1200 OUTERFRAME

Dimensions in MM
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DO NOT SCALE
In-Line Sliding Patio Door
Assembly Sections F and G

Assembly Section F

Assembly Section G

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In-Line Sliding Patio Door
Assembly Sections H and J

Assembly Section H

1257 SASH REINFORCEMENT

1263 THRESHOLD

1286 ROLLER

CX01 REINFORCEMENT

Assembly Section J

SEE JAMB TRIM 1253 DETAILS FOR SECTION E

SEE NOTE WEDGE LEAF

CALL TRIM 1253 SHOWN (HEAD TRIM 1253 IS A MIRROR COPY)

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In-Line Sliding Patio Door
Assembly Sections K and L

Assembly Section K

Assembly Section L

Note:
When positioning the fixed leaf, wedge the leaf towards the outside of the door before fixing to optimise the clearance between the fixed and sliding leaf.
In-Line Sliding Patio Door
Assembly Sections M and N

Assembly Section M

Assembly Section N
In-Line Sliding Patio Door
Assembly Sections P and Q

Assembly Section P

Assembly Section Q

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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In-Line Sliding Patio Door
Assembly Sections R and S

Assembly Section R

S1224 - Low Threshold

Assembly Section S

1334 - Low Threshold
Thermally Broken Option
In-Line Sliding Patio Door
Vertical Sections

Vertical Sections

Midrail Sections

Low Aluminium Threshold

Dimension Showing C150 - 150mm Cill

S1224 - Low Threshold

1334 - Low Threshold
Thermally Broken Option
Horizonal Sections

Heads Trim 1253 over
Threshold is a mirror
Copy of 1263 at the Cill

Dimensions in MM
All dimensions are nominal.
Do not scale

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In-Line Sliding Patio Door
Blank Handle Routing

Blank Handle Routing

Note:
1. Tolerance ±1mm unless otherwise stated.
2. Holes to take handle fixing boss has been sized to minimize movement of the handle in operation. Powder coated handles will fit tighter than other handles due to a build up of paint on the locating boss.

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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In-Line Sliding Patio Door
Lock Routing

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DATE</th>
<th>ISS</th>
<th>REFERENCE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROUTING</td>
<td>OCTOBER 2016</td>
<td>16</td>
<td>TM-0002</td>
<td>18</td>
</tr>
</tbody>
</table>

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

Note:
1. Tolerance ±1mm unless otherwise stated.
2. Holes to take handle fixing boss has been sized to minimize movement of the handle in operation. Powder coated handles will fit tighter than other handles due to a build up of paint on the locating boss.
In-Line Sliding Patio Door
Handed Lock Routing

Handed Lock Routing

Right Hand Prep

Left Hand Prep

Note:
1. Tolerance ±1mm unless otherwise stated.
2. Holes to take handle fixing boss has been sized to minimize movement of the handle in operation. Powder coated handles will fit tighter than other handles due to a build up of paint on the locating boss.
Sash Drainage

For a sash width of 785-1100mm 2 internal drain slots are required. External slots are offset a minimum of 50mm from the internal slot.

For a sash width of 1101-1500mm as above plus one on the centre internal drain slot. External slot offset as above.

Position the internal drain as close to the internal sash corners as possible - But do not obstruct with glazing bridge.

Outer Frame Drainage

Each sash outer frame segment is to be drained separately.

For a sash width of 785-1100mm, 2 internal drain slots are required. External slots are offset a minimum of 50mm from the internal slot.

For a sash width of 1101-1500mm as above plus one on the centre internal drain slot. External slot offset as above.

Internal drain slots are to be positioned as wide apart as possible - But do not obstruct with dust plug adjacent to interlock.
Low Threshold (L) 1334

(L) 1334 see diagram and for all other detail as above for outframe drainage. Additionally remove feature (see detail B in diagram) at positions offset a minimum of 50mm from external drain slots. Threshold trim (L1335) also to be notched (detail C) at points coincident with detail B.
Midrail Drainage

Note.

1. For use on midrails with letterplates only.

2. 2 internal/external drain slots, minimum 50 offset positioned close to end of midrail but not obstructed by glazing packers etc.

3. 1 External drain slot, on centre with letter plate routing as \( B \).

4. For midrails with no letter plate omit on centre external drain slot.

Relieve inner web at the end of the mid-rail ensuring silicone sealant applied an assembly does not block drainage path

\[ A = \text{Slot 25x5} \]

\[ B = \text{Slot 25x5} \]
In-Line Sliding Patio Door
End Preparation 1200

End Preparation 1200

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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In-Line Sliding Patio Door
End Preparation 22480 - 1251/1252

End Preparation 22480 - 1251/1252

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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In-Line Sliding Patio Door
Jointing 1200

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

Jointing 1200

2 off F7660016

Cleat 1268

2 off F7757050

42.5
20.0

2 Holes Ø5.0
Thro’ C’bore
Ø8.0x7 Deep

15.0

Outer Frame

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In-Line Sliding Patio Door
Jointing 22480/7756/1251

**Note.**

Midrail height in the sliding sash coincident with handle height should be avoided as the joint fixing screws will foul the lock centre case.
In-Line Sliding Patio Door
Jamb Trim Preparation

Jamb Trim Preparation

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DATE</th>
<th>ISS</th>
<th>REFERENCE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRAME JOINTING &amp; PREPARATION</td>
<td>OCTOBER 2016</td>
<td>16</td>
<td>TM-0002</td>
<td>27</td>
</tr>
</tbody>
</table>

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

JAMB TRIM 1253

L = OH-57

24.0

19.0

16.5

JAMB TRIM (1253) LTH = OH-52

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In-Line Sliding Patio Door
1256 Pre Drilling For Roller Adjustment

1256 Pre Drilling for Roller Adjustment

To allow slave sash roller adjustment without the need to remove the meeting style it is recommended that the 1256 be pre-drilled as shown below.
In-Line Sliding Patio Door
Sash Meeting Profile Fixing

**Patio Sash Meeting Profile Fixing**

**STEP 1**

Fit and fix aluminium reinforcement 1266 with screw F7620019, drilling through 1256 so that head of screw clamps 1266. (Ensure that keep rail covers holes).

**STEP 2**

Fix keep 1396 using screw F7660045.

Pilot drill through sash 1251 and steel 1257 using Ø4.0mm drill. Then fix with screw F7895065 as shown.
In-Line Sliding Patio Door
Sash Meeting Profile End Cap Fixing

Fix end caps 1270 to top and bottom of sash meeting profile using PVC-U adhesive part No.1880

1251
Roller Fixing

2 rollers part no. 1286 positioned as shown below from each end of the sliding sash and fixed with screws part no. F7851016.

Adjusting screw facing outwards
Interlock Positioning

Fix the interlock in position shown using screws part no. F7851030, position 100mm in from each end and equi-spaced over the length of the interlock with a max. 300mm pitch. Pre-drill interlock to a Ø5mm.
Shootbolt Fitting Instructions:

1. Fit lock 1395 to sash 1251. (with hooks retracted)

2. Fit link arm to top of lock face plate, locate peg in face plate.

3. With lock in unlocked position offer up appropriate shoot extension to the link arm, mark and square cut face plate and rod. fix with screws in Table 1.

4. Offer up cover box shootbolt adaptor, locate into face plate fix with 1 off screw in Table 1.

5. Push the end guide shootbolt over the end of the shoot extension. fix with 2 off screws in Table 1.

6. For 2 pane & 3 pane end slider butt shootbolt keep up to outer frame jamb and fix with 2 off screws in Table 1. For 3 & 4 pane centre sliders butt shootbolt keep up to sash meeting profile and fix with 2 off screws in Table 1.

---

**Table 1**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Sash Height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1960.0/2048.0</td>
</tr>
<tr>
<td>P1390</td>
<td>Shootbolt Pack 1</td>
<td>2049.0/2274.0</td>
</tr>
<tr>
<td>P1391</td>
<td>Shootbolt Pack 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE
In-Line Sliding Patio Door Anti-Lift Bracket

The security of the In-Line Sliding Patio Doors has now been enhanced with the introduction of Anti-Lift Bracket (1350). This maximises security by minimising the clearance at the top of the sliding sash and reducing the risk of it being lifted off the bottom rollers.

The bracket is factory fitted in the euro-groove in a 'retracted' state on sides opposing the lock for all sliding panes. It requires final adjustment to locate into the outer frame (head of door) to reduce clearance but allowing for expansion etc. through the life of the door.

Secure position with two screws (supplied). This is done on-site in situ after installation of the sliding door.

Contact your In-Line Sliding Patio Door Supplier for further information required.

Factory Fitted Position of The Anti-Lift Bracket

Note: Bracket is fixed temporarily with one screw F7851030.

1. Anti-lift bracket to be factory fitted and adjusted on site.
2. To be fitted on side opposing lock on all sliding panes.
3. Two screws per bracket F7851030 to be included in door pack for final fix.

Dimensions in MM
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DO NOT SCALE

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In-Line Sliding Patio Door Anti-Lift Bracket

Position of The Anti-Lift Bracket On The Door
After installation

Note: Two additional fixing screws used for final fix F7851030 adjust anti-lift bracket after installation to reduce clearance allowing for expansion etc. throughout life of door.
In-Line Sliding Patio Door
Low Threshold Assembly

Note:
The low threshold is designed primarily for internal use.
Fix cleat 1268, seal joint and tighten up.
Do not fit threshold 1263 and drainage trim 1255.
In-Line Sliding Patio Door
Thermally Broken Low Threshold Assembly

Thermally Broken Low Threshold Assembly

Note:
The T/B low threshold is designed primarily for use in sheltered external applications.
Fix cleat 1278, seal joint and tighten up.
Fit threshold trim L1335.
Do not fit drainage trim 1255.

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE
In-Line Sliding Patio Door
Frame Venting

Frame Gas Venting

36.4
Recommended But
To Suit Application

Slot 13 Wide x 320
Long Positioned Axially To Suit Application

Head Section

Silicone Seal

B80

Silicone Seal

(B)1279(W)

36.4
Recommended But
To Suit Application

Slot 13 Wide x 620
Long Positioned Axially To Suit Application

Head Section

(B)1277(W)

20.0
In-Line Sliding Patio Door
Letterplate Fixing - 1375 - 12”

ASSEMBLY
1. Prepare the Midrail as per routing detail.
2. Insert brush housing into internal aperture.
3. Insert flap housing into external aperture and interlock with brush housing (ensure seal is in position as shown).
4. Ensure both housings are sitting flush against the profile.
5. Hold internal trim in place to check alignment.
6. Once visual alignment is complete, fix the assembly using one of the options below.

Fixing - Option 1
7. Secure the external flap/brush housing from the inside with two screws (supplied with kit) then apply adhesive (1886) around edges of internal trim and place in position.

Fixing - Option 2
8. Secure the external flap/brush housing/internal trim from the inside using two screws (supplied with kit) into the bosses of the flap housing. Take care not to overtighten the screws. Note: Break though the blind holes on the internal trim to access screw fixing.

*Ensure That This Dimension Breaks Through Outer Wall Only

Dimensions in MM
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In-Line Sliding Patio Door
Frame Coupling - 70mm

Frame Coupling - 70mm

Heavy Duty Coupling

Link Coupling

Non-Structural

Dimensions in MM
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DO NOT SCALE

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In-Line Sliding Patio Door
Foiling Position

Parts identified are required to be coloured to suit the external colour. All other parts will be white.

2 Pane Foiling On White

3 Pane Centre Foiling On White

3 Pane End Foiling On White

4 Pane Foiling On White

Note:
Head Trim = 1253

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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In-Line Sliding Patio Door
PAS24 Security - Introduction

<table>
<thead>
<tr>
<th>SECTION</th>
<th>DATE</th>
<th>ISS</th>
<th>REFERENCE</th>
<th>PAGE</th>
</tr>
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<td>PAS24 SECURITY</td>
<td>OCTOBER 2016</td>
<td>16</td>
<td>TM-0002</td>
<td>42</td>
</tr>
</tbody>
</table>

Introduction

This section specifies the build requirements for an PAS24 Security 2 Pane Sliding Patio Doors, designed to comply with the requirements of:

BS6375: General Performance Requirements for Door Assemblies
PAS 24: Enhanced Security Performance Requirements for Door Assemblies

Although both of the above standards relate to product as manufactured and before installation, it is recommended that on installation, the guidelines given in British standard BS8213-4:2007 code of practice for the Survey & Installation of windows & external door sets.

Each glazed area shall include at least one pane of laminated glass meeting the requirements of BS EN 356:2000, Class P1A, and be glazed in accordance with BS 6262.

Note that all doors manufactured in accordance with this document can be classified as DK (key-key) to clause 4.4.4 of PAS24:2012. I.e. doors can be fitted with a key-key cylinder where appropriate.

PVC-U Welds

No compromises. Weld strengths to be optimum achievable i.e. watch cleanliness, no tape in welds etc.

Sizes

Sizes must be as close to nominal as possible (See deductions page). Larger than nominal cavity sizes equates to larger clearances. A maximum tolerance of ±1mm is allowable on sash & frame finished sizes.

Reinforcing

It is essential that hardware is fixed back to steel reinforcement and so approximate reinforcement length is not acceptable. The length of reinforcement relative to profile length needs to be right. Fixing of reinforcement is crucial, over fix rather than under fix. For guidelines on the use of reinforcement see BPF document 323/1 - “The Reinforcement of High Impact Modified PVC-U Windows and Doorsets.”

Routing

Routing detail must be to the drawing. Excessive routing weakens the section

Hardware

Check that the product is to the latest specification. No compromises allowed.

Screws

Query every screw before using it. Is it the correct one? If you’re not sure ask!

Framing (For PAS 24 Testing)

Assemble the door into it’s timber frame and where clearances exist, pack the door to the frame. This is very important at locking points. Screw fix the door to the frame - over fix rather than under fix. Use minimum No.10 wood screws.

Glazing

Glass Packing is crucial. In addition to normal glass packing the clearance between PVC-U/glass/Panel should be minimized at/and adjacent to each locking point. Remember loads can be applied in any one of 3 directions so location packers need fitting so that loads can be taken by the glass/panel without distorting the PVC-U.

Note: All glazing must be made secure by use of security glazing clips. For full details see page 53.

Final check

Stand the completed assembly vertical and check:-
1. Free operation of hardware.
2. Squaarness of frame.
3. Cover of leaf/frame on all 4 sides.

GENERAL

The testing regime is very demanding & so an extra degree of care and attention needs to be exercised during manufacture.

SECURED BY DESIGN

Contact with the local Police ALO/CPDA is advisable at an early stage to agree the technical requirements for a particular installation.

In addition to compliance with this document, SBD specify additional requirements for doors. As specifications may change, it is recommended that www.securedbydesign.com is accessed for the latest specifications.

Dimensions in MM
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DO NOT SCALE

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In-Line Sliding Patio Door
PAS24 Security - Product Build Specifications

Product Build Specification
The following specifies the range of product that can be made and that will satisfy the requirements of PAS24 Security Patio Doors.

All component parts are supplied by Profile22/Safeware - alternatives are not acceptable. The requirements of both standards are very demanding - no deviations from this specification are allowable.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STYLE</td>
<td>2 Pane Sliding Patio Door Without Midrail. No Letter Plate.</td>
</tr>
<tr>
<td>MAXIMUM FRAME SIZE</td>
<td>2400 x 2200mm</td>
</tr>
<tr>
<td>MAXIMUM SASH SIZE</td>
<td>1198 x 2116mm</td>
</tr>
<tr>
<td>MIN FRAME SIZE</td>
<td>1984mm</td>
</tr>
<tr>
<td>MIN SASH HEIGHT</td>
<td>1900mm</td>
</tr>
<tr>
<td>PROFILES</td>
<td>Outer Frame 1200 Threshold 1200 Leaf 1251</td>
</tr>
<tr>
<td>REINFORCEMENTS</td>
<td>Outer Frame Lock Jamb Part No. 1260 Head Part No. 1260 All Frame Members Part No. 1262 Leaf - Sliding Lock Stile Part No. 1258 Head &amp; Cill / Interlock Stile Part No. 1257 Leaf - Fixed Interlock Stile Part No. 1257</td>
</tr>
<tr>
<td>GLAZING</td>
<td>Glazing is internally beaded using any BS EN 12608 approved bead compatible with 24mm &amp; 28mm units. All glazing must be made secure by the use of security glazing clips. For full details see page 56. All glazing must be to BS EN 6262. Also see BS 6262 Part 4 - “Safety related to human impact.”</td>
</tr>
<tr>
<td>WEATHERSEALS</td>
<td>Bubblex Applies Throughout</td>
</tr>
<tr>
<td>HARDWARE</td>
<td>Enhanced Security Specific Parts Are: Cylinders (only the following cylinders shall be used)</td>
</tr>
<tr>
<td>TYPE</td>
<td>PART NO.</td>
</tr>
<tr>
<td>KEY-KEY</td>
<td>(D) S1377AB</td>
</tr>
<tr>
<td>6 Hook Lock - 1395 Security Keep Rail Jamb - 1371 Security Keep Rail Head - 1372 Patio Interlock Bolt Kit - 1374 Security Handle - 1364/L or 1364R/1</td>
<td></td>
</tr>
<tr>
<td>FIXING SCREWS</td>
<td>Part No. Description</td>
</tr>
<tr>
<td>6 Hook Lock</td>
<td>F7851030 4.3 x 030 CSK PZ YD SP</td>
</tr>
<tr>
<td>Security Keep Rail Jamb:</td>
<td>F7895038 4.8 x 038 CSK PZ BZ TP</td>
</tr>
<tr>
<td>Security Keep Rail Head:</td>
<td>F7895038 4.8 x 038 CSK PZ BZ TP</td>
</tr>
<tr>
<td>Interlock Prep:</td>
<td>F7851030 4.3 x 030 CSK PZ YD SP</td>
</tr>
<tr>
<td>Patio Interlock Bolt Kit:</td>
<td>Screws Supplied With Kit 1370</td>
</tr>
</tbody>
</table>

The recommended screw MUST be used; alternative equivalent screws are NOT acceptable.

Screws must be secure, but stripped screws are NOT acceptable. For general guidelines on the use of screws see BPF document 335/3, “Specification and guidelines for the selection and application of fasteners for the manufacture of PVC-U Windows and doors.”
1364L/1 & 1364R/1 Security Handle Preparation

Dimensions in MM
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DO NOT SCALE

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In-Line Sliding Patio Door
PAS24 Security - Interlock Bolt Fitting

Interlock Bolt Fitting

1. Ensure reinforcement length will allow fixings to enter Steel.

2. Drill dia 24.0 through both sashes both at top & bottom of meeting stile.

Step 1
Interlock Bolt Fitting Continued

3. Fit 2 off strikes in position shown (Top & Bottom) & fix with screws supplied with kit.

(4.8x032 CSK self drill). It is advisable that final fix screws are inserted after installation and final adjustments have been made.
4. Fit 2 off Interlock bolts in position shown (Top & Bottom) & fix with 2 off screws per bolt supplied with kit (4.3 x 012 CSK PVC-U screw).
Interlock Prep 1374 Fitting

Fit 2 off 1374 Interlocks as shown below to both sashes.

Ensure Interlocks are positioned centrally on sash. Mark and cut both equally to suit sash size at top and bottom.
In-Line Sliding Patio Door
PAS24 Security - Interlock Bolt Fitting

Interlock Bolt Fitting Continued
Security Keep Rail Fitting

Butt security keep rail head 1372 into corner of outer frame and cut opposite end in line with over rebate size of sash to give good support for the sash at the head. Fix with screws shown in the screw fixing table.

Note: This part may have to be fitted, be removed & re-fixed after installation.
Security Keep Rail Fitting Continued

Cut/Fit security keep rail jamb 1371 on centre of outer frame, ensure keep butt’s into bottom corner of outer frame and sits tight against head rail. Fix with screws shown in the screw fixing table.
Security Keep Rail Fitting Continued

Security Keep Rail Head 1372

Security Keep Rail Jamb 1371
In-Line Sliding Patio Door
PAS24 Security - Security Glazing Clips

Security Glazing Clips

The fitting of security clips is required on doors using 24mm + 28mm glazing. If required the following procedure must be followed.

INTERNAL GLAZING

Fit two clips as shown, always position centrally on the vertical or as close to centre as possible avoiding glass packing. Conventional glass packing to be inboard of security clips.

MANUFACTURING PROCESS FABRICATION
(P2920) STANDARD SECURITY

During the fabrication process, apply each Base Packer at the centre of each vertical. Fix with F7660019 screws for reinforced profile, or F7801016 screws for un-reinforced profile. (2 screws per base packer).

GLAZING

It is recommended that the ‘SECURI-CLIPS’ (24mm: 2924, 28mm: 2928) are fitted when the glass is finally installed on site after the glass unit has been correctly packed. Apply the ‘foambuffer pad’ (2926) to the glass facing edge of the Securi-clips. Clip the Securi-clips into the basepackers and finally clip the beads into position.
In-Line Sliding Patio Door
Technical Specification

SCOPE

- This specification defines materials, construction and size limitations of the In-Line Sliding Patio Door system, manufactured from Profile 22 products.
- In-Line Sliding Patio Doors are suitable for installation into new building work, or as replacements in existing buildings, being designed for fitting direct to masonry.
- The patio system is also compatible with Profile 22 window and door systems, ideal for use in conservatories.

MATERIALS

- PVC-U profiles are extruded from impact modified unplasticised polyvinyl chloride, extruded to conform to BS EN 12608.
- Fire resistance to BS 476, part 7, class one.
- Steel reinforcing is roll formed hot dipped galvanised mild steel to FePo2GZ275NA or equivalent.
- Aluminium sections are extruded from HE9TE or HE9TF, complying with BS 1474.
- PVC-U profiles are multi-chambered and have a main wall thickness of between 2.5mm and 3.0mm.
- Sash glazing and bead gasket is co-extruded and meets BS 7412.
- Weatherseals are woven pile weatherstripping.

QUALITY

- Profile 22 Systems are a BS EN ISO 9001 registered company Certificate No: FM09180.

CONSTRUCTION

- Outer frames are mitre cut at 45° and then heat welded or alternatively mechanically jointed. White doors are shadow grooved and foiled doors are knife seamed. Foiled on white doors are combinations of both.
- Midrails are mechanically jointed N.B.: ALL MECHANICAL JOINTS SHOULD BE SEALED AGAINST THE INGRESS OF WATER.
- Sash profiles are mitre cut at 45° and then heat welded. Joints finished as outer frames.
- Reinforcing - white, white foiled and cream foiled doors = sliding sash fully reinforced, fixed sash meeting stile reinforced, all other doors = fully reinforced.
- Thermally Broken Low Threshold available for use in sheltered external applications only.

GLAZING (INTERNAL BEAD)

- The glass is set against a co-extruded sash gasket and backed up with a co-extruded knock-in bead on the room side of the patio sash frame.

GLAZING

- Glazing should be carried out in accordance with BS 6262.
- Glass should conform to the requirements of BS 6262 for thickness and type.
- The profiles within the patio system will accommodate glazing of 28mm or 24mm in unit thickness.

INSTALLATION

- Detailed installation recommendations are provided in the technical manual which should be strictly followed.

PERFORMANCE (WEATHER)

- Full Threshold Patio Door tested to BS 6375-1:2009. Achieving a rating of 1000Pa Wind Loading, 300Pa Air Permeability & 300Pa Water Tightness. Sample tested - 2 pane door 2400mm width x 2200mm height.
- Full Threshold Patio Door tested to BS 6375-1:2009. Achieving a rating of 400Pa Wind Loading, 300Pa Air Permeability & 100Pa Water Tightness. Sample tested - 4 pane door 2850mm width x 2200 height.
- Low Threshold (Thermally Broken with Threshold Trim) Patio Door tested to BS 6375-1:2009. Achieving a rating of 800Pa Wind Loading, 300Pa Air Permeability & 50Pa Water Tightness. Sample tested - 2 pane door 1800mm width x 2060mm height.
In-Line Sliding Patio Door
Technical Specification

HARDWARE

- Lock - 6 hook opposing action, providing built in anti-lift, compliant with BS7412 and cycle tested to 103,000 cycles. One piece keep, anchored into steel reinforcing.

- Rollers/Tracking - steel tandem rollers, weight capacity of 80kgs/pair, cycle tested to 150,000 cycles. Tracking section is manufactured from stainless steel.

- Anti-lift bracket fitted as standard to all sliding sashes.

ENHANCED SECURITY (SECURED BY DESIGN)

- The Secured by Design in-line sliding door has enhanced security specification to allow it to meet the high standards of the Police Approved initiative.

- Key features include: Patio interlock bolts at the top and bottom of the door, a full width security head rail running along the top panel, full height security keep rail to support the sliding door at each corner, PAS24 high security handle with enhanced back plate, and an anti-bump cylinder.

STYLE AND SIZE LIMITATION

- Styles can be supplied in 2 pane, 3 pane and 4 pane configurations.

- Size limitations. The heights shown below do not include cills or add-on profiles.

<table>
<thead>
<tr>
<th>STYLE</th>
<th>MAX WIDTH</th>
<th>MAX HEIGHT</th>
<th>MIN WIDTH*</th>
<th>MIN HEIGHT*</th>
</tr>
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<tr>
<td>2 PANE</td>
<td>3004</td>
<td>2360</td>
<td>1574</td>
<td>1900</td>
</tr>
<tr>
<td>3 PANE (CENTRE SLIDER)</td>
<td>4509</td>
<td>2360</td>
<td>2364</td>
<td>1900</td>
</tr>
<tr>
<td>3 PANE (END SLIDER)</td>
<td>4425</td>
<td>2360</td>
<td>2380</td>
<td>1900</td>
</tr>
<tr>
<td>4 PANE</td>
<td>5928</td>
<td>2360</td>
<td>3068</td>
<td>1900</td>
</tr>
</tbody>
</table>

* Minimum width and height: The above sizes given are guideline dimensions. These can be dependent upon building regulations and local planning law. In special applications for sizes required less than these please refer to the technical department.

VENTILATION

- Trickle ventilation is offered by means of a centrally controllable trickle ventilator positioned in an add-on profile above the head of the outer frame.

- Standard trickle ventilation is designed to provide a maximum air supply of 8000mm² (5000mm² equivalent air).

- Gas boiler specification: Compliance with Building Regulations (J9) and BS 5440 pt 2. In situations where increase air supply is required, optional ventilation can be supplied providing up to a maximum of 11,000 mm² constant air supply, suitable for a maximum input of 99000 BTUs per hour.
In-Line Sliding Patio Door
Survey & Installation

General

BS 8213-4:2007 Code of Practice for the Survey and Installation of Windows and External Doorsets gives recommendations for the surveying and installation of non-load bearing windows and external doorsets, to be installed vertically (within 15°) into the external face of buildings.

It gives guidance on the good practices for successful surveying and installation. All aspects of this document should be followed with particular attention given to the product’s suitability for its location and the presence of any dead loads. If you are at all unsure then please contact your PatioMaster dealer.

Survey Notes

The manufacturing sizes should be determined by measuring the structural opening using the methods described in BS 8213-4:2007 Code of Practice for the Survey and Installation of Windows and External Doorsets. However, the following fitting tolerances must be adhered to:

<table>
<thead>
<tr>
<th>PROFILE</th>
<th>DEDUCTION-WIDTH</th>
<th>DEDUCTION HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFILE</td>
<td>up to 3m</td>
<td>3m to 6.0m</td>
</tr>
<tr>
<td>WHITE</td>
<td>10mm</td>
<td>15mm</td>
</tr>
<tr>
<td>FOILED</td>
<td>15mm</td>
<td>22mm</td>
</tr>
</tbody>
</table>

Preparation of Structural Opening

Check that the opening is the correct size for the new frame (N.B.: For replacement work this should be done prior to removal). Check that any DPC’s are sound and not “bridged” by any render or plaster. Check for the practicality of fixings to the lintels.

The base of the opening must be constructed of suitable structural material, e.g.: brick, block, stone, timber etc
Installing the Frame

Fixing the Cill: -The method shown requires the cill to be fitted to the base of the opening making sure that the base is clean of loose debris and the DPC is intact, apply silicone bed as shown, making sure that the cill is level. Then fix with the appropriate frame fixings 200mm from each end at a maximum of 600mm centres (In accordance with BS 8213-4:2007). Finally fix frame to cill using 50mm self tapping screws.

Note:- For PAS24 fixing centres should be reduced to 100mm from each end and at a maximum of 300mm pitch.

Fixings Through Cill
Installing the Frame Continued

Fixing the Assembled Frame

N.B: It is better not to remove the fixed or sliding sashes from the outer frame prior to fixing. However on very large three or four pane units, it will make lifting easier if the sliding door/s are removed. The sash end cover profile (1289) will need to be removed in order to lift off the door/s.

IMPORTANT - Do not remove the fixed sashes, as these will not lift back in once the outer frame head and sill are fixed.

Carefully remove the outer frame cover trims to allow access for fixing bolts.

External (Outside the slider)

Remove head trim first using a sharp wide bladed tool to ease between the front lip and outer frame to gently work trim free. Remove jamb trim next working from the top. Finally remove aluminium threshold trim - N.B.: If this is removed before the jamb trim, it will scratch the surface of the plastic.

Internal (Inside the fixed sash)

Either - Remove bump stops and jamb trim OR unscrew fixed sash and slide back.

The sill should be packed and set level on a silicone or mortar bed and fixed to the base of the opening. Before doing this it is advisable to offer the frame in “dry” to ensure that there is sufficient tolerance to fit the frame square and plumb.

When ready to fit the frame, run a line of silicone to the top face of the sill and offer the frame back into position.

Use temporary wedges to set the frame square in the opening (use diagonal measurement across opposite corners of the outer frame to check).

Fix the bottom frame and sill first using fixing bolt centres.

Next pack and fix jambs plumb and true.

Fixings should be 200mm from top and bottom corners and no more than 600mm centres in between.

On the locking jambs, the intermediate fixings should be adjacent to the locking points.

The head can now be fixed using the same fixing distances as jambs. However, if head fixings are impracticable, and additional foam fixing is used (in accordance with BS 8214-4:2007), then fixings can be as described in ‘Fixings Through Cill’ section. Ensure that head is fixed level with no bow in either plane.

Re-fix the fixed sash/es if they were moved for jamb fixings. Ensure that the fixing to the head does not distort the frame, use packer (1204) between the fixed sash and outer frame.

Re-fit the jamb cover trims using the removal method in reverse. Cut and fit the drainage trim into the threshold behind the fixed sash.

Finally check that the door locks properly and is secure. Ensure that the location pin on the lock, just above the handle set, is centred on the hole provided in lock plate.

To check for plumb, slide the door almost closed, leaving a small gap. If the gap is not parallel, make any necessary adjustment by raising or lowering the rollers using a posidrive screwdriver, gaining access from the end of the sash (on the interlock side, part remove sash end cover).
In-Line Sliding Patio Door
Glazing

Glazing

Bridge packers (1975) should be positioned and glazing packers should be glued into position as shown, also additional security packers should be glued in position to the back of the intermediate locking points. Care should be taken not to bow the stiles of the sashes. Glaze up the fixed panel first as access is required through the slider to bead up the interlock stile.

Location of Packers

- Glazing Bridge (1975)
- & Glazing Packers (3311-3355)
- Security Packers (3331-3335)

Dimensions in MM
All dimensions are nominal.
DO NOT SCALE

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Perimeter Sealing

It is advisable to clean down the frame before sealing the perimeter.

The gap between the outer frame and structure must be sealed using a suitable external grade sealant. 5-6mm gaps can be filled with sealant alone, however larger gaps may require the use of foam backing strips.
Assembling The Frame

**Mechanically Jointed Option - Outer frames only**

In most cases a patio requiring a mechanically jointed outer frame will be supplied fully fabricated. This ensures the patio is supplied complete and to the correct size and specification. It also avoids any unnecessary amount of on-site assembly and allows the installers to see how the finished product goes together. However, should a patio be supplied in kit form then refer to the following assembly instructions.

**Secure & Sealing of Corners**

Secure joint as shown.
Screw 2 off 50mm (F7757050) self tapping screws into cleat, pulling the corner tightly together.
Seal inside and outside of joint using clear silicone sealant.

![Diagram of In-Line Sliding Patio Door Assembling The Frame](image)
Assembling the Frame Continued

**Fixed Sashes**

Stand the frame up against a suitable wall, and lift in the fixed sash/es by “springing” the head and cill in the middle of the frame.

At this stage the assembled frame can be installed into the structural opening.

Once the frame has been fixed, the fixed sash/es can be screwed to the outer frame through the pre-drilled holes using the 100mm tapcon screws supplied. Fit the brush sealing pads into the outer frame, centred above and below where the sashes couple together.

**Bump Stops**

Locate the back of the bump stop into the dovetail channel of the outer frame upstand and with a rubber mallet secure into position.

**Trims**

Fit the jamb cover (1253) trims first, then fit the head (1253) and black threshold (1263)* trims using a rubber mallet to tap trim into the outside dovetail. Next fit the dovetail closure profile(1254) to the inside head dovetail and fit the stainless steel track to the inside dovetail at the bottom using a rubber mallet. Finally to cover drainage hole detail - insert Drainage Cover Trim (1255) into the inside channel of the outer frame (Cill) section, behind the fixed panel.

*For (L) 1334 Low Threshold fit L1335 Threshold Trim.
Assembling the Frame Continued

**Sliding Door(s)**

Remove the sash end cover profile from the sash. Push the sash up into position at the head and lift the bottom over the track and let the sash drop into position on the track. Fit the handle set on the sash checking that the lock is in the unlocked position and the lever on the handle set is positioned as shown.

Once the final adjustments to the door have been completed and you have checked that the door locks correctly, you can replace the sash end cover profile.

**Meeting Profile (3 and 4 pane doors only)**

Adjust both doors so that they are square and parallel with each other. Cut the meeting profile 16mm shorter than sash height. Fix centrally to meeting stile of slave door using 55mm screws supplied. Fit end caps (1270) to top and bottom of the sash meeting profile using a proprietary PVC-U glue. Fit lock plate as stated.

**Lock Plate**

Slide the door to a closed position. Mark the lock centre, as shown on the lock face plate, on the outer frame (for 3 and 4 pane doors see meeting profile) Offer the lock plate to the outer frame, making sure that the end caps are fitted, and line up the lock centre line with the horizontal line on the centre of the hook lock keep plate (keeping the words Patiomaster above and below the line. Fix using 8 off screws supplied. Fit closure profile (1254) above and below the lock plate.

Check that the door locks correctly and is square within the frame. Make any adjustments necessary by raising or lowering the rollers using a long shaft posidrive screwdriver, gaining access from the end of the sash. Fit the sash end closure profile.
INTRODUCTION

Patio doors are designed to be very low maintenance. The general service and maintenance tasks recommended are simple to carry out and do not require specialist skills, tools or equipment.

Precautions

When using cleaning and lubricating products always follow the manufacturer’s instructions; take care not to use an excessive quantity. For cleaning products, always test a small area of the product in an obscure location first.

NOTE: Do not use solvent-based or abrasive cleaning products or products containing bleaching agents. Do not use metalpolish or a wirebrush.

GLASS & WEATHERSEAL MAINTENANCE

Glass Cleaning

Float glass, used in most double glazed units, is easily scratched and it is therefore recommended that hand jewellery is removed prior to cleaning. Any proprietary household glass cleaner may be used with a soft cloth and it is recommended that heavy external grime be initially removed with a solution of soap and water.

Leaded Glass Cleaning

In this type of double glazing, lead strips are bonded to the inside/outside of the outer pane of the unit in a variety of patterns. Take care when cleaning leaded lights as excessive pressure might dislodge the lead from the glass surface. The use of warm soapy water and a soft cloth, moderately applied, will prove an adequate cleaning method.

Note: external lead will oxidise, this is a natural phenomenon and cannot be avoided.

Weatherseals

During cleaning ensure that the weatherseals fitted to your products do not become dislodged from their grooves. Should this occur, slide back into position immediately, to avoid damage when the door is closed. If the weatherseals are broken or damaged and draughts are felt around the product, ensure prompt replacement by contacting your installer.

Following the initial installation the weatherseal may require bedding in; causing a slight resistance when operating the door, the application of a silicone spray will aid the smooth operation of the door during this period.

OUTER FRAME & SASH MAINTENANCE

Wash the frame with a soap and water solution, periodically as required, to remove any grime and atmospheric deposits. If required clean with a non-abrasive proprietary cleaner, suitable for plastics, using a soft cloth. Stubborn marks can be removed with a stronger, non-abrasive, proprietary cleaner such as a cream. Always take care not to disturb sealant.

At least every four months, clean the internal and external surfaces of the frame and glass (or glazed panel(s)) to remove atmospheric grime; always use a soft cloth with mild liquid detergent solution, rinse with water and dry off. Periodically check that visible external drainage holes are free from any obstruction; if blocked, remove obstruction and flush through with water to ensure correct drainage.
In-Line Sliding Patio Door Maintenance

HARDWARE MAINTENANCE

All lock types

The key-way, latch and keep should be kept free from dirt, debris and obstruction at all times. On an annual basis check operation of the key mechanism with the door leaf open. If the key requires excessive force to engage the lock mechanism then lubricate the key-way with a silicone based spray lubricant; do not use oil or grease. On an annual basis lubricate the bevelled or rounded face of the latch and the latch strike on the keep with a smear of petroleum jelly or grease.

Multi-point locks

On an annual basis apply a smear of petroleum jelly or grease to each side of each additional hook or bolt. Some multi-point locks are supplied with adjustable keeps. The Adjustment method is specific to the type of lock fitted, however, to achieve optimum performance lock keeps should be adjusted periodically.

TRACK

Clean and lightly grease the track bearing surface annually with petroleum jelly.

CYLINDER

Do not attempt to lubricate the locking cylinder.

FURNITURE & FITTINGS MAINTENANCE

Handles

On an annual basis clean and remove dirt and debris from moving parts. Lightly oil external moving parts with a light machine oil.

NOTE: Do not use a metal polish. Do not use any abrasive cleaning products or a wire brush.

Letterplates

On an annual basis clean and remove dirt and debris form moving parts. Lightly oil external moving parts with a light machine oil.

NOTE: Letterplates with plastic torsion bars (visible when flap is lifted) do not require lubrication. For stubborn stains, use a soft cloth with mild liquid detergent solution, rinse with water and dry off. On an annual basis check that the external frame of the letterplate is flush with the face of the midrail. If evidence of a gap is found tighten the fixing screws located behind the internal flap; do not over-tighten screws. If a gap is still evident apply a small bead of a high modulus silicone around the full perimeter of the external frame.

Bolts

On an annual basis lubricate the moving parts of surface fitted or mortice bolts with a small amount of petroleum jelly or grease.
## In-Line Sliding Patio Door Technical Manual Issue Record

<table>
<thead>
<tr>
<th>SECTION</th>
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<th>ISS</th>
<th>REFERENCE</th>
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<tr>
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<td>16</td>
<td>TM-0002</td>
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<td>20-04-10</td>
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<td>Page 46</td>
<td></td>
<td></td>
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<td></td>
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<td>Page 67</td>
<td></td>
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<td></td>
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<td>Dimensional alterations to horizontal section drawings</td>
<td>Page 17</td>
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<tr>
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<td>Security handle part number change</td>
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<td></td>
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<td></td>
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<td>Page 5</td>
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<tr>
<td>Detail for 1256 pre drilling for roller adjustment added</td>
<td>Page 29</td>
<td></td>
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<td>Updated manual to reflect the issue of PAS 24:2012 which now incorporates windows &amp; doorsets</td>
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<td>Page 46</td>
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<td>Page 45</td>
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### Changes and Additions:

- **Issue 11** 29-10-14
  - Updated Weather Performance Section
  - Updated Survey & Installation Section
  - Updated Deductions & Parts Breakdown
  - Updated Enhanced Security Section
  - Removed 1275 Letterplate Fixing Page
  - Changed the word ‘Enhanced’ to ‘PAS24’ Throughout
  - Amend typo error
  - Add Security Glazing Clips section
  - Page 55

- **Issue 12** 22-10-15
  - Updated 1263 Threshold
  - Text Adjustment Pages 44-45
  - PAS24 Note Added
  - Updated Wallchart
  - Page 68

- **Issue 13** 25-07-16
  - Up issue for new 1200 frame, 1268 cleat and 1262 steel Throughout

- **Issue 14** 30-08-16
  - Updated to cover typo’s and foil changes Throughout

- **Issue 15** 07-09-16
  - Updated to cover foil changes Throughout
  - Updated drawings to cover quadrant changes Page 61

- **Issue 16** 19/10/16
  - Part number change
    - Page 4

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Dimensions in MM

All dimensions are nominal.

DO NOT SCALE

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