

# Steel Doorset Specifications



**AARON ACCESS**  
PART OF AARON ENGINEERING GROUP

## Introducing **Aaron Access**

**Aaron Access provides automatic gates, access control, cctv, turnstiles, bollards, barriers and all types of controlled access across the UK. We have our own civil labour and offer 24hr call outs.**

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# Door Elements

## Door Leaf

As standard the door leaf is manufactured from two 1.5mm Galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation. While anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

## Frames

Supplied as standard with all steel doorsets, the 90mm frames are pressed from 2mm Galvanised steel. The special fast fit frame is able to compensate for most irregularities in the opening. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can also be insulated if required.

## Thresholds

All thresholds are DDA compliant 2mm stainless steel bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Finish

Available in any RAL or BS standard or marinegrade powder-coat finishes.

## Guarantee

The frame and doorset is given a 15 year guarantee subject to correct door maintenance. All ironmongery has a 5 year guarantee subject to correct usage and maintenance. Marine Grade PPC finish is guaranteed for a period of 10 years subject to the cleaning and maintenance programme.

## Steel Doorset

The Defender Safeguard doorset is manufactured from 1.5mm galvanised steel and internal steel strengthening as standard. Frames are 2mm galvanised steel and have 2mm stainless steel thresholds.

Bolted corners giving it rigidity and threaded fixing adjusters make it quick and easy to fit resulting in the Defender Safeguard being exceptional in the marketplace.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



# Steel Doorset

## Over Panels/Side Panels

Available to suit customer requirements.

## Door Leaf

Manufactured from two 1.5mm galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation. Anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

## Frame

90mm frames are pressed from 2mm galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can be insulated if required.

## Thermal performance

Tested and achieving an excellent rating of 2.2W/ m<sup>2</sup>K based on a door size of 1090mm x 2090mm WxH - values may vary slightly depending on size and finished colour of doorset.

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

Structural opening sizes (mm)*		
	Max width	Max height
Single leaf	1470	2960
Double leaf	2800	2960
* for oversized doors, please enquire.		

# Steel Doorset

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and stays. On double doors, lever-action flush bolts can be installed within the leading edge of the inactive door leaf.

## Finish

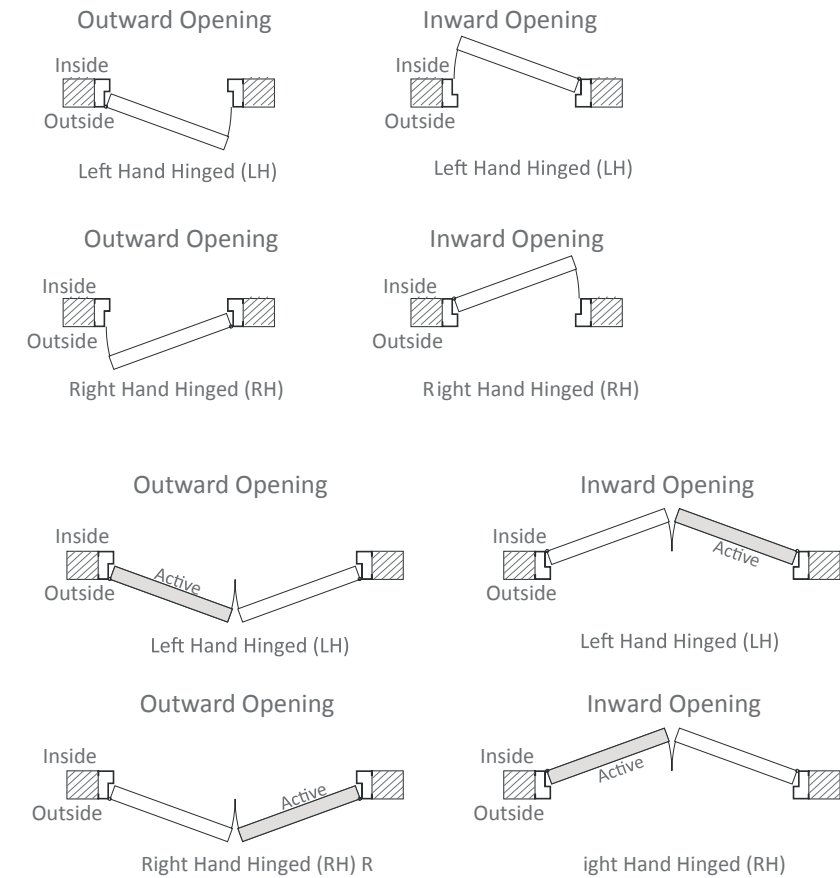
Available in any RAL or BS standard or marinegrade powder-coat finishes.

## Optional Extras

A full range of vision panels are available in various glass types and thicknesses. Louvre panels to any sizes are also available.

## Handing Diagram

Applies to full range:



## Steel Internal Doorset

The Defender Duopar is a 2-part frame system, providing an internal door that combines aesthetics with strength

The Defender Duopar is not only an incredibly durable internal door, but it will also complement the interior appearance of the building.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset





# Steel Internal Doorset

Less industrial than a regular steel door and with an appearance closer to that of a timber door, the Defender Duopar doorset combines aesthetics with strength. It has no visible fixings and is finished with a quality, powder coat.

The Duopar 2-part frame door system is designed primarily for interior environments and is guaranteed to make an architectural statement every time. Dependant on your requirements, the Duopar can be used with timber leaves as well as steel leaves. With the Duopar, you get the same high-quality appearance as traditional timber frames and architraves, yet with the added strength of steel to withstand high usage in heavy traffic areas.

This means the doorset is ideal for use in healthcare, retail, office and public buildings.

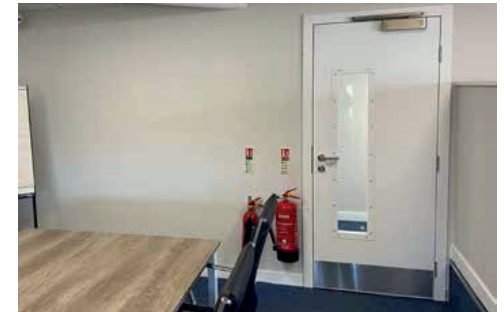
## Frame

Frames are constructed from 2.0mm steel throughout and feature a fully concealed, yet incredibly strong, fixing bracket system. Corners are mitred and retained with a combination of tabs and screwed brackets.



Not only is the door unbelievably simple to fit, the clamp-style frame enables fixing at the final stage of construction, after all wet trades have completed, meaning less opportunity for doors to suffer damage from other trades.

A high-quality push-in perimeter seal completes and adds a touch of finesse - a smooth and silent closing operation and effective seal. Threshold options are available if required.





## Steel Detailed Doorset

The Defender Decorguard incorporates decorative grooves directly rolled into the door skin using the latest CNC technology and advanced tooling.

With our bespoke solution you can choose from various preconfigured designs or get creative and send your ideas to our Design Team who will work with you to create a unique design of your own.

Personnel Door	✓
Emergency Exit Door	✗
Internal Use	✓
External Use	✗
Single Doorset	✓
Double Doorset	✓



# Steel Detailed Doorset

Available in a wide range of security hardware options including electronic locking. Also available as a PAS24 tested doorset. Vision panels can be incorporated, with clear, obscure or patterned glass. Ask about our range of special powder coatings which include pearlescent and multi colours, textured finishes, metallic and stone effects for the ultimate designer doorset.

## Door Leaf

Created with a customisable shaker cottage style look and manufactured from two 1.5mm Galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation.

## Frame

The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. As shims and packers are not necessary this creates an extremely secure fix. Frames can be insulated if required.

## Thermal Performance

Tested and achieving an excellent rating of 2.2W/ m<sup>2</sup>K (based on a door size of 1090mm x 2090mm WxH - values may vary slightly depending on size and finished colour of doorset).

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

# Steel Detailed Doorset

## Over Panels/Side Panels

Over panels and side panels can be incorporated, both fixed and removeable for maximum access. Panels can be single or double glazed, solid to match the door leaf, or louvred.

## Finish

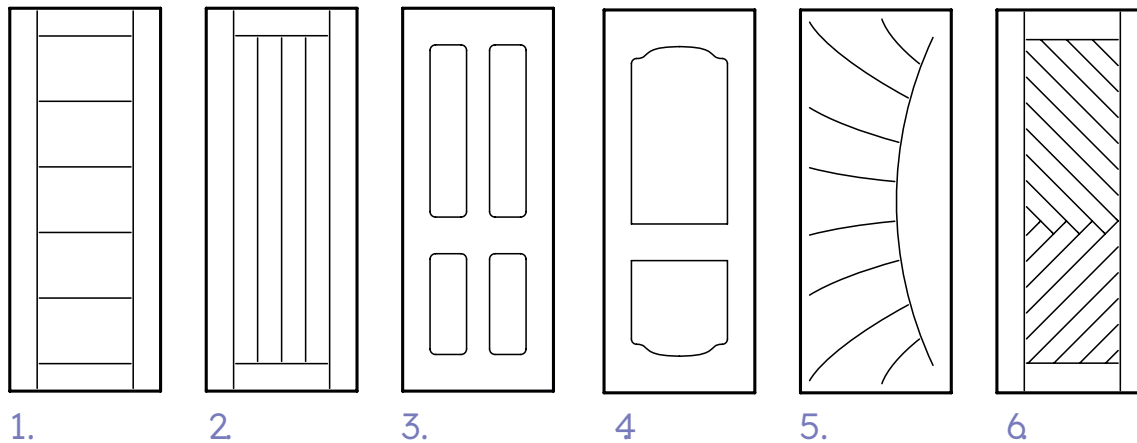
Available in any RAL or BS standard or marine-grade powder-coat finishes.

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and stays. On double doors, lever-action flush bolts can be installed within the leading edge of the inactive door leaf.

## Designs

Available in either the designs below or get in touch to see if we can create what you require.



1. Ladder
2. Shaker
3. Victorian
4. Regency
5. Soleil
6. Herringbone

## Acoustic Rated Steel Doorset

The Defender Soundguard is designed to reduce sound transmittance and keep your premises totally secure, Soundguard can be fully customised to meet your acoustic requirements.

The Defender Soundguard is designed to reduce sound transmittance for many external and internal applications. It is available in almost any size and is manufactured to suit the customer requirements. It has been designed to block sound up to Rw52dB.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



### Door Leaf

Manufactured from two 1.5mm galvanised steel skins, folded and mechanically fixed to form a strong and rigid door leaf, filled with a variety of acoustic cores. Anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

### Frame

Frames are pressed from 2mm galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 8no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can be insulated if required.

# Acoustic Rated Steel Doorset

## Threshold

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped. An auto drop-seal is added for sound reduction for certain sound levels.

## Seal

A variety of different acoustic perimeter seal systems available to meet your sound reduction requirements.

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and stays. On double doors, lever-action flush bolts can be installed within the leading edge of the inactive door leaf.

## Finish

Available in any RAL or BS standard or marine-grade powder-coat finishes.

## Vision Panels and Glazing Systems

A full range of vision panels with acoustic glass with varying sound reduction levels.

## Over Panels/Side Panels

Over panels and side panels can be incorporated, both fixed and removable for maximum access. Panels can be single or double glazed, or solid to match the door leaf.

Soundguard	Level Rating (dB)
1	30-32
2	32-38
3	39-42

Structural opening sizes (mm)*		
	Max width	Max height
Single leaf	1470	2960
Double leaf	2800	2960
* for oversized doors, please enquire.		



## Fully Glazed Steel Doorset

The Defender Clearguard is high security, maximum visibility. Clearguard is our fully glazed doorset solution, designed for high usage and ideally suited to offices, schools, retail properties and leisure facilities.

For use in situations when aluminium is just not strong enough or where fire rating is required for a fully glazed system. The steel Defender Clearguard is more secure, stronger and lasts longer than aluminium systems.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



# Fully Glazed Steel Doorset

For maximum vision from 60mm wide steel profile and ideal for prestigious and high-use locations.

Fire rated to up to 2 hours and/or thermally broken frames give endless possibilities to this impressive door system. We use a clipin beading system, along with many different types of ironmongery including electric locks. Specified with anti-bandit glazing this product is ideal for high security situations.

## Finish

Available in any RAL or BS standard or marinegrade powder-coat finishes.





## Fire Rated Steel Doorset

The Defender Fireshield doorset has been successfully tested at Exova Warrington Fire to BS EN 1634-1:2008 in January 2014, Test No: WF336507. Available with many ironmongery combinations and glazed options.

The test reference WF Test No. 336507 was performed on a specimen of a double leaf doorset incorporating unlatched door leaves. The doorset had overall dimensions of 1760mm wide by 2090mm high and incorporated two door leaves. An astragal was included along the meeting edge junction of the doors.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



Defender Fireshield doorsets are manufactured using the same construction methods as the Defender Safeguard giving ultimate security with; 1.5mm galvanised door skins, 2mm frame, 2mm stainless steel threshold and mineral wool core for excellent thermal qualities of 2.2W/m<sup>2</sup>K.

# Steel Detailed Doorset

## Door Leaf

Manufactured from two 1.5mm galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation. Anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

## Frame

90mm frames are pressed from 2mm galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can be insulated if required.

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber smoke seal is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and stays. On double doors, lever-action flush bolts can be installed within the leading edge of the inactive door leaf.

# Steel Detailed Doorset

## Finish

Available in any RAL or BS standard or marinegrade powder-coat finishes.

## Vision Panels and Glazing Systems

The active leaf in fire test WF 336507 included two vision panels with the upper panel having overall dimensions of 203mm wide x 711mm high. And the lower panel 203mm wide x 508mm high. This test demonstrated that the inclusion of vision panels will not be detrimental to a fire performance of unlatched door leaves for a period of up to 240 minutes. For doorsets that are required to have 120 minute fire resistance, the height of the vision panel can be increased by 15% and the maximum area to be increased by 20%. The maximum permitted vision panel dimensions are 818mm high or 416mm wide, subject to a maximum area of 0.17m<sup>2</sup>.



## Fire Rated External Steel Doorset

The Defender Fireshield Plus is our bespoke range, that meets the latest requirements for external fire rated doorsets to be CE Marked to EN 16034 in conjunction with BS EN 14351-1.

The Fireshield Plus range delivers fully compliant fire protection up to 60 minutes, combined with all the benefits of Defender steel doorsets. With 1.5mm galvanised door skins, a wide range of hardware, easy installation and optional acoustic ratings of up to 52dB.



Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset





# Fire Rated External Steel Doorset

## Door Leaf

Door skins in 1.5mm Galvanised Steel, folded and fabricated to form a rigid and durable leaf.

## Frame

Frames are provided with multiple fixing points for secure installation.

## Fire Rating

E30 and E60 ratings available (fire integrity only) to 30 and 60 minutes. EI30 and EI60 ratings also available - fire and insulation rated to 30 and 60 minutes.

## Threshold

DDA compliant low profile threshold supplied as standard.

## Hardware

DIN standard locks and lever handle sets, including nightlatch and bathroom variants. Panic hardware in single and multipoint variants, with or without external access devices. Door closers can be fitted to either side. Door selectors for double doors ensure correct closing sequence. Approved access control options include electric strikes and solenoid locks.



## Finish

Available in any RAL or BS standard or marinegrade powder-coat finishes.

## Acoustic

Various acoustic ratings achievable up to 48 dB (30 minute rated doorsets) and 52 dB (60 minute rated doorsets).

## Optional Extras

A range of approved vision panel configurations and air transfer grilles are available.



Structural opening sizes (mm)*		
	Max width	Max height
Single leaf	1365	2790
Double leaf	2590	2790
* for oversized doors, please enquire.		

## Pas24 Steel Doorset

The Defender PASguard is our range of doorsets which are third party tested to PAS24. Also known as Publicly Available Specification 24, PAS 24 is the preferred specification for enhanced security performance requirements for doorsets and windows in the UK.

It sets out the minimum requirements and acceptable test criteria for products to resist attack from opportunistic crime.

Personnel Door	✓
Emergency Exit Door	✓
Internal Use	✓
External Use	✓
Single Doorset	✓
Double Doorset	✓
Electric Locking	✓
Manual Locking	✓



Since 2015, Part Q of the Building Regulations has required doors and windows fitted to new dwellings to meet the requirements of PAS24. Whilst this does not currently cover replacement doors and windows, the Defender PASguard is a clear choice to bring security and peace of mind to residents and property owners alike. Tested configurations include single and double doorsets, inward and outward opening. Tested with one toughened glass vision panel 203 x 1473mm (W x H) to each leaf.

# Pas24 Steel Doorset

## Door Leaf

Manufactured from two 1.5mm Galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation. Anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

## Frame

90mm frames are pressed from 2mm Galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can be insulated if required.

## Thermal Performance

Tested and achieving an excellent rating of 2.2W/ m<sup>2</sup>K (based on a door size of 1090mm x 2090mm WxH, values may vary slightly depending on size and finished colour of doorset).

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening.

Tested sizes (mm)*		
	Width	Height
Single leaf	1050	2150
Double leaf	2240	2150
* for oversized doors, please enquire.		



# Pas24 Steel Doorset

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Multipoint locking for personnel access or heavy duty panic exit hardware options are available. Door closers, door viewers and TS008 approved letter plates can all be incorporated.

## Finish

Available in any RAL or BS standard or marinegrade powder-coat finishes.



## Lps 1175 Steel Doorset

The Defender Xtreme doorsets are certified up to Level 4 which have been independently tested by LPCB to meet stringent guidelines.

We have a range of high security ironmongery, panic exit bars, louvre panels and vision panels available for these high security Defender Xtreme doorsets.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



Electric Locking



Manual Locking



# Pas24 Steel Doorset

## Door Leaf

Manufactured from two Galvanised steel skins, folded and mechanically fixed to form a strong and rigid door leaf. Filled with mineral wool and internal steel strengtheners for the ultimate insulation. Anti-jemmy flanges to the leading edge of the leaf also provide excellent jemmy resistance.

## Frame

Frames are folded from Galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the vertical posts and are joined together utilising various fixing methods. The special fast fit frame is able to compensate for most irregularities in the opening with threaded fixing adjusters so shims and packers are not necessary, making an extremely secure fix.

## Thresholds

A DDA compliant threshold fixed to the vertical frame posts is available in an outward opening configuration. Over Panels/Side Panels Solid over panels and side panels can be incorporated as per the table.

Structural opening sizes (mm)							
		Min width	Max width	Min height	Max height	Security Rating	LCPB ref no
Xtreme 1	Single leaf outward opening	750	1300	1800	2210	1	1284a/01
Xtreme 1	Double leaf outward opening	1500	2200	1800	2210	1	1284a/01
Xtreme 1	Single leaf outward opening incl overpanels	750	1300	2290	3210	1	1284a/01
Xtreme 1	Double leaf outward opening incl overpanels	1500	2200	2290	3210	1	1284a/01
Xtreme 2	Single leaf outward opening	750	1300	1800	2200	2	1284a/02
Xtreme 2	Double leaf outward opening	1500	2500	1800	2200	2	1284a/02
Xtreme 2	Single leaf outward opening incloverpanels	7500	1300	2290	3210	2	1284a/02
Xtreme 2	Double leaf outward opening incl overpanels	1500	2200	2290	3210	2	1284a/02
Xtreme 3	Single leaf outward opening	750	1400	1500	3060	3	1284a/03
Xtreme 3	Double leaf outward opening	1500	2510	1500	3060	3	1284a/03
Xtreme 4	Single leaf outward opening	500	1284	1000	2752	4	1284b/01
Xtreme 4	Double leaf outward opening	900	2492	1000	2752	4	1284b/01

# Pas24 Steel Doorset

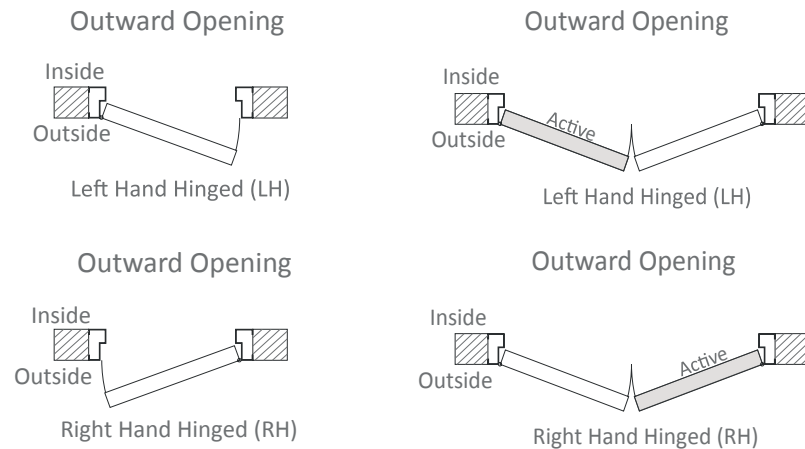
## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Hardware

The hardware includes a range of locks, latches, lever handles, panic hardware, closers and stays. Due to the technical nature of the hardware available, please enquire with one of our technical team.

## Handing Diagram



## Certification



# Extra High Security Steel Doorset

The Defender Xtraguard is available for when stronger than standard still isn't enough.

The strengthened hinges and thicker steel of Xtraguard offers the next level in protection and confidence.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



Electric Locking



Manual Locking



# Extra High Security Steel Doorset

## Frame

Frames are pressed from galvanised steel to form a single rebated profile. Profiled headers form a smooth butt joint with the full height vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Frames can be insulated if required.

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather and thermal performance, a tubular silicone/ rubber seal is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Finish

Available in any RAL or BS standard or marine-grade powder-coat finishes.

## Optional Extras

A full range of vision panels are available in various glass types and thicknesses. Louvre panels in unlimited sizes are also available. Both solid and glazed overpanels and side panels can be manufactured to suit individual customer requirements.

Level	Door Leaf skins (mm)	Frame (mm)	Core	Hinges	Lockable Access Ironmongery	Exit Ironmongery
2	1.5	2.0	Steel rib & mineral wool	S/S 102x76 Grade 13 Ball Bearing Security	1. High security cylinder 2. High security escutcheons	Exidor 700 Series/ Mico
3	2.0	2.0	Solid timber	S/S 102x76 Grade 13 Ball Bearing Security	Exidor 700 Series/ Mico	Exidor 700 Series/ Mico
4	2.0	2.0	Solid timber	S/S Continuous	Exidor 700 Series/ Mico	Exidor 700 Series/ Mico
5	2.0	2.0	Solid timber & anti-drill plates	S/S Continuous	Exidor 700 Series/ Mico	Exidor 700 Series/ Mico

## Structural opening sizes (mm)\*

	Max width	Max height
Single leaf	1470	2960
Double leaf	2800	2960

\* for oversized doors, please enquire.



# Stainless Steel Security Doorset

The Defender Inox stainless steel doorset, constructed of Grade 304 stainless steel, making it perfect for a number of applications

Whether fitted internally or externally, you will be sure to get superlative durability from the Defender Inox stainless steel security doors.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



Electric Locking



Manual Locking



The Defender Inox combines architectural and aesthetic appeal with durability, giving you an attractive doorset that is exceptionally hardwearing. For its aesthetic appeal, corrosion resistance and increased strength, stainless steel is a fantastic material for security doorsets. Aaron Access successfully completed a 120 minute fire test to BS EN 1634 on a large double Defender Inox in 'unlatched' configuration.



# Stainless Steel Security Doorset

The tested doors also incorporated substantial vision panels with custom-made stainless steel glazing cassettes. We can also offer Grade 316 stainless steel for even greater durability and corrosion resistance

## Application

The Grade 304 stainless steel makes the Defender Inox ideal for a range of different uses. In particular, it is popular in locations that require a high level of hygiene, such as:

- food production,
- medical premises,
- industrial environments (e.g. chemical work
- shops, paint shops, etc),
- wet environments (e.g. swimming pools, wet rooms),
- high traffic environments (e.g. public buildings,
- schools, hospitals etc).

The Defender Inox is not limited to use in just these applications, when installed in an office or communal area, a stunning, contemporary design aesthetic can also be created.

## Thresholds

DDA compliant 2mm stainless steel threshold bolted into the vertical frame posts. Available in outward opening, inward opening and ramped.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked.

Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and door restrictors. On double doors, lever action flush bolts can be installed within the leading edge of the inactive door leaf.

## Optional Extras

A full range of vision panels are available in various glass types and thicknesses. Louvre panels to any sizes are also available.

# Modular Building Steel Doorset

The Defender ModuleX doorset has been designed for the modular building industry to provide an ultimate fast-fitting and cost-effective solution complete with a four-sided cloaking frame.

The Defender ModuleX doorset is manufactured from 1.5mm galvanised steel and internal steel strengthening as standard.

Personnel Door



Emergency Exit Door



Internal Use



External Use



Single Doorset



Double Doorset



Electric Locking



Manual Locking



Frames are 2mm galvanised steel and have 2mm stainless steel thresholds making the Defender Safeguard a longer lasting, stronger door. The mineral wool core is also more thermally efficient than cardboard honeycomb infill versions.

# Modular Building Steel Doorset

The unique flange frame design efficiently seals the frame to the building whilst concealing panel cut outs.

## Door Leaf

Manufactured from two 1.5mm Galvanised steel skins, folded and mechanically fixed to form a strong and rigid 45mm thick door leaf, filled with internal steel strengtheners and mineral wool for ultimate insulation. Anti-jemmy flanges to the leading edge of the leaf provide excellent jemmy resistance.

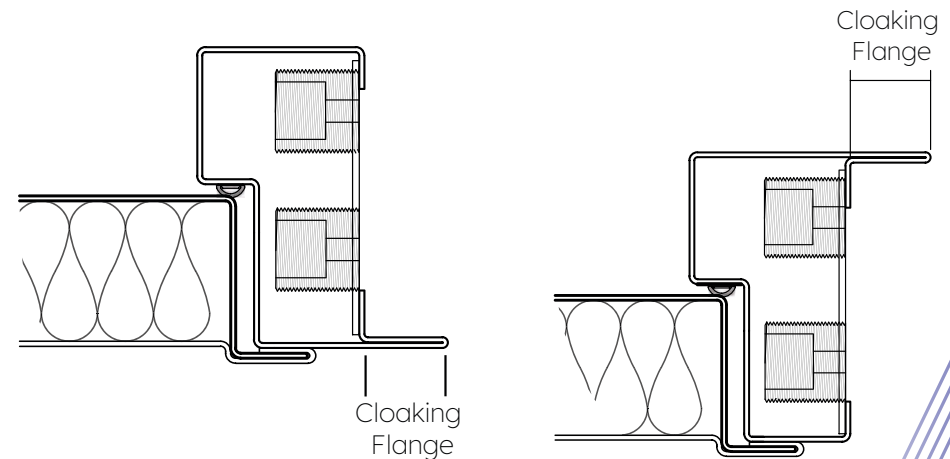
## Frame

90mm frames are pressed from 1.5mm galvanised steel to form a single rebated and an in-built cloaking profile. Profile headers form a smooth butt joint with the vertical posts and are joined together utilising strong M8 bolts to provide positive rigidity. The special fast fit frame is able to compensate for most irregularities in the opening with 16no threaded fixing adjusters per doorset. They permit a tolerance of up to 18mm on each side of the door. Shims and packers are not necessary making an extremely secure fix. Alternative frame depths are available on request to suit your specific wall panel construction.

### Structural opening sizes (mm)\*

	Max width	Max height
Single leaf	1470	2960
Double leaf	2800	2960

\* for oversized doors, please enquire.



# Modular Building Steel Doorset

## Hardware

Door leaves are hung from 4no stainless steel hinges for smooth operation and optimum weather resistance. Security dog bolts secure the leaf into the frame if the hinges are attacked. Additional hardware includes a range of locks, latches, lever handles, panic hardware, closers and door restrictors. On double doors, lever action flush bolts can be installed within the leading edge of the inactive door leaf.

## Finish

Available in any standard RAL powder-coat finishes.

## Thresholds

DDA compliant 1.5mm stainless steel threshold bolted into the vertical frame posts. Available in inward or outward opening with full in-built cloaking to prevent water ingress into the floor of the building.

## Thermal performance

Tested and achieving an excellent rating of 2.2W/m<sup>2</sup>K based on a door size of 1090mm x 2090mm WxH - values may vary slightly depending on size and finished colour of doorset.

## Seal

For optimum weather, thermal and acoustic performance, a tubular silicone/rubber is bonded into the frame rebate to ensure effective sealing of the door/frame gap.

## Optional Extras

A full range of vision panels are available in various glass types and thickness's. Louvre panels, closers and door restrictors and emergency exit panic ironmongery are available.

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