

Technical Manual - Trojan SR3



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TRELLIDOR

TRELLIDOR®

THE ULTIMATE CRIME BARRIER

TROJAN 3 - T3000 EMESC

REV.01 - 11-19

*THE WORLDS
STRONGEST
SLIDING SECURITY GATES



LPS 1175 : Issue 7
Cert/LPCB ref. 474d



Certified by the Loss Prevention Certification Board (LPCB) through the British Research Establishment (BRE).

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DESCRIPTION

The Trellidor Trojan 3 EMESC T3000 is a highly specialised steel, collapsible emergency escape grille designed to control access in high risk, high foot traffic public areas such as government buildings, transport hubs, sports stadia, museums, banks and the retail sector.

It has a unique locking system designed with a tamper proof, key-less emergency escape function. This is located on the inside face of the grille to ensure that the it can be opened or closed quickly and without the use of a key. The retractable grille can also be supplied with a variety of locking options upon request.

This product offers maximum protection with unimpaired air flow, light and visibility. When open and not in use the grilles are virtually invisible to the public as they can be housed within lockable SR3 certified recesses. The bottom rail is also housed in a recess, below the surface of the floor, to rule out any potential tripping hazard.

This is an exceptional retractable grille, engineered to international safety standards and crowd control requirements. It was introduced to the market in 2017, after receiving the highest LPCB rating worldwide for a security grille through the British Research Establishment (BRE).

The design attained the LPS1175 : Issue 7-SR3 certification in single, double, side-by-side and multi-sash options, incorporating standard and flexi configurations.

It is robust, fully framed and has been certified to fit into brickwork, concrete block-work or structural steel apertures and is intended for applications requiring incredibly high security coverage.

Crowd loading was an important criterion on the list of requirements for locations such as underground train stations and sports stadia. The Trellidor Trojan 3 EMESC T3000 can withstand forces of up to 5Knm, as tested by BRE.

Although this highly engineered grille is extremely heavy at 50kg/sqm, it is finely balanced and top hung. This ensures that the retractable grille can be operated with ease by a person in the 75th percentile, which is especially important in a highly pressurised emergency situation.

The Trellidor Trojan 3 EMESC T3000 is fully manufactured in South Africa at the Durban-based Trellidor LPCB ISO-audited factory.



Assessed to ISO 9001:2015
Cert/LPCB ref. 474



FEATURES AND BENEFITS

STEEL TOP TRACK & SHROUD



- **Galvanized steel u-channel top track:** Enables door to be top hung. Glides effortlessly and promotes ease of operation.
- **Galvanized steel top track shroud:** Offers additional protection by overlapping the u-channel on the attack face.

UPRIGHT WHEEL ASSEMBLY



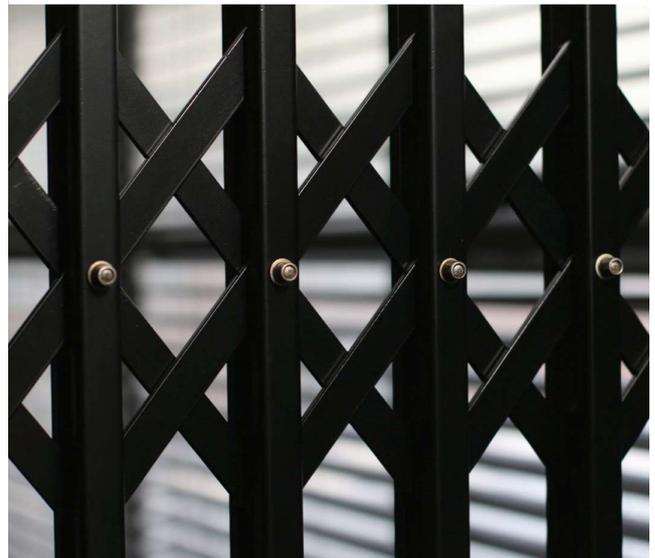
- **Solid steel construction with nylon wheel and bearing:** Gives added strength and durability to the heavy, top-hung unit, allowing it to move with minimum effort.

UPRIGHTS



- **Laser cut galvanized steel u-channel uprights:** Offers greater precision and strength
- **Galvanized steel inserts fitted into to each upright:** Added strength against cutting and attack

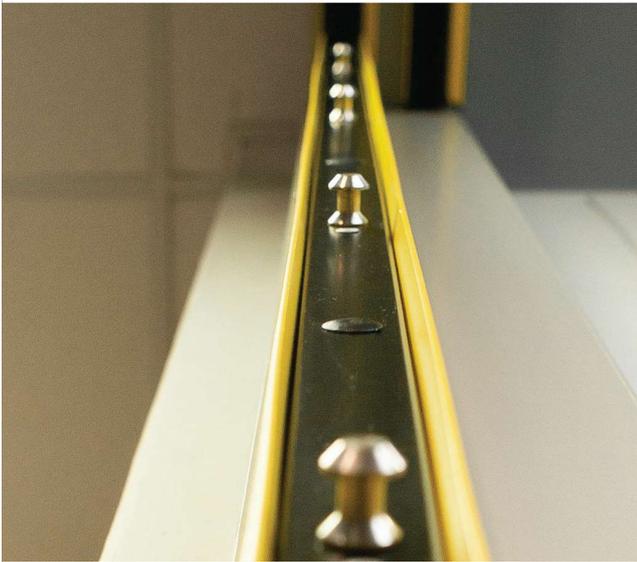
FLIGHTS



Laser cut steel links manufactured from spring steel or armour-plated steel: Increases the product's strength and resistance to attack

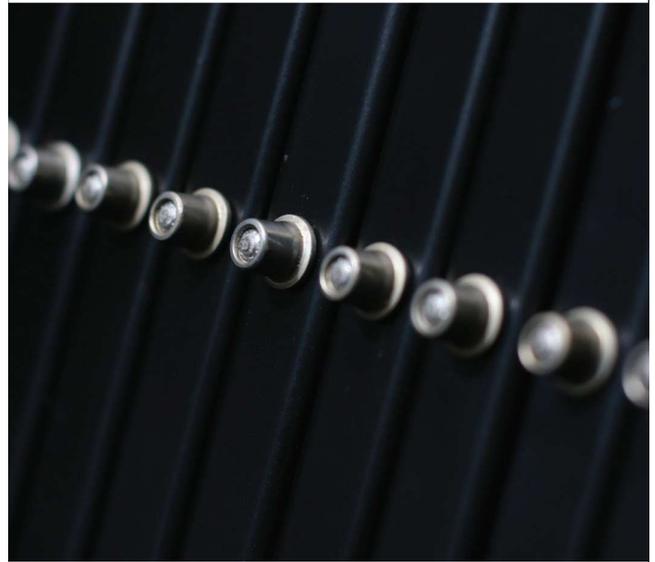
Links cross 3 uprights: Allows ease of movement while providing additional strength. Ensures that the door moves as a continuous unit.

LOCKING & JAMB SHROUDS



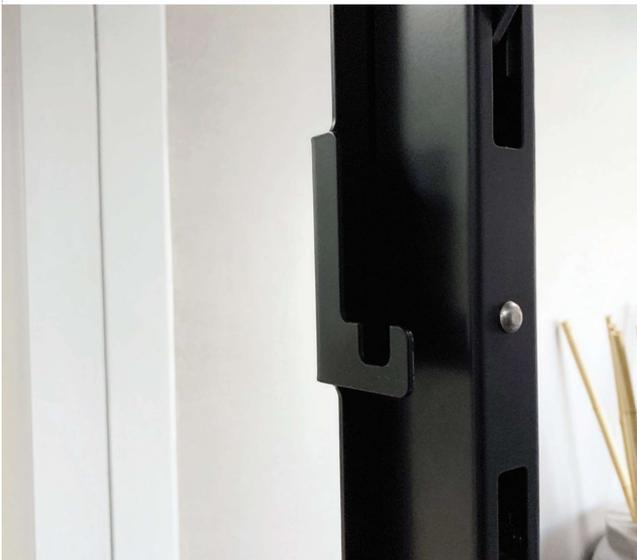
- **3 CR12 stainless steel angled shrouds:** Angled shrouds strategically placed to offer further protection to more vulnerable area of the door.

HUCKBOLTS



- **Huckbolt fixings:** Additional strength against tampering, attack and stresses caused through crowd-loading.

INTERLOCK



- **Utilised on all side by side units:** Designed to allow the doors to run on several tracks thus minimizing the size of the open stack.
- **Locking of sashes:** One turn of the key locks the sashes in place at several points across the door. Locking mechanism further protected by steel lockstile protector plates and anti-drill discs.

LOCKING SYSTEM



- **Deadlocks the door at 4-points via one turn of the key:** Provides multiple locking points across the height of the door to withstand an attack at any point on the locking system.

FEATURES AND BENEFITS (CONTINUED)

EMERGENCY ESCAPE LOCK



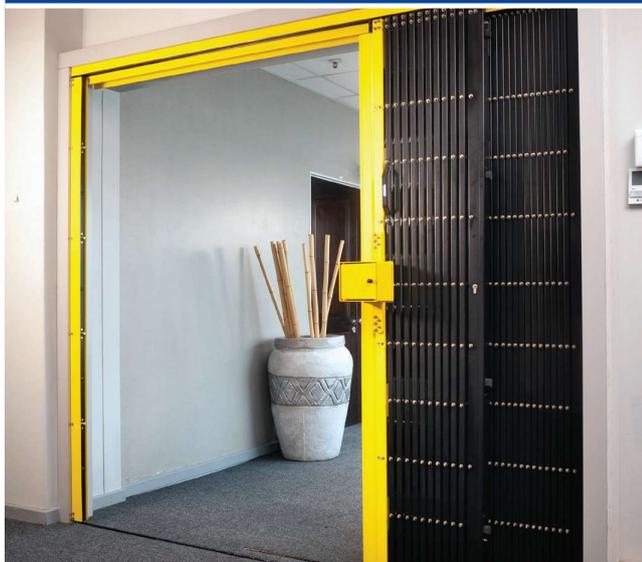
- **Uniquely designed emergency escape locking system:** Allows for opening of the door in emergencies without the need of a key. The box that houses the keyless lock has been designed so that it can only be accessed from the inside. The locking mechanism is further protected by steel lockstile protector plates and an anti-drill disc.

SHEAR CONNECTORS



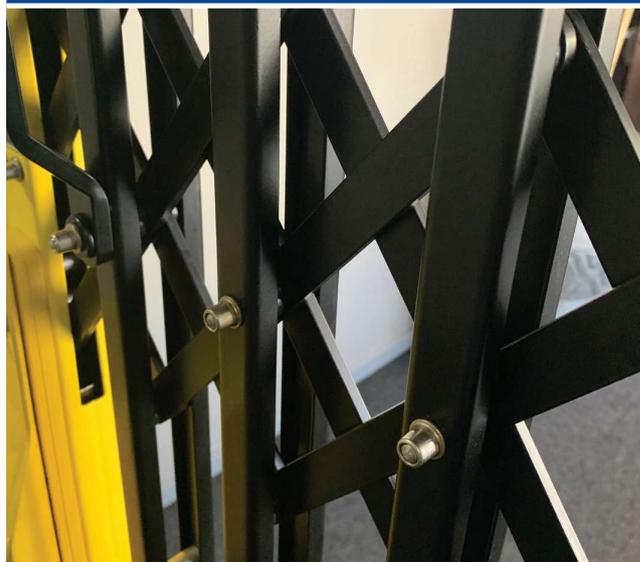
- **Aluminium shear connectors:** Maintains spacing between uprights while adding strength to the door, incorporating a huckbolt and collar through the shear connector, upright inserts and both upright channels.

FULLY FRAMED CONSTRUCTION



- **Secured on all 4 sides:** The door has been designed to fit into certified apertures on all 4 sides thus increasing the overall strength and resistance to attack and crowd-loading.

LINK CLOSURES



- **Link closure to all flights:** Adds strength to the rows of flights running across the width of the door.

RECESSED BOTTOM CHANNEL



- **Bottom channel recessed below the floor surface and housed within a galvanised steel u-channel:** Eliminates tripping hazards.
- **Solid steel construction sill guide with enclosed steel bearing:** Promotes added strength and ease of movement.

TAMPER PROOF REINFORCED FIXINGS



- **Reinforced fixing plates:** Additional strength to the areas where the door is fixed into the substrate. The access to the fixing points has been limited to eliminate tampering.



CERTIFICATION

Many Trellidor International franchises focus on commercial and industrial markets, where our premium quality Trellidor Plus - T900, Trellidor Trojan II - T1000 and Trellidor Trojan 3 EMESC T3000 steel security gates have been well received.

These are expandable steel gates with enhanced in-built strengthening features. All three models have been independently tested by BRE Global Ltd's Loss Prevention Certification Board (LPCB). The company is based in London and is an internationally respected third party testing body.

These three sliding gates were all successfully certified in terms of their ability to resist attack. The Trellidor Trojan 3 EMESC T3000 was certified to LPCB Standard LPS 1175: Issue 7 SR3, one of the highest certification received by a sliding security grille in the world.

Because of their strength under attack these products have become the barriers of choice world-wide for extremely high security applications such as sensitive government installations, transport hubs, sports stadia and the retail sector world-wide, with some high profile names amongst them.

In addition, Trellidor is ISO 9001:2015 certified in terms of QMS requirements, audited and assessed by the LPCB.

LPCB®

Appendix to Certificate No: 474d **Issue: 01**
Trellidor (Pty) Limited

Security Grilles

Product Name	Type	Minimum Structural Opening Height (m)	Maximum Structural Opening Height (m)	Minimum Structural Opening Width (m)	Maximum Structural Opening Width (m)	Security Rating	LPCB Ref. No.
Trojan 3 EMESC T3000	Single leaf collapsible grille ¹	2.2	3.63	1.0	Unlimited	3	474d/01
	Double leaf collapsible grille ¹	2.2	3.63	1.0	Unlimited		
	Side-by-side collapsible grille ¹	2.2	3.63	1.0	Unlimited		

Compatible Locking Systems

Manufacturer	Model	Type	Compatible Operating Device		Compatible External Cylinder
			External Face	Internal Face	
Trellidor (Pty) Limited	Trellilok Mk IV	Multi-point mortised locking system	Key	Shrouded thumbturn	Winkhaus VS604 double Europrofile (key:thumbturn)

Compatible Substrates¹

Product Name	Compatible Substrates	
	Reinforced Concrete	Structural Steelwork
Trojan 3 EMESC T3000	✓	✓

Notes:

- The approval covers the 'standard' and 'flex' models.
- The approval covers the use of the 'standard' and 'flex', single or double leaf collapsible grille models within the side-by-side configuration.
- The grilles are approved when installed into these substrates in accordance with the instructions provided on document LUG-A-057 (Revision A).

This certificate and appendix is maintained and held in force through regular surveillance activities


 Signed for LPCB

Paul Dillon
 Verifier

27 July 2017
 Date of Issue

27 July 2017
 Date of First Issue


 BF1281A Rev 0.5

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COMPATIBLE SUBSTRATES

Manufacturer	Compatible Substrates	
	Reinforced Concrete	Structural Steelwork
Trojan 3 EMESC T3000	•	•

PRODUCT ATTRIBUTES

The Trellidor Trojan 3 EMESC T3000 is the strongest sliding gate in the world. Manufactured from a combination of highly specialised, resilient materials, making it durable and robust under attack.



The Trellidor Trojan 3 EMESC T3000 Grille has been tested and certified to meet LU Civil Standard 1-053 & BS-EN 1991-1-1 Table 6.12 requirements for crowd loading forces of 5Knm by the BRE Global Group.



The Trellidor Trojan 3 EMESC T3000 Grille is top hung with the galvanized steel recessed u-channels set into the floor, flush to FFL (finished floor level), with an internal dimension of 25mm. The sill guides with sealed bearings run free, below the floor, and guide the door within this recessed channel. All materials used in the manufacture of these grilles are corrosion resistant.



The Trellidor Trojan 3 EMESC T3000 certified Grille may only be fit into a reveal aperture consisting of brickwork, concrete block-work or structural steel, using a minimum of an approved M8 Tensile Grade 12.9 steel bolt fixing.

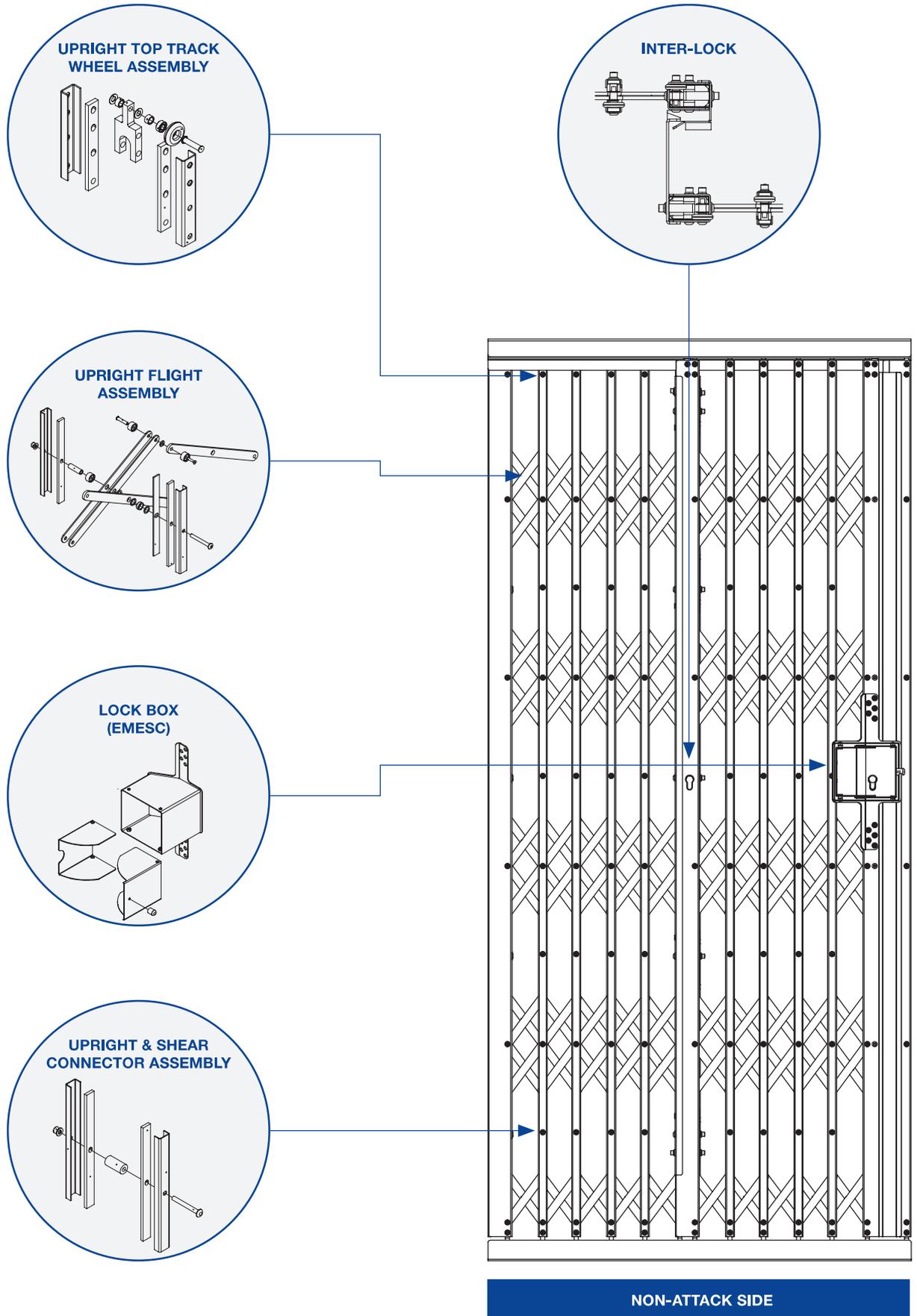


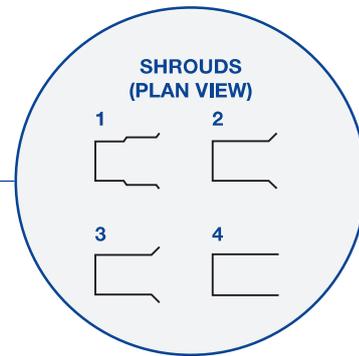
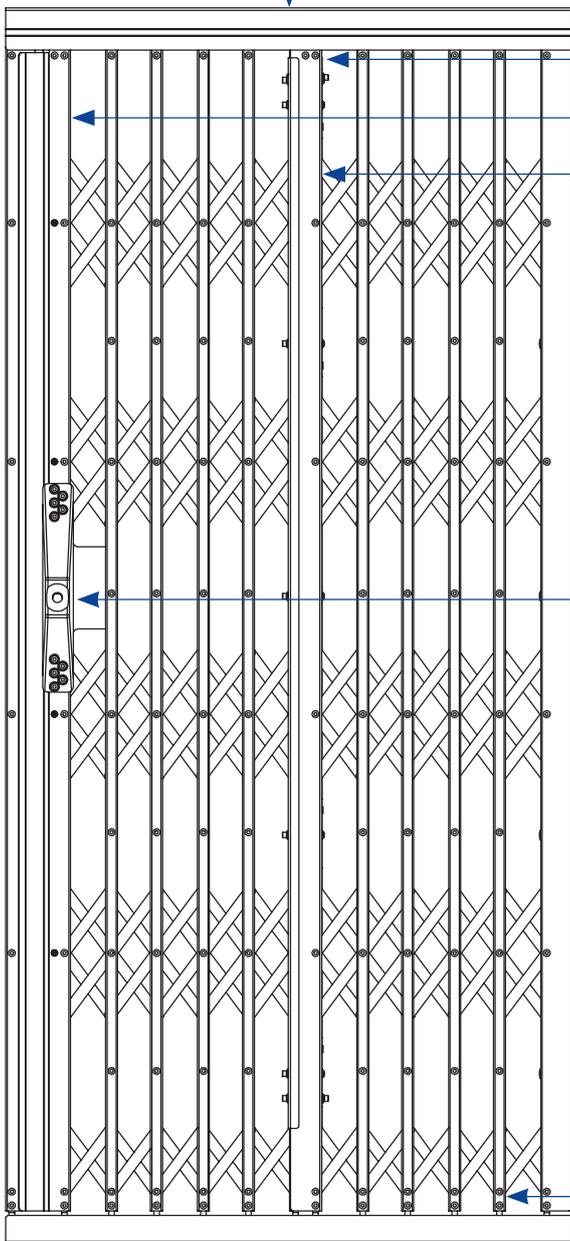
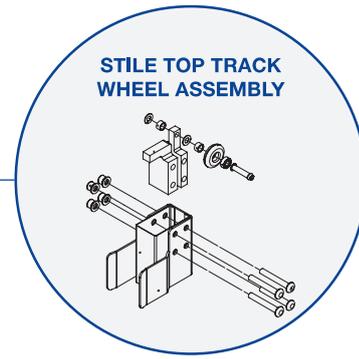
Due to the unique construction and materials required, the Trellidor Trojan 3 - T3000 EMESC weighs +- 50kg/m²



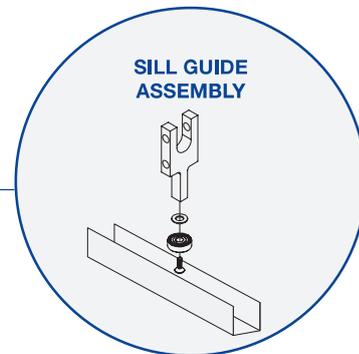
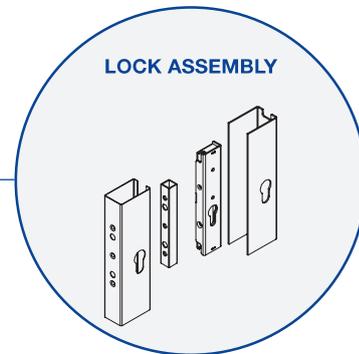
Options available for standard or specialised fire-retardant paint for confined spaces such as underground rail networks, sports stadia etc.

EXPLODED MODEL





- 1. LOCK STILE
- 2. STRIKE JAMB
- 3. STRIKE STILE
- 4. ANCHOR JAMB



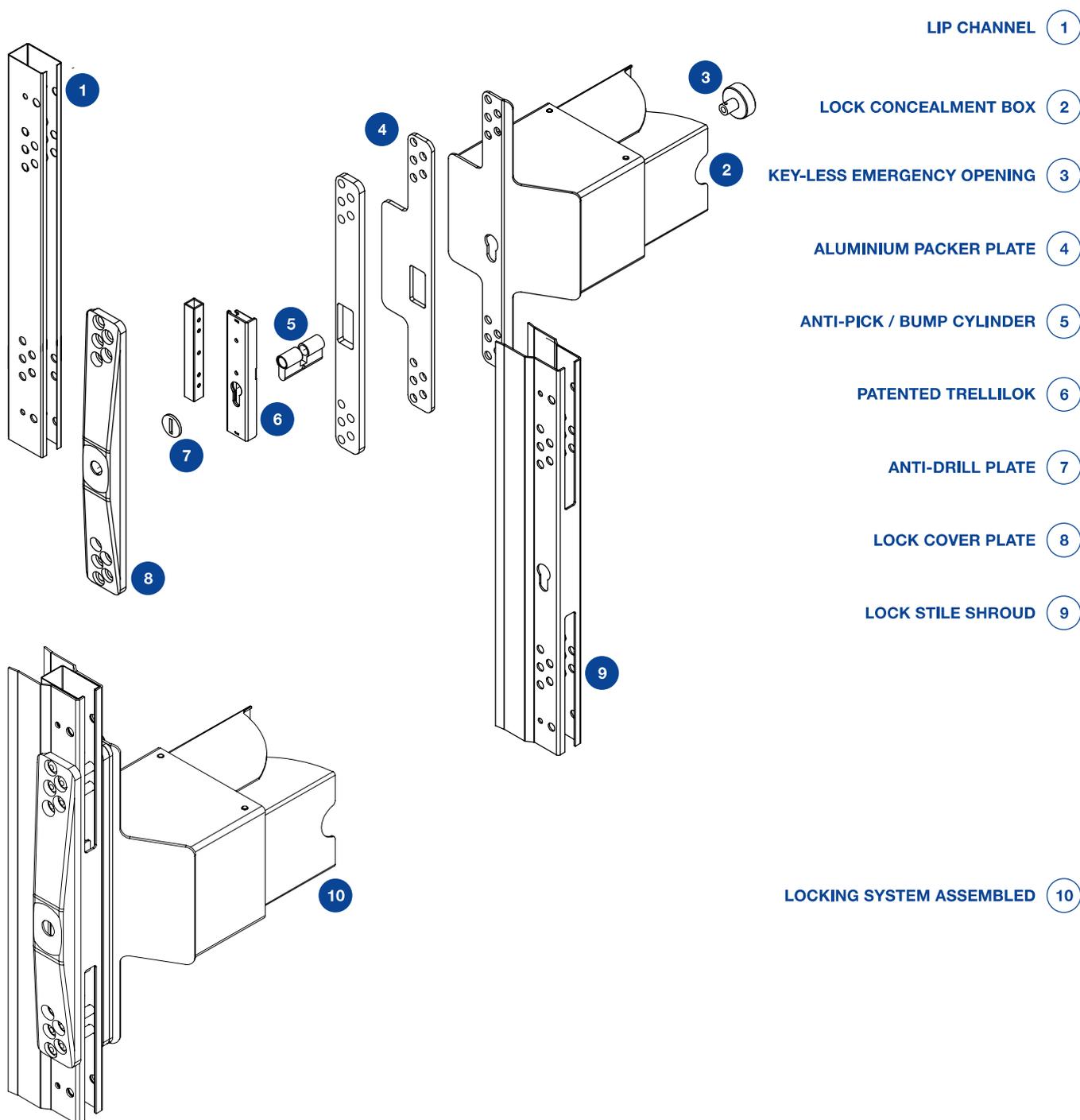
ATTACK SIDE

LOCKING OPTIONS

The Trelidor Trojan 3 EMESC T3000 Grille is secured in the locked position via the, unique, simple to operate Emergency Escape Lock located on the inside face of the grille. This EMESC uses a 4-point deadlock system that can be opened via a single turn of a key from the outside face of the grille or opened internally without the need of a key. The emergency opening system is situated within a steel box that can only be accessed from the inside and a single turn of the knob opens the door in the case of an emergency.

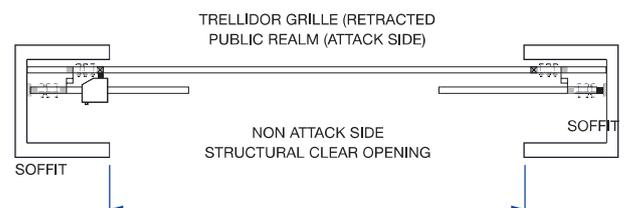
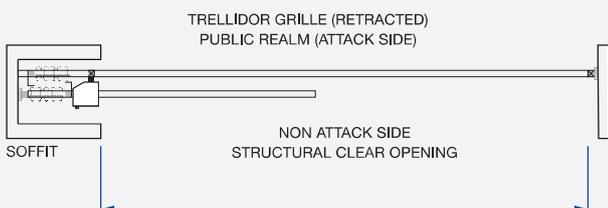
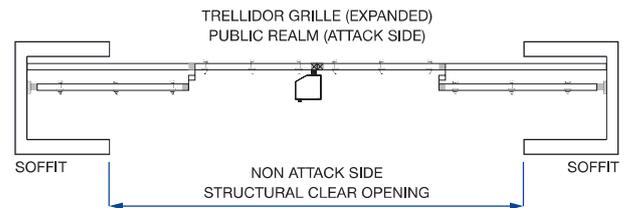
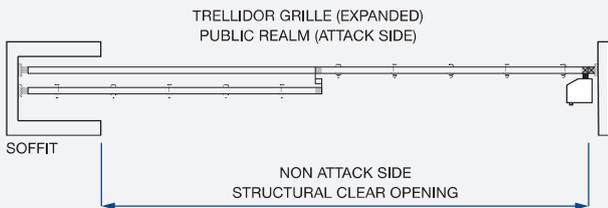
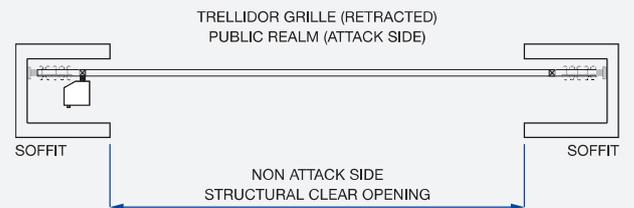
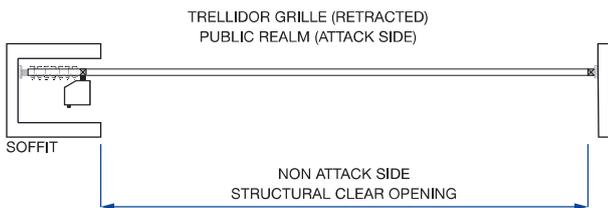
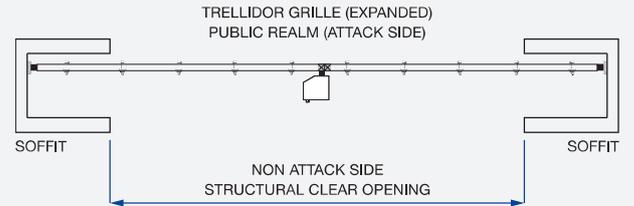
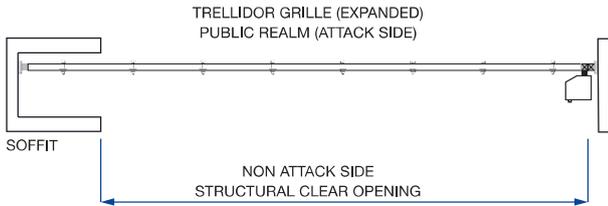
Wider grilles are split into smaller sashes for ease of movement when opening or closing and each of these sashes has a lock which, when opened by a single turn of a key, allows them to be moved independently. The requirement for the LPCB rating is that the grille must be able to be operated by a person in the 75th percentile.

LOCKING SYSTEM ASSEMBLY



FITTING SPECIFICATIONS

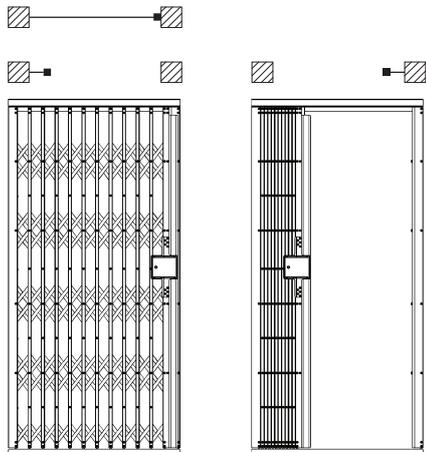
As with all fully framed grilles, a stack is created when the grille is in the retracted (open) position which can be unsightly and potentially restrict movement, therefore it is recommended that the product be designed in such a way that these stacks are housed into recessed wall cavities. There are several configurations that can be used to best suit your application as seen in the 4 examples below which show each example in the open and closed position.



CONFIGURATIONS

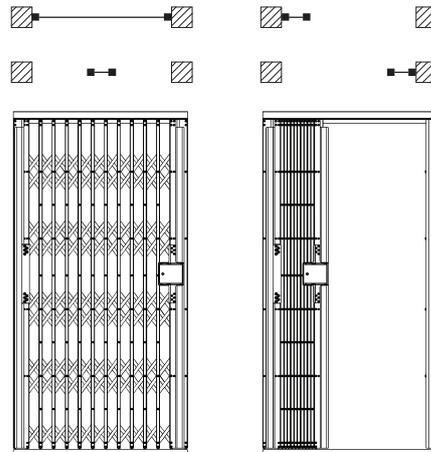
SINGLE DOOR

Locking point ■



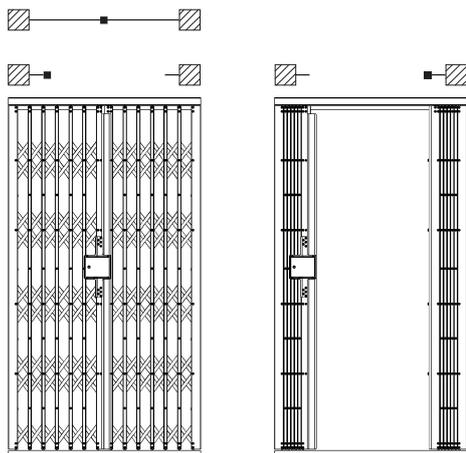
SINGLE DOOR FLEXI

Locking point ■



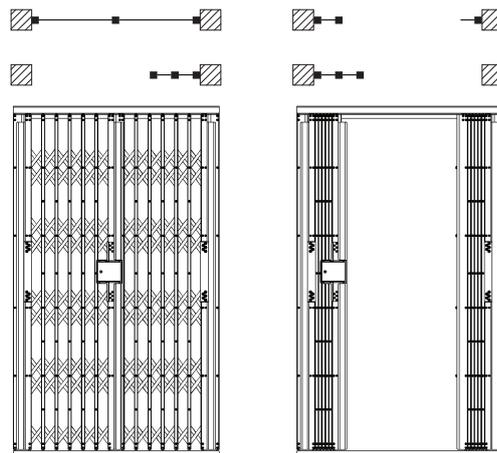
DOUBLE DOOR

Locking point ■



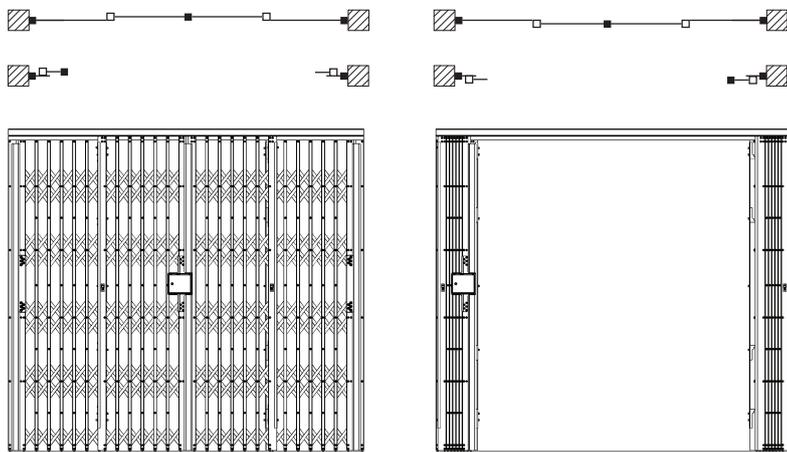
DOUBLE DOOR FLEXI

Locking point ■



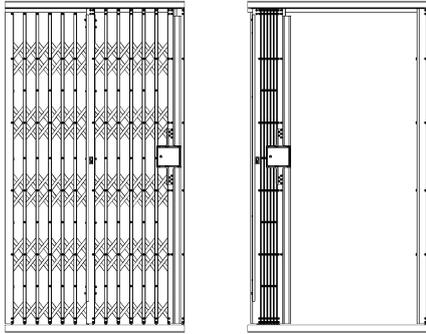
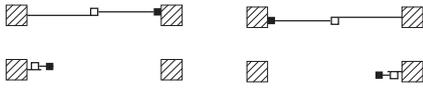
DOUBLE SIDE-BY-SIDE FLEXI

Locking point ■ Interlock □



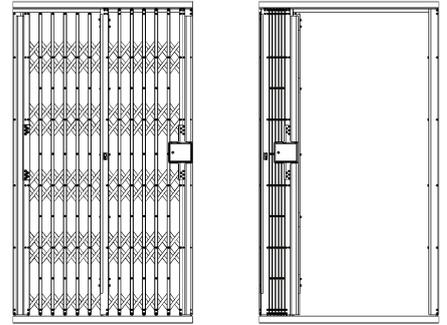
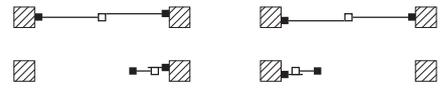
SINGLE SIDE-BY-SIDE

Locking point ■ Interlock □



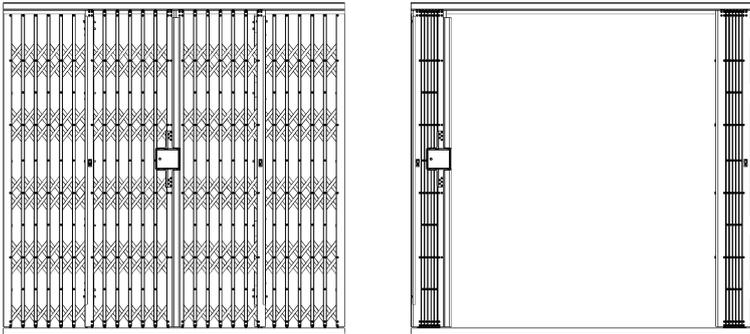
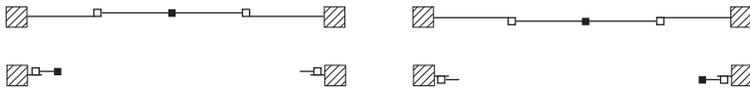
SINGLE SIDE-BY-SIDE FLEXI

Locking point ■ Interlock □



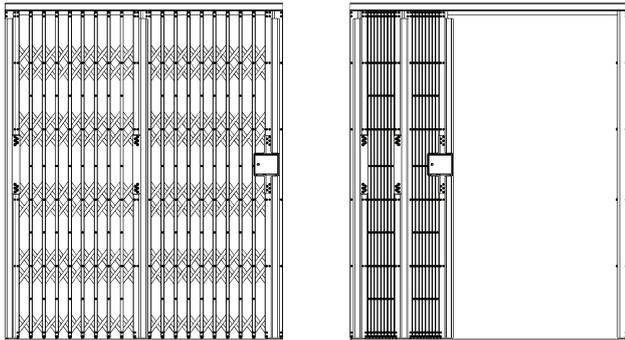
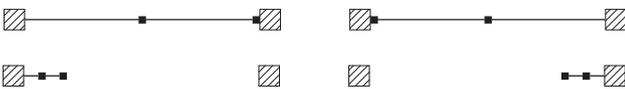
DOUBLE SIDE-BY-SIDE

Locking point ■ Interlock □

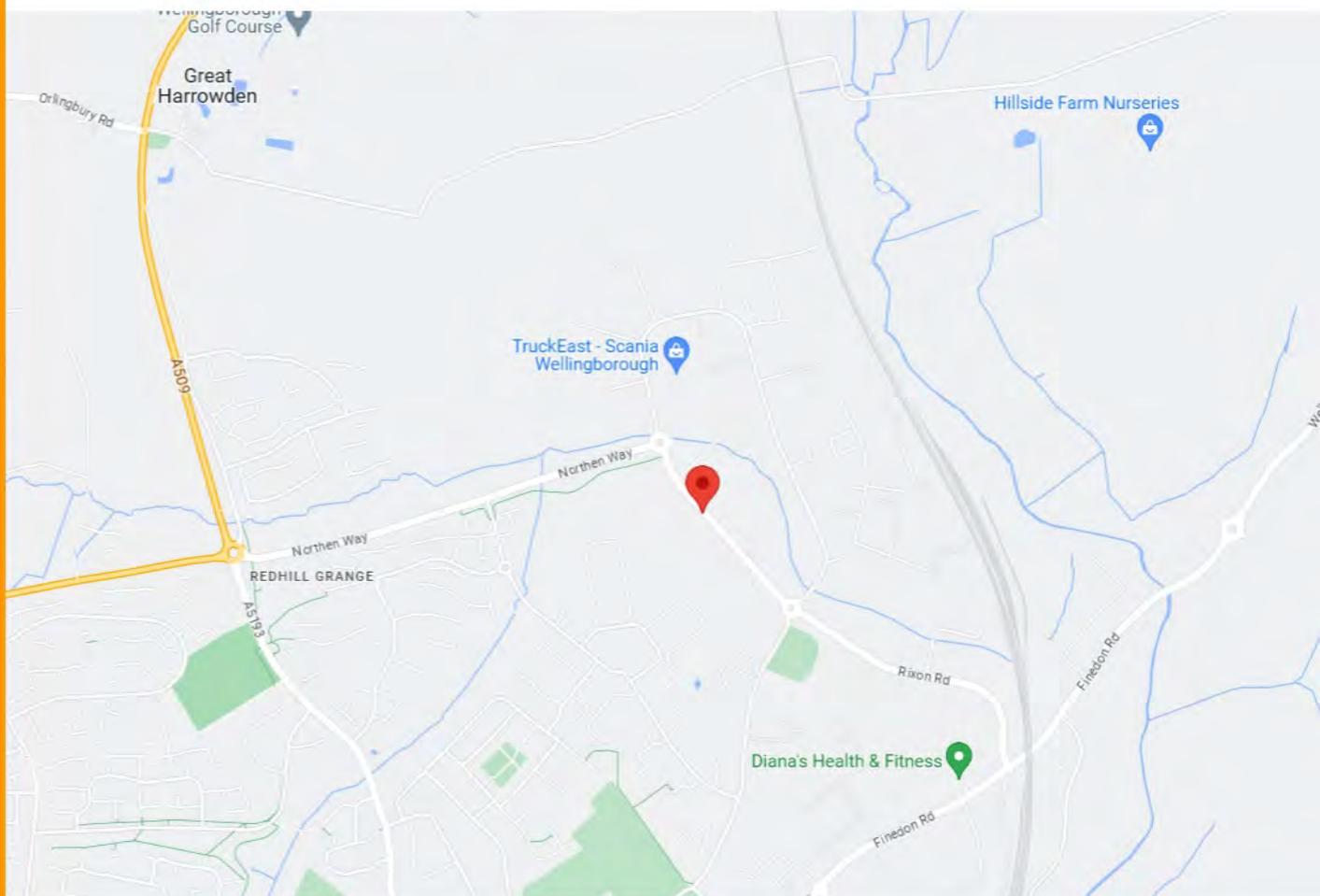


MULTI SASH DOOR

Locking point ■ Interlock □



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