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Security Matters



THE 7 TYPES OF ENTRANCE FRAUD

How People Cheat Their Way In

+ QUICK GUIDE

Resistance standards
for security doors

+ AK-47 ATTACKS

Why security tests need to
account for steel bullets

+ REDUCING SHRINKAGE

How to prevent shoplifting
– 17 helpful tips

Whether you are an



office, bank, factory, shop



airport, metro system, harbour, stadium



power plant, petrol station, jewellers or pharmacy...

**YOUR SITE SECURITY
IS OUR PRIORITY**

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In this edition, *Global Security Matters* highlights several entrance security issues effecting a variety of sites.

We look at the typical types of entrance fraud public and commercial buildings have to tackle, the types of resistance provided to high-risk sites by security doors, and the measures retailers can take to prevent shoplifting.



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The 7 Types of Entrance Fraud

An entrance system, such as a speed gate or turnstile, must be able to stop unauthorised entry. There are seven common types of entrance fraud – from tailgating to lane intrusion – and public and commercial buildings have to tackle them all.

The main purpose of an entrance system is to allow passage to one person at a time on receipt of a valid signal. A valid signal authenticates that the person is authorised to pass and is typically generated by an ID card or the barcode on a ticket.

ENTRANCE FRAUD RANGES FROM TAILGATING AND PIGGYBACKING TO CRAWLING AND JUMPING

Using a carefully placed array of sensors, entrance systems, such as speed gates, are able to detect many different types of entrance fraud. The system can then either reject passage or alert security staff that someone is attempting unauthorised entry.

These are the seven most common types of entrance fraud public buildings and offices have to deal with.



1 *Tailgating and Piggybacking*

Tailgating and piggybacking are attempts to enter an area without authorisation by following closely behind someone with authorisation.

- Tailgating is following an authorised person without their consent
- Piggybacking is the same except that the authorised person is in on the act

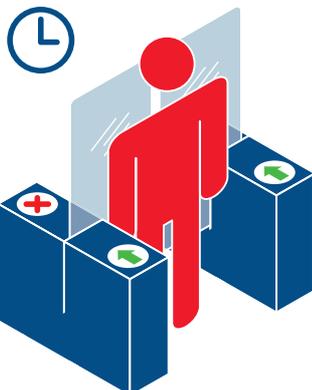
Sensors detect if there is more than one person walking into the entrance system.

2 *Wrong Way*

Attempting to pass through an entrance system from the opposite direction.

Most speed gates can be configured to allow passage in either direction but always clearly indicate where passage is allowed (green arrow) and where it is denied (red cross).

Sensors detect if there is someone entering the exit zone from the wrong direction.



3 *Safety Zone Time Out*

The area closest to where the flaps or panels of an entrance system opens is called the safety zone.

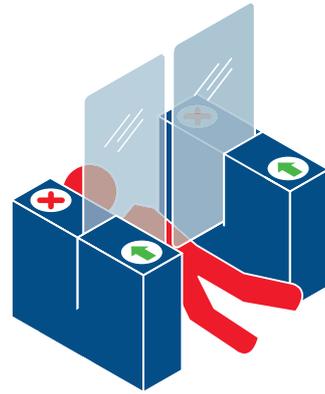
If someone stops in this area too long – forcing the panels to stay open and allowing passage to someone else who has not authenticated themselves – it is detected as a fraud attempt.



4 *Crawl Under*

Attempting to crawl under the flaps or panels of an entrance system.

Sensors around the base of an entrance system detect the body of a person crawling.



5 *Climb Over*

Attempting to jump or scale the entrance system, commonly used by fare dodgers on metro systems.



6 *Force Open*

Manually forcing open the flaps or panels of an entrance system.



7 *Lane Intrusion Time Out*

Standing in the entry area too long can also be an attempt at entry fraud, with the person waiting for someone else to open the gates with a valid ID so that they can pass.

Quick Guide

Standards for Security Doors and Windows

Manual attack, ballistic, fire and blast resistance

Without standards, manufacturers can make their own claims about how much protection a security door or window provides.

Standards give you a frame of reference and a guarantee about the level of resistance being provided.

The table opposite gives you a brief overview of EN standards. These are widely used across Europe but are also regarded as the benchmark for security requirements in other regions.

These standards are divided into four groups:



Manual attack resistance – the resistance a security door or window provides when attacked by an individual using an item, such as a baseball bat, or tool, such as a drill.



Ballistic resistance – the resistance a security door or window provides when attacked using a firearm like a pistol, rifle or shotgun.



Fire resistance – the resistance a security door or window provides against heat.



Blast resistance – the resistance a security door or window provides when attacked using explosives.

TESTS FOR	NAME	APPLIES TO	TEST	USED BY
 <i>Manual Attack Resistance</i>	EN 1627	Door sets, windows, curtain walling, grilles and shutters	Attacked by hand with non-electric and electric tools	Sites which have valuable property which is perceived to be at risk from theft, such as banks, jewellery stores, embassies, power plants
	EN 356	Glazing	Steel ball drop test and axe blows	
 <i>Ballistic Resistance</i>	EN 1522	Doors, windows, shutters and blinds	Shot at using range of hand guns and rifles	Parliaments, government buildings, army barracks, prisons
	EN 1063	Glazing	Shot at using range of hand guns and rifles	
 <i>Fire Resistance</i>	EN 13501-2	Construction products and building elements	Measures capacity to withstand exposure to fire and to stop a fire from spreading	Many types of sites use fire resistant doors from public and commercial buildings to industrial and high-risk sites.
	EN 1634-1	Door sets	Furnace test	
 <i>Blast Resistance</i>	EN 13123/124-1	Doors, windows and enclosures	Shock tube detonation	Sites at risk from an industrial explosion such as chemicals and petrochemicals plants
	EN 13123/124-2	Doors, windows and enclosures	Open air detonation	Sites at risk from terror attacks such as embassies, parliaments, government buildings

Kalashnikov Resistance

What protection do security doors really provide?

The proliferation of the Kalashnikov or AK-47 assault rifle and its frequent use in terrorist attacks, has called for bullet-resistant security doors to be redesigned. The issue being that current standards do not account for the type of ammunition commonly fired by Kalashnikovs.

Although there are few official statistics on how widespread the Kalashnikov, or AK-47, has become, there could now be as many as one for every 70 people in circulation. Terrorists often use Kalashnikovs and although it is a weapon for which different types of ammunition can be used, one particular high-level bullet has meant manufacturers of security doors are having to revisit the way their doors are constructed.

This bullet, known as the M43 or PS ball, is unlike the ammunition used to test the ballistics resistance of security doors. Apart from the high-graded armour piercing bullet used for level FB7, the European standards (EN) test almost exclusively with lead or soft core bullets to determine what level of protection a security door affords.

The M43 on the other hand is made of mild steel which makes it much more likely to penetrate several objects rather than expand on its initial impact as a lead bullet does.

Kalashnikov Attacks and EN Standards

EN 1522 measures the bullet-resistance of security doors and awards certificates in seven classes (FB1–FB7) as well as an additional certification, FSG, for shotguns.

A specific type of ammunition is employed at each level but there is also a list of other frequently used bullets which the standard states could be comparable to the ones used for testing.

Since the M43 bullet is not included on this list, select manufacturers of security doors are conducting their own special tests to ensure that customers are getting the level of protection they require.

Adapting a Security Door for Kalashnikov Protection

The M43 bullet may be more penetrative than soft core bullets but it travels at much lower speeds (around 700m/s).

To stop it breaking through a security door, the solid infill of the door has to be thicker. And since the weakest point of the door is at the joins – such as between the glazing and the frame – these areas also have to be reinforced.

Make Sure the Whole Door Has Been Tested

If a security door has not been tested as a whole unit, it might not actually meet the required levels of resistance. Some for example have had the glass and the frame tested separately, but this will not highlight the weaknesses the whole door has.

A complete test will include the glass, solid infill and frame, and testers will shoot from different angles to try and find the weakest point in the construction.

This is just as critical when testing for resistance against the M43 bullet. If any part of the bullet pierces through any part of the door, then the door fails the test.

Installing a Security Door with Kalashnikov Protection

Existing security doors can easily be swapped out for stronger versions but where a standard door is being replaced, remember to make sure that the surrounding structure is robust enough to take the extra weight.

EN 1522 BALLISTIC RESISTANCE FOR *Security Doors*

The table below lists the type of ammunition used to test security doors in accordance with the European standard, EN 1522.

Almost all the projectiles used for testing are soft core bullets made of lead. The M43 bullet – commonly used as Kalashnikov ammunition – is more penetrative and is not covered by these tests.

CLASS	TYPE OF WEAPON	AMMUNITION
FB1	Rifle	Lead bullet
FB2	Hand gun	Soft core (lead)
FB3	Hand gun	Soft core (lead)
FB4	Hand gun	Soft core (lead)
FB5	Rifle	Soft core (lead) and steel penetrator
FB6	Rifle	Soft core (lead)
FB7	Rifle	Hard core (steel)
FSG	Shotgun	Solid slug



*17
helpful
tips*

How to prevent *Shoplifting*

Shoplifting costs retailers a whopping \$46 billion annually and accounts for over a third of shrinkage costs globally.¹ But there are many measures store owners and security managers can take to reduce those costs and tackle theft.

1 Check the stats

Find out which products are being stolen, at which times of the week and in which areas of the store. Based on an analysis of the figures, allocate investment and resources where they are most needed.

2 Be aware of common shoplifting methods

Shoplifters often try and hide merchandise so keep an eye out for places where items can be quickly concealed. The most popular hiding places are inside clothing, handbags, prams and umbrellas.

3 Use signs and promote the consequences

Visual cues make sure shoplifters know what preventive measures are in place and dissuade them from shoplifting in the first place. Also use signs to highlight your store's shoplifting policy and the maximum punishment a shoplifter could end up receiving.

4 Train staff to recognise suspicious behaviour

Give staff guidance on how to detect shoplifters and distinguish between normal and suspicious behaviour

Suspicious behaviour includes:

- Spending more time watching staff than actually shopping
- Taking several items into the dressing room but only leaving with one
- Loitering, appearing nervous and avoiding eye contact

5 Don't be fooled

Make sure staff are alert to shoplifters working in pairs where one distracts the shop assistant to give the other the opportunity to steal.

6 Eliminate blind spots

Optimise your store's design and install mirrors in areas which are otherwise concealed from view. Make sure there is adequate lighting in all areas.



7 Use electronic article surveillance (EAS)

EAS tag and alarm systems are ideal for preventing shoplifting.

- A tag is attached to an item of clothing or merchandise
- On purchase this tag is either removed or deactivated
- If the tag has not been removed or deactivated when the item is taken out of the store, then special antennas placed in the store exit will sound an alarm

8 Choose the right EAS technology

There are three types of EAS system – RF, AM and EM – and it pays to know which one should be used to protect which types of items.

- RF technology is the most common and is widely used by fashion retailers
- AM is more suited for tagging liquids and metallic objects
- EM is a niche solution used almost exclusively on books by libraries

9 Tag in the right way

As well as standard hard tags and labels, there are several special types of tags which can be used to protect high-value items:

- Self-alarms tags – trigger an alarm when tampered with
- Multigrip or spider wrap tags – wires which wrap around the product sound an alarm if broken
- Safers – clear plastic boxes used to enclose razor blades or expensive items



10 Avoid tall display cases

Placed along the aisles, taller display cases obstruct the staff's view of potential shoplifters. Place taller displays along a wall instead.

11 Acknowledge customers

Make sure staff are visible and attentive. Greeting each customer as they come into the shop lets them know that a member of staff is aware of their presence. Shoplifters tend to avoid stores with attentive sales assistants.

12 Maintain staff levels

Stagger lunch and break times among sales assistants to always have more than one employee working.

13 Keep the store well-organised

A clean and tidy store signals that there is control and dissuades shoplifting.

14 Install video surveillance

CCTV is a useful tool for preventing and detecting shop thefts.

- It is important that the camera is of sufficient quality as blurred and unclear images cannot be used later as evidence
- Always consult an expert in the area as legislation on CCTV is complicated and regularly amended
- Shoppers must be made aware if cameras are being operated in a store, so use clear signage

15 Control access to store rooms

Don't allow shoplifters to enter storage areas. Use access control to protect parts of the store which are off-limits to customers.

Only individuals with the right authorisation will be granted entry. A whole range of different identification methods can be used including cards, tags, PIN codes or biometric data, such as a fingerprint.

16 Invest in a safe

Some items are so high-value that they need to be stored in a safe or protective cabinet. Always make sure your safes are independently certified to a level high enough to cover the value of the contents inside.

17 Plug the gaps

Protect open and unmonitored entrances to your store with speed gates. They allow passage into the store but prevent shoplifters from going back through the entrance with stolen goods.

CONTACTS AND INFO

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