Intruder alarm additions

**Intruder Alarms - European Standards**

**Introduction**

To help ensure that alarms are designed, installed and maintained reliably, most UK alarm suppliers and installers adhere to a series of British Standards or Codes of Practice (CoP).

In 2004 the process of withdrawing some long established British Standards/CoP began, their place being taken by new European Standards for Intruder and Hold up Alarm Systems - usually referred to as the ‘Euro Standards'.

The Euro Standards only apply to new systems. Existing systems remain subject to the British Standards or CoP applying at the time of their installation; but exceptionally may need to comply with the Euro Standards if they require such extensive re-design or equipment replacement that they effectively become a new system.

This Hardfacts only provides general guidance on the Euro Standards -  more detailed guidance documents are available from The RISC Authority, the UK insurers' technical advice body and other organisations.

**British Standards/CoP**

From 1st March 2004 documents entirely or partly withdrawn include:

* BS4737 (Intruder alarms in buildings)
* BS7042 and BS DD242 (High security alarms in buildings)
* BS6799 and BS DD244 (Wire free alarms in buildings)

**European Standards**

The Euro Standards, as termed, actually comprise a suite of document published under two document numbers, as shown:-

* EN 50131 -  Systems
* EN 50136 - Alarm Transmission Systems (ATS) - aka 'Notification' or 'Signalling'

**Means of Introduction**

Because some parts of the full suite of Euro Standards are not yet published, and the Euro Standards do not cover some issues that alarms may be required to meet in the UK to satisfy the police or insurers, a UK enabling standard was prepared. This is called PD6662 - Scheme for the application of European Standards for Intruder and Hold up Alarm Systems''.

**Grading and the European Standards**

The key feature of the Euro Standards is the system of grading.

Four ‘Grades' of alarm system exist, based on increasing levels of resilience against attack by intruders with anticipated levels of alarm knowledge and tools as shown below:

*Grade  Intruders expected to have:*
1         Little knowledge and limited tools
2         Limited knowledge and some tools
3         Knowledge and full range of tools
4         Sophisticated knowledge and tools

In reality, Grade 1 is a low (below the old BS 4737 Standard) level of system not acceptable for police response and Grade 4 equipment isn’t generally available, so the effective choice is between Grade 2 and Grade 3.

In a similar vein, any connected ATS has to meet increasing levels of performance based on the Grade of alarm system they are connected to. Although ATS do not technically have an official Grade designation, in common parlance the alarm industry does refer to the various types of ATS and their performance as ‘grades’ of signalling.

**Who Decides the Grade of Alarm?**

Whilst an interested customer will naturally take an interest in/help determine the type of alarm system they wish to buy, the main role of determining graded performance will usually lie with two other parties.

**Alarm Companies (Installers)**

Installers are required to carry out a formal assessment of the theft risk to determine a suitable Grade of alarm and a type/grade of ATS.  To do so they will consider the items at risk, existing security arrangements and any previous thefts, etc. Before they proceed they will (ideally) encourage a customer to seek any interested insurer's approval.

**Insurers**Depending on the risk exposure, insurers may require an intruder alarm before providing certain insurance covers, e.g. theft. As the Grade of an alarm cannot be readily changed after installation, it makes sense to check a proposed alarm with any interested insurer before proceeding. When it comes to any ATS, it's 'grade' can often be retrospectively changed, but it may involve extra cost that is better avoided by meeting an insurer's requirement at the outset.

Insurers may respond to a request to approve an alarm by visiting the premises, making a decision based on information already held by them, or by agreeing with an installer's risk assessment.

As a general guide the following reflects insurers likely stance on Euro Standards systems and ATS:

**Detection and Control System**

* Grade 2 - Most domestic and some lower risk commercial premises, e.g. those without public access &/or low values at risk.
* Grade 3 - Most commercial premises.

**Notification options**

* Site only Notification (‘ Audible Only’ signalling) isn’t recognised in the Euro Standards, but is recognised within the UK via PD 6662 which created a Grade 2 Notification Option X (Grade 2X).
* Remote Notification is likely to be stated as either a specific make of ATS with a known level of single or dual path performance, e.g. ATS 5, 4, etc, (aka referred to as ’grade’ of ATS) or simply calling up a specific performance value of a recognised ATS product test and certifications scheme\*.
If police response is required (usually meaning the system has to provide Confirmed Activations, a ‘grade’ 4 Dual Path (DP) ATS, i.e. with two separate transmission paths to the ARC, is likely to be required - whatever the Grade of detection and control system.

**Other Features of the European Standards**
Whilst the Euro Standards contain a lot of complex detail/requirements, the following are its key other features:

**General**
With regard to the four Grades of alarm system mentioned, equipment suppliers will mark each piece of alarm equipment as being suitable for use at a particular Grade, and also its Environmental Class - its suitability for use in dry/wet &/or hot/cold conditions.

Installers will generally use equipment of the same Grade across a system, but mixing equipment of differing Grades may sometimes be appropriate. In such cases the official Grade of the alarm system will follow that of the lowest graded piece of equipment used within it.

**Detection and Control System - Grading**
Apart from increasing event memories, length of battery back up power and levels of recommended detection, the key difference between Grades 2, 3 and 4 relates to movement sensors, and is this:

* Grade 3 movement sensors must be able to detect ‘masking’, i.e. something being placed over the sensor lens, and either prevent, or detect, attempts to re-orientate a sensor, e.g. by an person moving it to point in a different direction.
Note. *Grade 3 movement sensors are particularly useful at premises where the public, or employees, have unsupervised business hours access, i.e. where they could possibly access and interfere with movement sensors unnoticed. They are also useful at premises where accidental ‘masking’/re-orientation could occur.*
* Grade 4 movement sensors must also be able to detect ‘range reduction’, i.e. blocking of part of the sensors field of view. Active Infra Red beams would typically be able to satisfy this requirement.
Note. *Notwithstanding the above, Grade 4 equipment is not generally available*.

**Notification ‘grading’**
Each Grade of system has a subset of ‘Notification Options’ showing acceptable combinations of alarm signalling, e.g. an audible site siren (Warning Device) and/or links to an Alarm Receiving Centre (ARC) via an ATS. Those most likely to be used in the UK are:

‘*grade’* Option  Signalling Type
2          X          Siren at premises
            B          Siren + single link to ARC
            C          Two links to ARC
3 & 4   B & C    As ‘grade’ 2 above

The performance of the link to the ARC varies between the ‘grades’, the most notable difference being in the times taken for any lost signalling link (path) to be noted and reported to the ARC. For example:-

* Grade 2 B signalling must report failure within 25 hours
* Grade 3 B --- ‘’ --- within 5 hours
* Grade 4 B --- ‘’ --- within 3 minutes.

In a Dual Path (Option C) ATS (where two signalling paths are installed, one landline based one mobile network based), the primary path will have a reporting time as above, and the secondary path, when not in use, will have a lower performance - which insurers will expect to ‘step up’ to match that of the primary path once it is in use.

**Maintenance**
Maintenance requirements are:-
Grade Option   Maintenance
2         X            1 site visit per annum
2 & 3  BC          2 site visits per annum OR
                          1 site and 1 remote check
4        BC          2 site visits per annum

**Police Response**

The availability of police response is governed by police Security System Policy (SSP). The SSP requires new alarms to comply with the Euro Standards. **Key Action Steps**

When considering a new alarm:

* Use an installer who is required to comply with appropriate standards i.e. an alarm company subject to inspection by the Security Systems and Alarms Inspection Board (SSAIB)
* Co-operate with the alarm company's risk assessment procedures
* Check your insurer agrees with the proposed alarm Grade and Notification Option, together with the proposed nature/levels of Detection and Response
* Where a confirmation system is required, e.g. to obtain police response, check that the proposed system has :
- Enough detection to give a ‘confirmed activation' early on during most conceivable break-ins.
- A ‘means of unsetting' that, should a break in occur via an alarm entry/exit door, does not prevent or unduly delay the ARC in calling the police.
- A ‘grade' 4 Dual Path ATS.

**Sources of Further Information**

Security Systems and Alarms Inspection Board (SSAIB). Tel 0191 296 3242 or see [www.ssaib.org](http://www.ssaib.org/)

National Security Inspectorate (NSI). Tel 0845 006 3003 or see [www.nsi.org.uk](http://www.nsi.org.uk/)

British Security Industry Association (BSIA). Tel 0845 389 3889 or see [www.bsia.co.uk](http://www.bsia.co.uk/)

British Standards Institution (BSI). Tel 020 8996 9000 or see [www.bsi-global.com](http://www.bsi-global.com/)

The RISCAuthority (the UK insurers' technical advice body) see [www.riscauthority.co.uk](http://www.riscauthority.co.uk/)

In particular, see their detailed guide to risk assessment:

<http://www.riscauthority.co.uk/free-document-library/RISCAuthority-Library_detail.s9-v2-intrusion-and-hold-up-alarm-systems.html>



