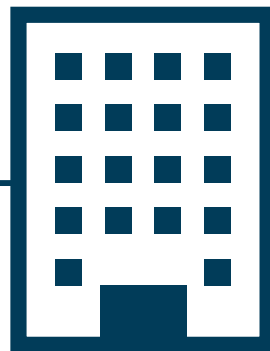


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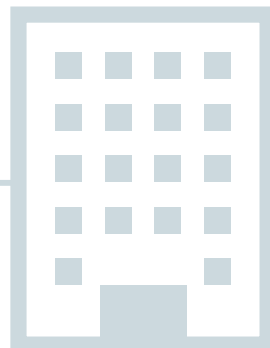
Fire Industry Association



FIA Guidance Document – BS 8629:2019

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Code of practice for the design, installation, commissioning and maintenance of evacuation alert systems for use by fire and rescue services in buildings containing flats.

1. HISTORICAL BACKGROUND

On 14 June 2017 a fire broke out in a fourth floor flat in the 24 storey Grenfell Tower block of flats. The fire spread from the flat of origin claiming the lives of 72 people, injuring 70 others although 223 people escaped.

The Scottish government formed an expert review panel to consider whether the Scottish Building Regulations or the Technical Handbooks supporting the building regulations required change. The expert review panel recommended that for all new blocks of flats of more than 18m above ground, facilities should be provided for the use of the fire and rescue service to initiate an evacuate alert signal within flats. It was considered necessary that a standard be produced to allow the technical handbooks to make reference to a specific document and this led to the publication of BS 8629 in 2019.

At the time of writing there is no legal requirements for such systems in England and Wales and there is no retrospective requirement for existing blocks of flats. However, on 30 October 2019, Sir Martin Moore-Bick published the Grenfell Tower Inquiry Phase 1 report. This recommended that ***“all high-rise residential buildings (both those already in existence and those built in the future) be equipped with facilities for use by the fire and rescue services enabling them to send an evacuation signal to the whole or selected part of the building by means of sounders or similar devices”***.

This is exactly what BS 8629 seeks to achieve.

2. APPLICATION

BS 8629 compliant systems are not to be regarded as fire detection and fire alarm systems. BS 8629 specifically recommends that they should be totally separate from such systems, even though integration might be considered to be economically preferable. The evacuation alert system is for use, solely by the fire and rescue service, as a means to assist in the initiation of a partial or full evacuation of a high-rise residential building.

The Scottish Domestic Technical Handbook advocates the provision of systems complying with BS 8629 for compliance with Mandatory Building Standard 2.14 (Fire and Rescue Service Facilities) under the Building (Scotland) Regulations.

In England and Wales, at the time of writing, there is no equivalent mandatory requirement, although it is known that Housing Associations and local councils are considering the use of such systems. It is considered that such systems may be specified as part of the fire strategies for new and refurbished blocks of flats.

3. DESCRIPTION OF THE STANDARD

The format of the standard is loosely similar to BS 5839-1, in that the standard is divided into a series of clauses, which deal with aspects of the system, and each clause has a commentary, which describes the intent or background of the recommendations, and a series of recommendations that are applicable to the subject of the clause.

The scope makes it clear that the evacuation alert system is only intended to be for the use of the fire and rescue service and it details other facilities that might be required in the building, such as smoke control, but makes it clear that such facilities are not covered by the standard.

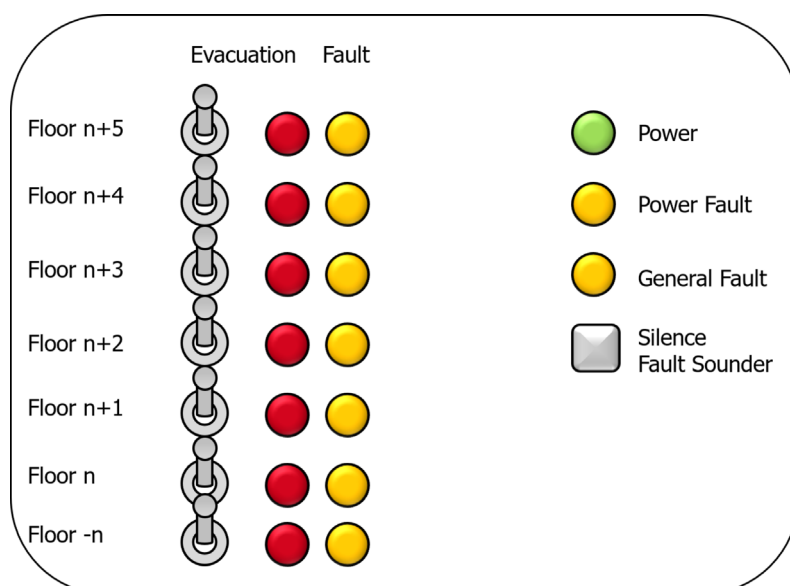


4. DESCRIPTION OF THE SYSTEM

It is expected that the evacuation alert system would rarely, if ever, be used. But if it is needed in circumstances similar to Grenfell, then it is essential that the fire and rescue service find the controls and indications both simple and intuitive to use. Considerable focus was given by the drafting committee to ensure that the system was both simple to use, but also designed in such a way to prompt the incident commander to follow a structured procedure in activating the system.

Separate controls and indicators are provided for each floor, or section of each floor, so that the operator can activate and cancel the sounders to each floor separately. Indications are provided to indicate that the sounders on each floor are operating, or that there is a fault on a specific floor, which would require fire and rescue personnel to alert residents manually, e.g. by knocking on their doors.

BS 8629 allows the use of wired or radio technology. It is anticipated that radio systems would be more appropriate for retrofitting into existing buildings and that wired systems would be more cost effective over the life of the building.



Example control and indication layout from BS 8629

Audible sounders are specified for each flat, and facilities are specified to allow visual or tactile devices to be retrofitted to the system for alerting the Deaf or hard of hearing. Interconnection with social alarm systems is described for those residents who would need assistance in evacuating the building.

Regular maintenance is recommended, and facilities are defined to assist in the practical test and maintenance of the system, where it is anticipated that access to the flats would not be possible.

Detailed recommendations are included on the robustness of the control equipment and the installation arrangements to ensure the highest possible system integrity.

To quote from BS 8629:

“The EACIE, Evacuation Alert Control and Indicating Equipment, should be entirely housed within a cabinet. The bottom edge of the cabinet should be located at least 1.4m above floor level. The cabinet should be secure against unauthorized use or casual vandalism and should prevent sight of the controls within. In respect of security, the housing should satisfy the requirements of LPS 1175: Issue 8.0 [N1] for Security Rating Classification B3, or STS 205: Issue 4 [N2] for resistance class BR2; for the purpose of the test, it should not be possible, under the circumstances of the test, to obtain access to the panel. The cabinet should be accessed by means of a lock that is openable only with a key which is protected from copying through patent and/or three-dimensional trademark and that is carried on fire and rescue service appliances. The lock cylinder should conform to the requirements of BS EN 1303 for the highest grade of security.”

It should be noted that the topmost control should be no more than 2.2m from the floor and the top of the cabinet is 100mm above that, which effectively means the maximum size of the cabinet is 900mm high. There is no restriction on the maximum width of the cabinet.

The evacuation alert system is intended to operate, potentially, at a late stage in a fire and so the system should be wired in enhanced fire resistant cable.

5. PRODUCT CERTIFICATION

Audible and visual alert devices, power supplies and short circuit isolators should comply with the relevant parts of EN54, or in the case of visual alert devices BS 5446-3 also accepted.

Evacuation Alert Control Equipment, EACIE, is not covered under the CPR, so third party product approval is not a legal requirement, however, BS 8629 recommends that it does comply with selected clauses of EN54-2 and other relevant product compliance requirements still apply, e.g. CE/CA marking. Third-party assessment may be considered advantageous to prove compliance.

Each EACIE should follow the prescriptive recommendations of BS 8629, but as each building will be unique, there will be some customisation necessary.

DISCLAIMER

The information set out in this document is believed to be correct in the light of information currently available but it is not guaranteed and neither the Fire Industry Association nor its officers can accept any responsibility in respect of the contents or any events arising from use of the information contained within this document.



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