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Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Information Note on Alternative Approaches to Demonstrate Compliance with the Building Regulations

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1 Introduction

The purpose of this Information note is to provide clarity on the provisions of Article 7 of the Building Regulations 1997 (S.I. No 497 of 1997) (as amended) and a pathway for alternative approaches to demonstrate compliance with the Second Schedule to the Building Regulations.

2 Building Regulations

The aim of the Building Regulations is to provide for the safety and welfare of people in and about buildings. The Building Regulations set out the legal requirements in Ireland for the design and construction of new buildings (including houses), extensions to existing buildings as well as for material alterations and certain material changes of use to existing buildings.

The minimum performance requirements that a building or works must achieve are set out in the second schedule to the Building Regulations. These requirements are separated into 12 parts (classified as Parts A to M), each dealing with a particular topic (e.g. Part A (Structure), Part B (Fire Safety) etc.). The requirements are expressed in broad performance terms and do not set limitations on the use of materials; for example, the requirements of the Building Regulations do not prohibit the use of timber products in construction at any height.

Primary responsibility for compliance with the requirements of the Building Regulations rests with the designers, builders and owners of buildings.

3 Technical Guidance Documents

Article 7 of Building Regulations 1997 (as amended) (see below) enables the Minister to publish Technical Guidance Documents to accompany each part of the Building Regulations indicating how the requirements of that part can be achieved in practice.

Technical Guidance Documents are published to accompany each part (Parts A - M respectively) [1] of the Second Schedule to the Regulations. Technical Guidance Documents are written in straightforward non-legal language and provide guidance on non-complex common buildings. The materials, methods of construction, standards and other specifications which are referred to in the Technical Guidance Documents are those which are likely to be suitable for the purposes of the Regulations. Adherence to the approach outlined in a Technical Guidance Document is regarded, as *prima facie* evidence of compliance with the requirements of the relevant part of the Building Regulations.

Figure 1 Extract from the Building Regulations (S.I. No. 497 of 1997)

Article 7 Technical Guidance Documents.	**7.** (1) The Minister way publish, or arrange to have published on his behalf, document to be known as "technical guidance documents" for the purpose of providing guidance with respect to compliance with the requirements of any of the provisions of the Second Schedule. (2) Subject to the provisions of sub-article (3), where works or a building to which these Regulations apply is or are designed and constructed in accordance with any guidance contained in a technical guidance document, this shall, prima facie, indicate compliance with the relevant requirements of these Regulations,

[1] https://www.gov.ie/en/collection/d9729-technical-guidance-documents/

	(3) The provisions of any guidance contained in a technical guidance document published under sub-article (1) concerning the use of a particular material, method of construction or specification, shall not be construed as prohibiting compliance with a requirement of these Regulations by the use of any other suitable material, method of construction or specification.

Article 7(3) of the Building Regulations above, provide for the application of methods alternative to that set out in the Technical Guidance Documents provided that the relevant requirements of the Regulations are complied with. Therefore, for complex buildings, an approach other than that outlined in the Technical Guidance Document may be applied, and in some cases, may be necessary. This is called an 'Alternative Approach'. Such an approach may also be applied to a building design, the characteristics of which would ordinarily fall within the scope of the Technical Guidance Document. Such buildings may include:

- Buildings with difficult site conditions,
- Buildings with unusual occupancies or high levels of complexity,
- Very large or very tall buildings,
- Engineered timber buildings,
- Some buildings that incorporate modern construction methods,
- Existing building e.g. Buildings of architectural or historical interest.

4 Alternative Approaches

Where an approach other than that set out in a Technical Guidance Document is used, the building, the works or the material change of use must satisfy the requirements of the Building Regulations. However, an alternative approach cannot be considered as '*prima facie'* evidence of compliance in the same manner as the approach set out in the Technical Guidance Document. Therefore, it is critical that the designer in applying an alternative approach demonstrates sufficiently that the requirements of the Building Regulations have been met.

The use of alternative approaches to those outlined in a Technical Guidance Document may be acceptable, provided that the performance achieved is adequate to satisfy the requirements of the Building Regulations.

Where alternative approaches are being considered, the local building control authority should be consulted at the earliest possible opportunity, to seek advice from the authority on the proposed development.

Compliance with Part B (Fire Safety) or Part M (Access and Use) must be demonstrated to the local building control authority through the statutory Fire Safety Certificate / Disability Access Certificate application process, where applicable.

Formal consideration of a Fire Safety Certificate / Disability Access Certificate application is more extensive than any consultation at the pre-application stage because of the necessary detailed technical consideration of the design, of the requirements of the Building Regulations and of the specific circumstances of the building or works. Therefore, any advice given pre-application is given in good faith and without prejudice to the formal consideration of any such application.

Approaches based on other documents, such as British, European, or other international standards, will have to be carefully evaluated to see if the requirements of the Building Regulations can be achieved in an appropriate manner.

Care should be taken in adopting an approach that may appear to satisfy one part of the Building Regulations (e.g. Part B), but create a non-compliance or breach of another part. Building Regulations require that "*every works or building to which the Regulations apply shall be designed and constructed in accordance with the appropriate requirements set out in the Second Schedule, and in such a manner as to avoid the breaching of any other requirement of that Schedule*".

5 Proper Materials

Irrespective of the approach (approach in accordance with the Technical Guidance Documents or an alternative approach) adopted to demonstrate compliance, all materials used in construction must conform to Part D (Material and Workmanship) of the Second Schedule to the Building Regulations.

There is an overarching requirement under Part D (Material and Workmanship) of the Building Regulations which requires that all works should be carried out using proper materials, as set out under Part D1, below.

Figure 2. Extract from Part D of the Second Schedule to the Building Regulations

Materials and workmanship

D1 All works to which these Regulations apply shall be carried out with proper materials and in a workmanlike manner.

…

Definition for this Part

D3 In this Part,

"proper materials" means materials which are fit for the use for which they are intended and for the conditions in which they are to be used, and includes materials which:

(a) bear a CE Marking in accordance with the provisions of the Construction Products Regulation;

(b) comply with an appropriate harmonised standard or European Technical Assessment in accordance with the provisions of the Construction Products Regulation; or

(c) comply with an appropriate Irish Standard or Irish Agrément Certificate or with an alternative national technical specification of any State which is a contracting party to the Agreement on the European Economic Area, which provides in use an equivalent level of safety and suitability.

"Agreement on the European Economic Area" means the Agreement on the European Economic Area between the European Union, its Member States and the Republic of Iceland, the Principality of Liechtenstein and the Kingdom of Norway as published in the Official Journal of the European Communities (O.J. No. L1, 03.01.1994, page 3).

"Construction Products Regulation" means Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC.

In essence, products and materials used in the construction of a building or works in Ireland must be fit for the use for which they are intended and for the conditions in which they are to be used.

Technical Guidance Document D provides guidance on several ways of demonstrating materials and or products meet this requirement.

It should be noted for non-standardised, new or innovative products or systems, compliance with the Building Regulations can be demonstrated by third party certification by an independent approval body, such as National Standards Authority of Ireland (NSAI) Agrément. Agrément certification is a means of demonstrating compliance with each of the 12 parts of the Building Regulations, and is generally accepted by Building Control Authorities.

6 Competence

As with any building design, the consideration, selection, design and application of alternative approaches should be entrusted to suitably competent, qualified and experienced people at all stages.

A person is competent, where, having regard to the task he or she is required to perform and taking account of the size and/or complexity of the building or works, the person possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken.

7 Responsibilities for compliance

Section 3(5) of the Building Control Acts require that buildings are designed and constructed in accordance with the relevant requirements of the Building Regulations. Building owners, designers and builders are bound by this legal requirement.

The Building Control Regulations require owners, builders, and registered construction professionals to demonstrate through the Statutory Register of Building Control Activity that the works or building concerned have been designed and constructed in compliance with Building Regulations.

Building Control Regulations apply generally to new buildings and to existing buildings which undergo an extension, a material alteration or a material change of use.

In undertaking building works, appropriate measures should be taken so that the work is in accordance with the Building Regulations. Designers, builders and certifiers should exercise reasonable skill, care and diligence in the exercise of their duties. They and persons assigned by them should be competent for the work they undertake.

The building owner is ultimately responsible for ensuring that buildings or works are carried out in accordance with the requirements of the Building Regulations. The Building Control Regulations require specific actions to be taken to ensure compliance, for example in relation to the design and construction of buildings, the building owner should ensure that they appoint a competent builder and competent registered professionals to act as designer and as Assigned Certifier. Further guidance is provided in the Code of Practice for Inspecting and Certifying Buildings and Works.

Appendix A: Alternative Approaches to TGD B Fire Safety

A1 Introduction

Alternative approaches to the prescriptive guidance in Technical Guidance Document B based on fire safety engineering may be employed to satisfy the requirements of the Building Regulations. These may be based on a fundamental fire engineering analysis of the fire safety problem or involve a comparative analysis between a provision of Technical Guidance Document B and an alternative document.

In the case of Part B Fire Safety and Technical Guidance Document B, alternative approaches may result in deviations from the guidance in the published TGD (e.g. the use of combustible materials in buildings >10m).

Where appropriate, compensating fire safety measures should be considered and evaluated. A qualitative assessment of the alternative design may be adequate in some cases, but generally quantitative analysis will also be required.

When alternative approaches are being considered, it is important to be aware of policy or operational requirements that are applicable to Ireland. For example, in Ireland there is a default position of evacuation in buildings containing flats in the event of a fire. This position may not be reflected in alternative prescriptive standards from other jurisdictions; the prescriptive provisions of such standards may require detailed examination and modification in order to adequately meet the Irish Building Regulations.

For alternative approaches in respect of fire safety, any person carrying out design, quality assurance, or peer review, should be competent (see above), and able to demonstrate that they have relevant experience of successfully working on similar schemes, that they are appropriately qualified and have the appropriate professional status for the scope of the work being undertaken.

Achieving conformity with Part B requirements via an alternative approach may have an impact on, *inter alia,* Part L, Part M, Part C requirements. The works as a whole must comply with Building Regulations; therefore, alternative approaches must be examined holistically for compliance with all parts of the regulations. Approaches that appear suitable at first, may not be acceptable upon examination in detail.

In addition, consideration of alternative approaches should be examined from a constructability perspective, in order to avoid issues during the construction phases, which may lead to redesign or reworking.

A2 Fire Safety Engineering

Fire Safety Engineering deals with the application of engineering methods to the development or assessment of designs in the built environment, through the analysis of specific fire scenarios or through the quantification of risk for a group of fire scenarios. A fire safety engineering approach can provide a more fundamental solution than traditional prescriptive approaches to fire safety.

Fire Safety Engineering may provide a means of achieving a satisfactory standard of fire safety in some large buildings, complex buildings, or buildings with unusual forms of construction. Very tall buildings (e.g. buildings with a topmost floor level > 60 m), very complex buildings (e.g. airports), or buildings utilising engineered timber construction (e.g. Cross Laminated Timber) are examples of where this approach may be appropriate.

The Fire Safety Engineering design process includes a qualitative assessment of the design, a quantified analysis and a comparison with defined safety criteria.

The relevant local building control authority should be consulted before critical decisions or assumptions are made about the fire safety design and to discuss relevant matters such as acceptance criteria, peer review, reporting.

The adequacy of the Fire Safety Engineering design should be assessed on the basis of appropriate life safety criteria, using the following alternative approaches:

(a) a probabilistic or risk-based approach; or

(b) a deterministic approach, (which establishes the worst credible fire scenarios to be considered in detail, with the addition of appropriate safety factors); or

(c) a comparison of the performance of a proposed alternative approach with that achieved using the guidance in the Technical Guidance Document.

In the case of a comparative analysis, inherent or implied safety factors could be used to ensure that the design adopted will provide a level of safety at least equivalent to that achieved by the use of a prescribed design solution.

In the case of a probabilistic or risk-based approach, the likelihood of a given event occurring should be shown to be acceptably low. The life risk analysis involves considering the probability of a fire starting and heat and smoke spreading to produce untenable conditions in an occupied part of the building.

Guidance on Fire Safety Engineering principles are contained in the following publications:

- BS 7974: 2019 – Application of fire safety engineering principles to the design of buildings and associated Published Documents (PD's),
- CIBSE Guide E – Fire Engineering and Introduction to fire safety engineering of structures published by The Chartered Institution of Building Services Engineers, London 2003
- SFPE Handbook of Fire Protection Engineering, 3rd Edition published by The Society of Fire Protection Engineers USA.

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