

Legislation and standards relevant to fire safety engineering for Metro North

Ireland Applicable Legislation and High Level Standards (Fire Authority)

The principal pieces of legislation that are applicable to the design of the metro system with regard to fire safety are:

Fire Services Act 1981

Makes general requirements for persons controlling premises to make basic fire safety provisions.

Building Regulations 2006

States the fire safety precautions to be included in the design of buildings. Makes specific provisions for buildings to obtain a fire safety certificate relating to the design proposals before construction commences.

Building Regulations Technical Guidance Document B – Fire Safety

Provides guidance as to how the building regulations will be implemented with respect to fire safety. Sets out the requirements for the construction and layout of buildings with respect to means of escape, preventing fire spreading through the building and facilities for fire-fighting that are likely to be suitable for the purposes of Part B of the Building Regulations 2006. Buildings are described by purpose group. “Stations” are specifically included as “places of assembly”

Ireland Applicable Legislation and High Level Standards (Railway Safety Commission)

Railway Safety Act 2005

Sets the safety regime for railway premises and facilities, and details a framework for the role of the Railway Safety Commission as the principal enforcement agency for railway safety.

Sets out the framework within which a railway safety case must be established for each railway.

Safety Health and Welfare Act 2005

Requires all employers to assess the risk to persons working in and resorting to any place of employment, including from risk of fire.

Guidelines for the Design of Railway Infrastructure and Rolling Stock (GDRIRS).

Section 1 – Permanent Way, Earthworks & Structures

Sets out the requirements for means of escape from, and fire brigade access to, the tunnels and track.

Sets out other fire precautions that are required in tunnels and other permanent way infrastructure.

Section 2 – Stations

Sets out the requirements for means of escape from, and fire brigade facilities at Stops.

Sets out the additional fire safety requirements for sub-surface Stops.

Section 6 – Trains

Sets out the requirements for fire safety equipment and use of materials on metro vehicles.

Irish Standards

Irish Standards which are relevant to the fire safety measures for the metro system include (but are not limited to) the following:

Document No.	Title
IS EN 3: Series	Portable fire extinguishers
IS EN 54 - 2	Fire detection and fire alarm systems – Part2: control and indicating equipment
IS EN ISO 1182	Reaction to fire tests for building products - Non-combustibility test
IS EN 1364: Series	Fire resistance tests for non-load bearing elements.
IS 3217	Code of practice for emergency lighting.
IS 3218	Code of practice for fire detection and alarm systems
IS EN 12101: Series	Smoke and heat control systems.
IS EN 12259-2	Fixed Firefighting systems – Components for sprinkler and water spray systems – Part 2 Wet alarm valve assemblies
IS EN 12845	Fixed fire fighting systems – automatic sprinkler systems – design, installation and maintenance.

European and International Standards, Legislation and Guidance

UK Fire Precautions (Sub-surface Railway Station) Regulations 1989

The Railway Safety Commission and the Dublin Fire Authority have stated that they will require the application of design considerations that would be applicable in sub-surface railway facilities for which special fire safety legislation would be applied for such facilities in the UK i.e. the UK Fire Precautions (Sub-surface Railway Station) Regulations 1989.

NFPA 130 – Standard for Fixed Guideway Transit and Passenger Rail Systems

For special situations where no guidance is available or additional guidance is necessary NFPA 130 should be consulted.

NFPA 750 – Water Mist Fire Protection Systems

NF F 16-101 – Matériel roulant ferroviaire. Comportement au feu. Choix des matériaux.

French standard specified for the current LUAS trams detailing requirements for production of smoke and fumes for materials.

NF F 16-102 – Matériel roulant ferroviaire. Comportement au feu. Propagation des flames. Application aux équipements électriques

French standard specified for the current LUAS trams detailing requirements for materials limiting flame propagation in electrical systems.

British Standards

The following British standards have been identified as being relevant to the metro system where they are referred to in the guidelines or where no equivalent Irish standard exists. British Standards which are relevant include (but are not limited to) the following:

Document No.	Title
BS 476: Series	Fire tests on building materials and structures.
BS 5266: Series	Emergency lighting. Code of practice for the emergency lighting of premises.
BS 5306: Part 1	Fire extinguishing installations and equipment on premises. Part 1. Hydrant systems, hose reels and foam inlets.
BS 5306: Part 2	Fire extinguishing installations and equipment on premises. Part 2. Specification for sprinkler systems.
BS 5306: Part 8	Fire extinguishing installations and equipment on premises. Selection and installation of portable fire extinguishers. Code of practice
BS 5499 Series	Graphical symbols and signs. Safety signs, including fire safety signs. Specification for geometric shapes, colours and layout
BS 5839: Part 1	Fire detection and alarm systems - Code of practice for system design, installation, commissioning, and maintenance.
BS 5839: Part 8	Fire detection and alarm systems - Code of practice for the design, installation, commissioning and maintenance of voice alarm systems.
BS 5839: Part 9	Fire detection and alarm systems - Code of practice for the design, installation, commissioning and maintenance of emergency communication systems.
BS 5588: Parts 0-12	Fire precautions in the design, construction and use of buildings. Guide to fire safety codes of practice for particular premises/applications.
BS 5588: Part 5	Fire precautions in the design, construction and use of buildings. Access and facilities for fire-fighting.
BS 5588: Part 8	Fire precautions in the design, construction and use of buildings. Code of practice for means of escape for disabled people.
BS 5588: Part 12	Fire precautions in the design, construction and use of buildings. Managing fire safety.
BS 6853: 1999	Code of practice for fire precautions in the design and construction of passenger carrying trains
BS 7974: 2001	Application of fire safety engineering principles to the design of buildings – Code of practice
BS 9990	Code of practice for non-automatic fire-fighting systems in buildings