**Regulations on requirements relating to tramways, underground railways and suburban railways, etc. (the Requirements Regulations).**

**Chapter 1. Introductory provisions**

**§ 1-1. Purpose**

The purpose of these regulations is to set minimum requirements to ensure that enterprises work systematically and proactively to maintain and, as necessary, improve the established level of safety and that railway accidents, serious railway events and railway events are avoided.

*An additional purpose is to set minimum requirements regarding universal design.*

**§ 1-2. Scope**

The regulations apply to the operation of tramways, underground railways and suburban railways, etc.

**§ 1-3. Definitions**

The following definitions apply in these regulations:

a) serious railway event: an undesired event that under slightly different circumstances could have resulted in a railway accident,

b) automatic speed monitoring (ATC): that part of the signalling system that monitors the speed of a train and activates the train's brakes if it exceeds the speed limit,

d) infrastructure: line layouts, superstructures, substructures, power supply systems, signalling systems and communication systems,

f) railway event: any other undesired event apart from a railway accident that is related to railway operations and affects safety,

g) railway accident: an undesired or unintended sudden event or a particular series of such events that have damaging consequences, including events that result in someone dying or being seriously injured, or which cause substantial damage to railway equipment, infrastructure, property not on the railway, or the environment, and all other similar accidents,

h) railway enterprise: operation of infrastructure, traffic management, and/or transport services or the party that runs infrastructure, traffic management, and/or transport services,

i) vehicle: a vehicle that runs on its own wheel on a railway, including tramways, underground railways and suburban railways, with or without locomotive traction,

q) signal: the fixed lights, signs, posts, flags, symbol and sounds used in connection with train operations and shunting,

r) signalling system: technical systems that may include, among others, interlocking systems, optical signals, block interlocks, remote control and automatic speed monitoring,

s) interlocking systems: that part of the signalling system that ensures that a "proceed" signal is only displayed if certain conditions are met,

v) train: one or several connected vehicles that are to be transported from a specific point of departure to a specific point of arrival,

w) traffic management: traffic control and other functions involved in the coordination and safety of train transport,

x) rail operator: the party authorised to operate rail transport services,

*y) universal design: designing or accommodating the main solution with respect to the physical conditions such that the general function of the undertaking can be used by as many people as possible.*

**Chapter 12. Vehicle requirements**

**§ 12-1. General vehicle requirements**

The technical design and operational condition of vehicles should be such that operations can be undertaken within an acceptable risk level.

Vehicles must be designed, built, tested, upgraded and renovated in accordance with recognised, current standards. The chosen standards shall maintain or improve the safety of the vehicle in question. Any deviation from the chosen standards shall be assessed in terms of safety. This assessment must be documented.

The EN 50126 process standard shall be adhered to for all new vehicles and substantial upgrades of existing vehicles.

Unless otherwise prescribed by these regulations, the most recent version of the standard shall apply.

Vehicles shall be designed to ensure that they can withstand any operational and climate-related loads to which they might be exposed during operation.

Vehicles must bear identity marks, as well as technical and operational marks.

### *§ 12-1a. Universal design*

*New or substantially upgraded vehicles intended for the transport of passengers shall be universally designed. The following minimum requirements apply:*

1. *Entrances shall as far as possible be step-free and adapted to the platform so that passengers can board and disembark without assistance. Doors to be operated by passengers shall be automatic or easy to operate.*
2. *Handles and rails shall be positioned so that all sitting, standing and walking passengers everywhere are able to have the necessary support.*
3. *Vehicles shall have an appropriate number of priority seats for people with disabilities. These seats must be situated near a door that is suitable for boarding and disembarking.*
4. *Vehicles shall have an appropriate number of wheelchair spaces.*
5. *Areas where passengers are going to move about shall as far as possible be obstacle-free. It must be possible for a wheelchair to pass unimpeded from the entrance to a wheelchair space.*
6. *Door opening and closing devices, stop signal buttons, barriers, including steps and ramps, and other important features shall be marked visually and with tactile features.*
7. *Vehicles shall be equipped with a communication system for announcements. If the system is automatic or pre-programmed, it must be possible to manually override the system. Visual information shall be legible in all lighting conditions and must be in adequate contrast to the background.*
8. *Vehicles shall be equipped with an emergency alarm system that is clearly marked visually and with tactile features and that provides a visual and audible indication that the system is in use.*
9. *Floors and stairs shall have non-slip surfaces.*
10. *Lighting and contrasts shall be such that key elements, such as passageways, doors, seats, rails, controls, information, barriers and signs are clearly visible.*

**§ 12-2. Compatibility with the infrastructure**

Vehicles shall have documentation of compatibility with the infrastructure on which they are to be used, including profiles, superstructures, substructures, power supply systems, signalling systems and communication systems.

Vehicles shall have permanently installed equipment adapted to the relevant infrastructure's emergency communication system in order to ensure that at any time there are mutual opportunities for rapid communication between the driver and the traffic controller.

Vehicles that are used on sections of line with automatic speed monitoring facilities shall have equipment that is compatible with this.

**§ 12-3. Brakes**

All vehicles shall have brakes. Brakes shall under all circumstances be able to stop the vehicle within a maximum braking distance defined by the rail operator. Brake systems must be designed to be fail-safe.

Vehicles shall have parking brakes or other equipment designed to ensure safe parking of the vehicle.

Vehicles intended for transport of passengers shall have emergency brake systems that can be activated from all the carriages of the train. On new vehicles it must be possible for the driver to delay activation of the emergency brake.

The driver's compartment shall be equipped with a vigilance control system that activates the brakes if the driver falls asleep or looses consciousness.

**§ 12-4. Doors, windows and fittings**

The doors, windows and fittings in the vehicle shall be designed to ensure the safety of passengers and personnel.

Remote-controlled doors shall be locked when travelling at speed, and the driver must be able to check from his cab that the doors are closed. There must be a system for opening the doors in an emergency, a protective device to prevent passengers or personnel from becoming trapped, and the possibility to close individual doors.

**§ 12-5. Materials and fire safety**

Vehicles shall not contain inflammable materials. Any materials used should emit as little smoke and incendiary fumes as possible in the event of a fire.

**§ 12-6. Evacuation**

Vehicles shall be designed to allow evacuation and escape in the event of fire and other accidents. They must allow rescue personnel to engage in effective rescue work, including of disoriented people and people with reduced mobility. Emergency exits and escape routes shall be located, designed and marked to enable evacuation to take place in a safe and orderly manner.

Vehicles shall have emergency equipment on board that is suitable for use on the vehicle concerned. Emergency equipment and its location shall be marked.

Vehicles shall have emergency lighting.

**§ 12-7. Testing routines**

The rail operator shall have provisions for testing of brakes and testing routines that ensure that the vehicle at all times is in full working condition.

**§ 12-8. Permission to use vehicles**

Before a vehicle is used on the infrastructure, the Norwegian Railway Authority must grant permission for its use. If the vehicle is subsequently modified, the Authority must be notified and shall consider whether or not the alterations in question are such that it is necessary to grant a new permit for the use of the vehicle or the alterations concerned.

**§ 12-9. Reporting new or modified vehicles**

The Norwegian Railways Authority shall be notified about new or modified vehicles at the first opportunity.

Such reports must as a minimum contain:

a) name and contact details of the relevant contact person,

b) planned project progress

c) system description,

d) safety plan,

e) list of planned standards, and

f) risk assessment.

**§ 12-10. Application for permission to use a vehicle**

Applications for permission to use a vehicle must as a minimum contain:

a) general drawings and descriptions of the type of vehicle

b) list of verifications

c) safety report,

d) up-to-date list of the standards used and a list of deviations and the safety assessments that form the basis of the enterprise's acceptance of such deviations

e) list of the risk assessments carried out, along with a complete list of the prerequisites and recommendations resulting from the risk assessments and a description of how the prerequisites and recommendations have been followed up

f) safety follow-up plan (SOP),

g) compatibility declaration, and

h) any approvals from other countries

If an assessor or any other independent parties have been used, the reports prepared and the follow-up of these reports shall be attached.

The Norwegian Railway Authority may demand that an assessor be used, and that the Norwegian Railway Authority has direct contact with the assessor. The assessor must be approved by the Norwegian Railway Authority. The Norwegian Railway Authority may also demand that independent parties be used for other types of activities, including verifications and investigations.