

Developments in the Construction Requirements for New Road Vehicles

The General Safety Regulation

(Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefore¹)

1.0 Introduction

The purpose of the General Safety Regulation ([GSR](#)) is threefold. It contains provisions relating to the following:

- I. The mandatory fitment of certain advanced vehicle safety features.
- II. A simplification of the vehicle type approval legislative framework.
- III. The introduction of new tyre related requirements.

Each of these aspects is discussed below.

I. Mandatory Fitment of Advanced Vehicle Safety Features

It has been recognised that technical progress in the development of advanced vehicle safety systems offers new possibilities for the reduction of casualties resulting from road traffic collisions.

As a result, Electronic Stability Control Systems (ESC), Advanced Emergency Braking Systems (AEBS) and Lane Departure Warning Systems (LDW) have been identified as technologies which have a high potential to considerably reduce road casualties. In addition, Gear Shift Indicators (GSI) have been identified as a technology with a high potential to increase fuel efficiency and reduce CO₂ emissions.

The GSR introduces requirements which will mandate the fitment of these technologies to various categories and classes of vehicles as follows:-

- Electronic stability control (ESC) systems improve a vehicle's dynamic stability. ESC acts on a vehicle's drive train or braking system to assist the driver in maintaining control of the vehicle in a critical situation e.g. poor road conditions or excessive speed during cornering. ESC will be required on all categories of motor vehicle (i.e. category M & N vehicles) and on heavy trailers (category O₃ and O₄ trailers) from various future dates. New types of category M₁ and N₁ vehicles receiving EC type-approval from 1st November 2011 will be required to be fitted with ESC and all new category M₁ and N₁ vehicles receiving EC type-approval after 1st November 2014 will be required to be fitted with it. The introductory dates for mandatory fitment of ESC to category M₂, M₃, N₂, N₃, O₃ and O₄ vehicles are specified in Annex V of the GSR and vary depending on the vehicle category and on the type of braking system fitted (e.g. hydraulic, pneumatic, electric, etc).

¹ OJ L 200, 31.7.2009, p.1.

- Advanced Emergency Braking Systems (AEBS) can automatically detect an emergency situation and activate the vehicle's braking system to decelerate the vehicle with the purpose of avoiding or mitigating a collision. They will be required on new types of passenger vehicles of categories M₂ and M₃ and goods vehicles of categories N₂ and N₃ receiving EC type-approval from 1st November 2013. All new vehicles in these categories receiving EC type-approval after 1st November 2015 will be required to be fitted with this technology.
- Lane Departure Warning (LDW) systems warn a driver of unintentional drift of the vehicle out of its travel lane. They will be required on new types of passenger vehicles of categories M₂ and M₃ and goods vehicles of categories N₂ and N₃ receiving EC type-approval from 1st November 2013. All new vehicles in these categories receiving EC type-approval after 1st November 2015 will be required to be fitted with this technology.
- Gear Shift Indicators (GSI) provide a driver with a visible indicator recommending a gear change. They will be required on new types of category M₁ vehicles with a manual gearbox and a reference mass² not exceeding 2610 kg receiving EC type-approval from 1st November 2012. All new M₁ vehicles receiving EC type-approval from 1st November 2014 will be required to be fitted with this technology.

Note on exemptions:

The GSR provides for exemptions for certain passenger vehicles of categories M₂ and M₃ and goods vehicles of categories N₂ and N₃ from the requirement to be fitted with AEBS or LDW systems where, following a cost/benefit analysis (carried out by the European Commission) and taking into account all relevant safety aspects, the application of these systems to the respective vehicles proves inappropriate.

II. Legislative Simplification

The GSR also intends to simplify the legislative framework for vehicle type approval.

Currently type approval requirements are contained within a “Framework” Directive ([2007/46/EC](#)) and 60 “separate” Directives and Regulations. These “separate” Directives and Regulations cover such subjects as sound levels, lighting installation, braking, frontal impact etc.

The GSR repeals 50 of the “separate” EC Directives relating to vehicle safety and replaces them with references to the corresponding Regulations of the United Nations Economic Commission for Europe (UNECE). These UNECE Regulations will apply on a compulsory basis for the EC type-approval of new vehicles from 1st November 2014 and from 1st November 2017 with respect to the requirements for tyres.

However, for some of the "separate" EC Directives that are scheduled to be repealed by the GSR, no corresponding UNECE Regulation currently exists, i.e. one regarding the space for mounting rear registration plates, one regarding the manufacturer's statutory plate and vehicle identification number, one regarding windscreen defrosting and demisting systems, one

² Reference mass means the mass of a vehicle in running order; i.e. with cab and body work etc increased by 25kg.

regarding windscreen wiper and washer systems, one regarding wheel guards and one regarding towing devices.

In these instances the EC Directives which will be repealed will have their technical prescriptions carried over to “implementing” Regulations of the GSR, but the European Commission has taken this opportunity to update the requirements in line with technical progress and, where necessary, introduce revised test procedures and administrative provisions. A list of the “implementing” measures which have been adopted so far is available [here](#).

There remaining 10 “separate” EC Directives (with 3 EC Regulations) which are not being repealed and replaced are those that generally relate to measures to minimise the environmental damage caused by vehicle usage, i.e. those relating to emissions, sound levels, recyclability, mobile air conditioning systems and those relating to pedestrian protection and hydrogen fuel systems.

III. Tyre Related Requirements

Low rolling resistance tyres and the use of tyre pressure monitoring systems are two technologies that have been identified as essential in reducing the share of greenhouse gas emissions produced by road traffic. The GSR sets new requirements with regard to these technologies, while at the same time setting minimum wet grip requirements that tyres must achieve.

The GSR requires tyres to comply with more stringent limits on rolling noise emissions from 1st November 2012 for new types of tyre, from 1st November 2013 for new types of vehicle and from 1st November 2016 for all new tyres and vehicles.

The GSR contains two new requirements for reducing CO₂ emissions which are:-

- The first concerns fitment of Tyre Pressure Monitoring Systems (TPMS). New types of category M₁ vehicles approved from 1st November 2012 will be required to be fitted with TPMS to warn the driver when a tyre or tyres fitted to their vehicle are significantly below their optimum pressure. All new category M₁ vehicles approved from 1st November 2014 will be required to be fitted with this device.
- The second introduces maximum rolling resistance limits for tyres, with these limits being further reduced in a second stage. Compliance with the first stage limits is mandated from 1st November 2012 for new types of tyre, from 1st November 2013 for new types of vehicle, from 1st November 2014 for all new C1³ and C2⁴ class tyres and vehicles fitted with such tyres, and from 1st November 2016 for all new C3⁵ class tyres and vehicles fitted with such tyres. Compliance with the second stage limits is mandated from 1st November 2016 for new types of tyre, from 1st November 2017 for new types of vehicle, from 1st November 2018 for all new C1 and C2 class tyres and vehicles fitted with such tyres, and from 1st November 2020 for all new C3 class tyres and vehicles fitted with such tyres.

³ C1 tyres are for passenger cars.

⁴ C2 tyres are for commercial vehicles i.e. buses trucks, vans, medium & heavy trailers which have a speed rating of 140 km/h or higher.

⁵ C3 tyres are for commercial vehicles i.e. buses trucks, vans, medium & heavy trailers which have a speed rating of up to 130km/h.

Higher adherence and lower rolling resistance are often contradictory objectives. Therefore, in order to maintain tyre safety levels whilst also achieving the necessary reductions in tyre rolling resistance levels, minimum wet grip performance requirements have also been introduced for C1 class tyres to ensure that vehicle safety is not compromised. The mandatory compliance dates for these are aligned with those for the first stage of the rolling resistance limits as outlined above.

2.0 Actions required in Ireland

The General Safety Regulation (GSR), and its implementing measures become automatically effective in all EU Member States.

Our type-approval and entry into service regulations ([S.I. No.'s 127, 157 and 158 of 2009](#)) give effect to the rules and penalties applicable on infringement by manufacturers of the provisions of GSR and its implementing measures.

If you have any questions relating to the content of this note please contact RSA either by email at vehiclestandards@rsa.ie, by phone on 096 25014 or in writing to:

Vehicle Standards Section
Road Safety Authority
Moy Valley Business Park
Primrose Hill
Ballina
Co Mayo