

RSA



# TYPE APPROVAL

Údarás Um Shábháilteacht Ar Bhóithre  
Road Safety Authority

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Please note that this content is for information purposes only. It does not purport to set out all legal obligations relating to the entry into service of motor vehicles and their systems, components and separate technical units. It is not, nor should it be treated as, a definitive or legal interpretation of the applicable law and its requirements. Images are for illustration purposes only.

# Obtaining Type-Approval

## Foreword

Type-approval is the process applied by national authorities to certify that a model of a vehicle meets all EU safety, environmental and conformity of production requirements before allowing it to be placed on the EU market. Type-approval helps remove barriers to trade for manufacturers and ensures that new vehicles are manufactured to prescribed safety and environmental standards.

Each Member State has a designated national type-approval authority (TAA) which ensures that all the vehicles are compliant with all EU safety, environmental and conformity of production requirements. A manufacturer can get partial type-approvals in the different Member States, but the overall type-approval will always be delivered by one national authority. In the Republic of Ireland, the National Standards Authority of Ireland (NSAI) is the approval authority. Access the NSAI website for more [information](#).

## Legislation

The applicable type-approval legislation is shown in the table below. Irish NSSTA and IVA requirements are provided in the statutory instrument.

### Legislation for passenger cars, goods vehicles and trailers



EU Legislation	EU Reference	National Legislation
Framework Regulation	<a href="#">2018/858</a>	S.I. No. <a href="#">556/2020</a> as amended by S.I. No. <a href="#">201/2024</a>

### Legislation for two-wheel, three-wheel and quads



EU Legislation	EU Reference	National Legislation
Framework Regulation	<a href="#">168/2013</a>	S.I. No. <a href="#">614/2015</a> as amended by S.I. No. <a href="#">340/2023</a>

## United Nations Economic Commission for Europe

The requirements that new vehicles are required to meet consist of a mixture of EU standards and international standards from the United Nations Economic Commission for Europe (UN-ECE). These standards are constantly being developed, to ensure that society continues to benefit from technological advances, in particular through improvements in road safety, improvements in air quality and reductions in carbon emissions that are relevant to climate change.

UNECE working party's [information](#).

# Type-Approval Process

The type-approval process is shown in Figure 1 below. This describes the steps in obtaining type-approval. In the Republic of Ireland, the National Standards Authority of Ireland (NSAI) is the approval authority. Access the NSAI website for more [information](#).

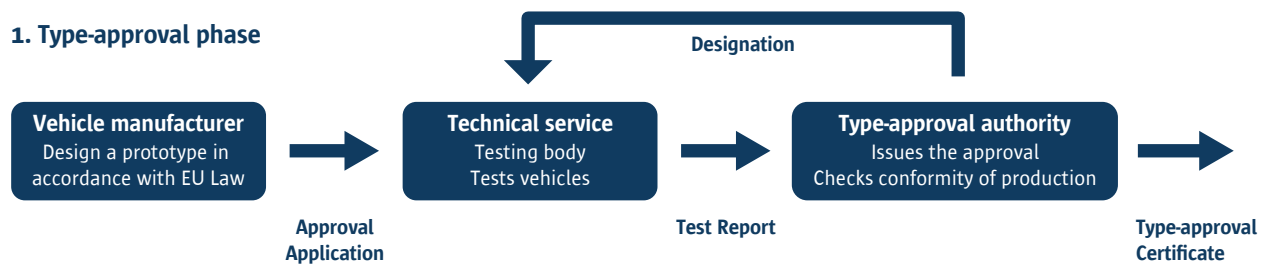
Technical Services designated by NSAI [information](#).

For national vehicle approvals (NSSTA and IVA), a link to the NSAI Approved Vehicle Body Builder scheme is available from the NSAI [website](#).

This document also provides further information on the process for obtaining national type-approval and national individual vehicle approval.

## The Type Approval Process

### 1. Type-approval phase



### 2. Production phase



## Obtaining Type-Approval

### Obtaining Type-Approval for motor vehicles and trailers

There are 5 ways to obtain type-approval. These are provided below. For details of the technical requirements, click on the method below.

- European Union Whole Vehicle Type-Approval (EUWVTA)
- European Small Series Type-Approval (ESSTA)
- European Individual Vehicle Approval (EU IVA)
- National Small Series Type-Approval (NSSTA)
- National Individual Vehicle Approval (IVA)

A summary of the advantages and disadvantages associated with each method of approval is provided in the table below:

Method of Type-Approval	Advantages	Disadvantages
EUWVTA	<ul style="list-style-type: none"> <li>• Unlimited volume</li> <li>• Available for all vehicle categories</li> <li>• EU wide scheme</li> <li>• Suitable for large volume manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>• Testing is most stringent</li> <li>• Most expensive option</li> </ul>
ESSTA	<ul style="list-style-type: none"> <li>• EU Wide scheme</li> <li>• Higher volume than national type-approval schemes</li> <li>• Less onerous than the EUWVTA scheme</li> </ul>	<ul style="list-style-type: none"> <li>• Currently applicable to M1 and N1 only</li> <li>• Volume limited to 1,500 units per year</li> </ul>
EU IVA	<ul style="list-style-type: none"> <li>• EU wide scheme</li> <li>• Less onerous than the EUWVTA and ESSTA schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Currently applicable to M1 and N1 only</li> <li>• Each vehicle is physically inspected</li> </ul>
NSSTA	<ul style="list-style-type: none"> <li>• Less onerous than the EUWVTA scheme</li> <li>• Available for all vehicle categories</li> </ul>	<ul style="list-style-type: none"> <li>• Restricted to the Republic of Ireland only*</li> <li>• Volume limited to 250 units per year (500 units for O1 and O2 trailers)</li> </ul>
National IVA	<ul style="list-style-type: none"> <li>• Less onerous than the EUWVTA scheme</li> <li>• Available for all vehicle categories</li> <li>• Most suited for small volume manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>• Restricted to the Republic of Ireland only*</li> <li>• Each vehicle is physically inspected</li> </ul>







\* Mutual recognition may apply between Member States.

## Obtaining Type-Approval for two-wheel, three-wheel vehicles and quads

In Ireland, there is no national type-approval scheme for two-wheel, three-wheel vehicles and quads. If a manufacturer is seeking type-approval, they must meet the full European requirements of Regulation (EU) No. 168/2013.

Approval authorities shall grant an EU type-approval only after verifying the conformity of production arrangements and the compliance of the type of vehicle, system, component or separate technical unit with the applicable requirements.

# Vehicle Categories for Passenger Vehicles (Category M), Goods Vehicles (Category N) and Trailers (Category O)

Category	Description	Example
M1	Motor vehicles with not more than eight seating positions in addition to the driver's seating position and without space for standing passengers, regardless of whether the number of seating positions is restricted to the driver's seating position	
M2	Motor vehicles with more than eight seating positions in addition to the driver's seating position and having a maximum mass not exceeding 5 tonnes, regardless of whether those motor vehicles have space for standing passengers	
M3	Motor vehicles with more than eight seating positions in addition to the driver's seating position and having a maximum mass exceeding 5 tonnes, regardless of whether those motor vehicles have space for standing passengers	
N1	Motor vehicles with a maximum mass not exceeding 3.5 tonnes	
N2	Motor vehicles with a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes	
N3	Motor vehicles with a maximum mass exceeding 12t	







Category	Description	Example
01	Trailers with a maximum mass not exceeding 0.75 tonnes	
02	Trailers with a maximum mass exceeding 0.75 tonnes but not exceeding 3.5 tonnes	
03	Trailers with a maximum mass exceeding 3.5t but not exceeding 10 tonnes	
04	Trailers with a maximum mass exceeding 10 tonnes	

# Vehicle Categories and Requirements for two-wheel, three-wheel, and quads

## Vehicle Categories

Category	Description	Sub-Category (if applicable)	Sub-Category Name	Example
L1e	Light two-wheel powered vehicle	L1e-A	Powered cycles	
		L1e-B	Two-wheel moped	
L2e	Three-wheeled moped	L2e-P	Three-wheel moped for passenger transport	
		L2e-U	Three-wheel moped for the transport of goods	
L3e	Two-wheel motorcycle	L3e-A1	Low performance motorcycle Up to 11 kW	
		L3e-A2	Medium performance motorcycle From 11 kW up to 35 kW	
		L3e-A3	High performance motorcycle Above 35 kW	
L4e	Two-wheel motorcycle with side-car	No Sub-category	No Sub-category	
L5e	Powered tricycle	L5e-A	Tricycles	
		L5e-B	Commercial tricycles	



Category	Description	Sub-Category (if applicable)	Sub-Category Name	Example
L6e	Light quadricycle	L6e-A	Light quad	
		L6e-B	Mini car	
L7e	Heavy quadricycle	L7e-A1	On-road quad	
		L7e-A2	On-road quad	
		L7e-B1	Heavy all terrain quad: All terrain quad	
		L7e-B2	Heavy all terrain quad: Side-by-side buggy	
		L7e-C	Heavy quadri-mobile	

## Requirements

Annex II of Regulation (EU) 168/2013 provides a list of the requirements for the purposes of EU vehicle type-approval. A link to [Regulation \(EU\) 168/2013](#) is provided.

The requirements are divided into 3 sections. These are shown in the table below:

Description	EU Regulation
Vehicle functional safety requirements	<a href="#">3/2014</a>
Vehicle construction and general type-approval requirements	<a href="#">44/2014</a>
Environmental and propulsion performance requirements	<a href="#">134/2014</a>

## End of Series

By law, when a vehicle is first manufactured it must meet all of the necessary safety and quality standards before it can be sold throughout Europe. However, these standards change over time. As a result, a vehicle manufactured one or two years ago might no longer meet the latest type-approval requirements. Despite this, such a vehicle would have met the type-approval requirements in effect at the time of its production and it would still be considered new, as it would have never been sold or registered. Such vehicles are referred to as 'end-of-series' vehicles.

For information relating to End of Series, follow the [link here](#)

## Emissions

The Euro 7 regulation was recently adopted by the Council of the EU. This Regulation is part of the European Commission's 2020 Sustainable and Smart Mobility Strategy and the 2021 Zero-Pollution Action Plan.

The Euro 7 regulation establishes rules for the exhaust emissions of road vehicles, but also for other types of emissions such as tyre abrasion and brake particle emissions. It also introduces requirements for battery durability.

For cars and vans, the regulation keeps the existing Euro 6 exhaust emission limits but introduces stricter requirements for solid particles.

For heavy-duty buses and lorries, the regulation imposes more stringent limits for various pollutants, including some that have not been regulated until now, such as nitrous oxide (N<sub>2</sub>O).

In addition, Euro 7 introduces stricter limits for particle emissions produced when braking, with specific limits for electric vehicles. The new rules also include stricter lifetime requirements for all vehicles in terms of both mileage and lifetime.

# Emissions Legislation

## Passenger vehicles and goods vehicles

Vehicle emissions are divided into two categories which is determined by the reference mass:

- Light-duty vehicle emissions (Currently Euro 6)
- Heavy-duty vehicle emissions (Currently Euro VI)
- Light and heavy-duty vehicle emissions (Recently adopted Euro 7)

Light-duty vehicle emissions	
EU Legislation	<a href="#">715/2007</a>
Criteria	Reference mass* up to 2,610 kg however may go up to 2,840 kg
Heavy-duty vehicle emissions	
EU Legislation	<a href="#">595/2009</a>
Criteria	Reference mass* greater than 2,610 kg, however 2,380 kg may come under heavy-duty vehicle emissions.
*Definitions	
Mass in running order	<ul style="list-style-type: none"> <li>• Mass of vehicle plus</li> <li>• Fuel tank 90% full</li> <li>• Driver (75 kg)</li> <li>• Standard equipment</li> <li>• Bodywork, coupling, tools and spare wheel (where fitted)</li> </ul>
Reference mass	Mass in running order + 25 kg

## Two-wheel, three-wheel vehicles and quads (L category vehicles)

L category vehicle emissions	
EU Legislation	<a href="#">134/2014</a>

# Notable Dates for Industry

## Light-duty vehicle emissions

Character	Vehicle Categories	Emission Standard	Replaces Character(s)	Applies from
AP	M, N1 Class I	Euro 6d-ISC-FCM	DG, AM	1 January 2021
AQ	N1 Class II	Euro 6d-ISC-FCM	CH, AN	1 January 2022
AR	N1 Class III, N2	Euro 6d-ISC-FCM	CI, AO	1 January 2022
EA	M, N1, N2	Euro 6e	AP, AQ, AR	1 September 2024
EB	M, N1, N2	Euro 6e, BIS	EA	1 January 2026
EC	M, N1, N2	Euro 6e, BIS, FCM	EB	1 January 2028

## Heavy-duty vehicle emissions

Step	Description	Last date of registration
C	NOx on board threshold limit: 1,200 mg/kWh Particulate matter on board threshold limit: 25 mg/kWh IUPR general requirements Reagent quality general requirements Power threshold: 20%	31 August 2019
D	Same as C with the following exception: Power threshold: 10%	31 December 2021
E	Same as D with the following exception: Cold start and PM No.	Currently no last date for Step E

## L category vehicle

Legislation	Requirement	Categories affected	Applies from
168/2013	Euro 5 emission limits	All L category vehicles (except L2e-U, L3e-AxE, L3e-AxT and L6e-B category vehicles)	1 January 2021
2019/129	On-board diagnostic	L3e-A1, L3e-A2, L3e-A3, L4e, L5e-A and L7e-A	1 January 2021

## Upcoming requirements and end-of-series derogations.

Upcoming requirements [information](#).

End-of-series derogations [information](#).

# Type-Approval Requirements for Passenger Cars (M1) and Light Goods Vehicles (N1)



**M1:** Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat e.g., cars, people carriers. [NCT](#) tested.

**N1:** Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3,500 kg. e.g., light vans and trucks. [CVRT](#) tested annually.

## A. Restraint Systems, Crash Testing, Fuel System Integrity and High Voltage Electrical Safety



Subject	Regulatory Act
A1 Interior fittings (M1 vehicles)	UN Regulation No. 21
A2 Seats and head restraints	UN Regulation No. 17
A4 Safety-belt anchorages	UN Regulation No. 14
A5 Safety-belts and restraint systems	UN Regulation No. 16
A6 Safety-belt reminders	UN Regulation No. 16
A7 Partitioning systems (M1 Vehicles)	UN Regulation No. 126
A8 Child restraint anchorages	UN Regulation No. 145
A10 Enhanced child restraint systems	UN Regulation No. 129
A12 Rear underrun protection	UN Regulation No. 58
A14 Fuel tank safety	UN Regulation No. 34
A15 Liquefied petroleum gas safety	UN Regulation No. 67
A16 Compressed and liquefied natural gas safety	UN Regulation No. 110
A17 Hydrogen safety	UN Regulation No. 134
A18 Hydrogen system material qualification	Regulation (EU) 2021/535, Annex XIV
A19 In-use electric safety	UN Regulation No. 100
A20 Frontal off-set impact	UN Regulation No. 94
A21 Frontal full-width impact	UN Regulation No. 137
A22 Protective steering	UN Regulation No. 12
A24 Cab impact (N1 vehicles)	UN Regulation No. 29
A25 Side impact	UN Regulation No. 95
A26 Pole side impact	UN Regulation No. 135
A27 Rear impact	UN Regulation No. 153

## B. Vulnerable Road Users, Vision and Visibility



Subject	Regulatory Act
B1 Pedestrian leg and head protection	UN Regulation No. 127
B2 Enlarged head impact zone	UN Regulation No. 127
B3 Frontal protection system	Regulation (EU) 2021/535, Annex XII
B4 Advanced emergency braking for pedestrian and cyclist	UN Regulation No. 152
B7 Reversing detection	UN Regulation No. 158
B8 Forward vision	UN Regulation No. 125
B10 Safety glazing	UN Regulation No. 43
B11 Defrost/demist	Regulation (EU) 2021/535, Annex VI
B12 Wash/wipe	Regulation (EU) 2021/535, Annex IV
B13 Indirect vision devices	UN Regulation No. 46

## C. Vehicle Chassis, Braking, Tyres and Steering



Subject	Regulatory Act
C1 Steering equipment	UN Regulation No. 79
C3 Emergency lane keeping system	Regulation (EU) 2021/646
C4 Braking	UN Regulation No. 13 UN Regulation No. 13-H
C6 Brake assist	UN Regulation No. 139
C7 Stability control	UN Regulation No. 13 UN Regulation No. 140
C9 Advanced emergency braking on light-duty vehicles	UN Regulation No. 152
C10 Tyre safety and environmental performance	UN Regulation No. 30 UN Regulation No. 54 UN Regulation No. 117
C13 Tyre pressure monitoring for light-duty vehicles	UN Regulation No. 141
C15 Tyre installation	UN Regulation No. 142

## D. On-Board Instruments, Electrical System, Vehicle Lighting and Protection against Unauthorised Use, including Cyberattacks



Subject	Regulatory Act
D1 Audible warning	UN Regulation No. 28
D2 Radio interference (electromagnetic compatibility)	UN Regulation No. 10
D3 Protection against unauthorised use, immobiliser and alarm systems	UN Regulation No. 18 UN Regulation No. 97 UN Regulation No. 116 UN Regulation No. 161 UN Regulation No. 162 UN Regulation No. 163
D4 Protection of vehicle against cyberattacks	UN Regulation No. 155
D5 Speedometer	UN Regulation No. 39
D6 Odometer	UN Regulation No. 39
D8 Intelligent speed assistance	Commission Delegated Regulation (EU) 2021/1958
D9 Identification of controls, tell-tales and indicators	UN Regulation No. 121
D10 Heating systems	UN Regulation No. 122
D11 Light signalling devices	UN Regulation No. 4 UN Regulation No. 6 UN Regulation No. 7 UN Regulation No. 19 UN Regulation No. 23 UN Regulation No. 38 UN Regulation No. 77 UN Regulation No. 87 UN Regulation No. 91 UN Regulation No. 148
D12 Road illumination devices	UN Regulation No. 31 UN Regulation No. 98 UN Regulation No. 112 UN Regulation No. 119 UN Regulation No. 123 UN Regulation No. 149

D13 Retro-reflective devices	UN Regulation No. 3 UN Regulation No. 104 UN Regulation No. 150
D14 Light sources	UN Regulation No. 37 UN Regulation No. 99 UN Regulation No. 128
D15 Installation of light signalling, road illumination and retro-reflective devices	UN Regulation No. 48
D16 Emergency Stop Signal	UN Regulation No. 48
D17 Headlamp cleaners	UN Regulation No. 45
D18 Gear shift indicator (M1 Vehicles)	Regulation (EU) 2021/535, Annex IX

## E. Driver and System Behaviour



Subject	Regulatory Act
E1 Alcohol interlock installation facilitation	Commission Delegated Regulation (EU) 2021/1243
E2 Driver drowsiness and attention warning	Commission Delegated Regulation (EU) 2021/1341
E3 Advanced driver distraction warning	Commission Delegated Regulation (EU) 2023/2590
E4 Driver availability monitoring system*	UN Regulation No. 157
E5 Event data recorder	Commission Delegated Regulation (EU) 2022/545 UN Regulation No. 160
E6 Systems to replace driver's control*	UN Regulation No. 157
E7 Systems to provide the vehicle with information on state of vehicle and surrounding area*	UN Regulation No. 157

\*Compliance is required in case of automated vehicles



## F. General Vehicle Construction and Features



Subject	Regulatory Act
F1 Registration plate space	Regulation (EU) 2021/535, Annex III
F2 Reversing motion	Regulation (EU) 2021/535, Annex XI
F3 Door latches and hinges	UN Regulation No. 11
F4 Door entry steps, handholds and running boards	Regulation (EU) 2021/535, Annex X
F5 External projections (M1 Vehicles)	UN Regulation No. 26
F6 External projections of commercial vehicle cabs (N1 vehicles)	UN Regulation No. 61
F7 Statutory plate and vehicle identification number	Regulation (EU) 2021/535, Annex II
F8 Towing devices	Regulation (EU) 2021/535, Annex VII
F9 Wheel guards	Regulation (EU) 2021/535, Annex V
F10 Spray suppression systems	Regulation (EU) 2021/535, Annex VIII
F11 Masses and dimensions	Regulation (EU) 2021/535, Annex XIII
F12 Mechanical couplings	UN Regulation No. 55 UN Regulation No. 102
F13 Vehicles intended for the transportation of dangerous goods (N1 Vehicles)	UN Regulation No. 105

## G. Environmental Performance and Emissions



Subject	Regulatory Act
G1 Sound level	Regulation (EU) No. 540/2014
G2 Tailpipe emissions of vehicle in lab	Regulation (EC) No. 715/2007
G2a Determination of specific CO2 emissions and fuel consumption of vehicle and device for monitoring on board the vehicle the consumption of fuel and/or electric energy	Regulation (EC) No. 715/2007
G3 Tailpipe emissions of engine in lab	Regulation (EC) No. 595/2009

G4 Tailpipe emissions on the road	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G5 Durability of tailpipe emissions	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G6 Crankcase emissions	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G7 Evaporative emissions	Regulation (EC) No. 715/2007
G8 Low-temperature tailpipe emissions in lab	Regulation (EC) No. 715/2007
G9 On-board diagnostics	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G10 Absence of defeat device	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G11 Auxiliary emissions strategies	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G12 Anti-tampering	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G13 Recyclability	Directive 2005/64/EC
G14 Air-conditioning systems	Directive 2006/40/EC

## H. Access to Vehicle Information and Software Update



Subject	Regulatory Act
H1 Access to vehicle OBD information and vehicle repair and maintenance information	Regulation (EU) 2018/858, Articles 61 to 66 and Annex X
H2 Software update	Regulation (EU) 2018/858, Annex IV UN Regulation No 156

# Type-Approval Requirements for Buses and Coaches (M2/M3) and Heavy Goods Vehicles (N2/N3)



**M2:** Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat and having a maximum mass not exceeding five tonnes. Generally, this includes small buses and minibuses. **CVRT** tested annually.

**M3:** Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat and having a maximum mass exceeding five tonnes e.g., large buses. **CVRT** tested annually.

**N2:** Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 3,500 kg and not exceeding 12,000 kg e.g., larger vans and trucks. **CVRT** tested annually.

**N3:** Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 12,000 kg e.g., trucks. **CVRT** tested annually.

## A. Restraint Systems, Crash Testing, Fuel System Integrity and High Voltage Electrical Safety



Subject	Regulatory Act
A2 Seats and head restraints	UN Regulation No. 17
A3 Bus seats (M2 and M3 Vehicles)	UN Regulation No. 80
A4 Safety-belt anchorages	UN Regulation No. 14
A5 Safety-belts and restraint systems	UN Regulation No. 16
A6 Safety-belt reminders	UN Regulation No. 16
A8 Child restraint anchorages (IF)	UN Regulation No. 145
A10 Enhanced child restraint systems	UN Regulation No. 129
A11 Front underrun protection	UN Regulation No. 93
A12 Rear underrun protection	UN Regulation No. 58
A13 Lateral protection	UN Regulation No. 73
A14 Fuel tank safety	UN Regulation No. 34
A15 Liquefied petroleum gas safety	UN Regulation No. 67
A16 Compressed and liquefied natural gas safety	UN Regulation No. 110
A17 Hydrogen safety	UN Regulation No. 134
A18 Hydrogen system material qualification	Regulation (EU) 2021/535, Annex XIV
A19 In-use electric safety	UN Regulation No. 100
A24 Cab impact	UN Regulation No. 29

## B. Vulnerable Road Users, Vision and Visibility



Subject	Regulatory Act
B5 Pedestrian and cyclist collision warning	UN Regulation No. 159
B6 Blind spot information system	UN Regulation No. 151
B7 Reversing detection	UN Regulation No. 158
B10 Safety glazing	UN Regulation No. 43
B11 Defrost/demist	Regulation (EU) 2021/535, Annex VI
B12 Wash/wipe	Regulation (EU) 2021/535, Annex IV
B13 Indirect vision devices	UN Regulation No. 46

## C. Vehicle Chassis, Braking, Tyres and Steering



Subject	Regulatory Act
C1 Steering equipment	UN Regulation No. 79
C2 Lane departure warning system	UN Regulation No. 130
C4 Braking	UN Regulation No. 13 UN Regulation No. 13-H
C7 Stability control	UN Regulation No. 13 UN Regulation No. 140
C8 Advanced emergency braking on heavy-duty vehicles	UN Regulation No. 131
C10 Tyre safety and environmental performance	UN Regulation No. 30 UN Regulation No. 54 UN Regulation No. 117
C14 Tyre pressure monitoring for heavy-duty vehicles	UN Regulation No. 141
C15 Tyre installation	UN Regulation No. 142

## D. On-Board Instruments, Electrical System, Vehicle Lighting and Protection against Unauthorised Use, including Cyberattacks



Subject	Regulatory Act
D1 Audible warning	UN Regulation No. 28
D2 Radio interference (electromagnetic compatibility)	UN Regulation No. 10
D3 Protection against unauthorised use, immobiliser and alarm systems	UN Regulation No. 18 UN Regulation No. 97 UN Regulation No. 116 UN Regulation No. 161 UN Regulation No. 162 UN Regulation No. 163
D4 Protection of vehicle against cyberattacks	UN Regulation No. 155
D5 Speedometer	UN Regulation No. 39
D6 Odometer	UN Regulation No. 39
D7 Speed limitation devices	UN Regulation No. 89
D8 Intelligent speed assistance	Commission Delegated Regulation (EU) 2021/1958
D9 Identification of controls, tell-tales and indicators	UN Regulation No. 121
D10 Heating systems	UN Regulation No. 122
D11 Light signalling devices	UN Regulation No. 4 UN Regulation No. 6 UN Regulation No. 7 UN Regulation No. 19 UN Regulation No. 23 UN Regulation No. 38 UN Regulation No. 77 UN Regulation No. 87 UN Regulation No. 91 UN Regulation No. 148
D12 Road illumination devices	UN Regulation No. 31 UN Regulation No. 98 UN Regulation No. 112 UN Regulation No. 119 UN Regulation No. 123 UN Regulation No. 149

D13 Retro-reflective devices	UN Regulation No. 3 UN Regulation No. 104 UN Regulation No. 150
D14 Light sources	UN Regulation No. 37 UN Regulation No. 99 UN Regulation No. 128
D15 Installation of light signalling, road illumination and retro-reflective devices	UN Regulation No. 48
D16 Emergency Stop Signal	UN Regulation No. 48
D17 Headlamp cleaners	UN Regulation No. 45

## E. Driver and System Behaviour



Subject	Regulatory Act
E1 Alcohol interlock installation facilitation	Commission Delegated Regulation (EU) 2021/1243
E2 Driver drowsiness and attention warning	Commission Delegated Regulation (EU) 2021/1341
E3 Advanced driver distraction warning	Commission Delegated Regulation (EU) 2023/2590
E4 Driver availability monitoring system*	UN Regulation No. 157
E5 Event data recorder	Commission Delegated Regulation (EU) 2022/545 UN Regulation No. 160
E6 Systems to replace driver's control*	UN Regulation No. 157
E7 Systems to provide the vehicle with information on state of vehicle and surrounding area*	UN Regulation No. 157

\*Compliance is required in case of automated vehicles



## F. General Vehicle Construction and Features



Subject	Regulatory Act
F1 Registration plate space	Regulation (EU) 2021/535, Annex III
F2 Reversing motion	Regulation (EU) 2021/535, Annex XI
F4 Door entry steps, handholds and running boards	Regulation (EU) 2021/535, Annex X
F6 External projections of commercial vehicle cabs	UN Regulation No. 61
F7 Statutory plate and vehicle identification number	Regulation (EU) 2021/535, Annex II
F8 Towing devices	Regulation (EU) 2021/535, Annex VII
F10 Spray suppression systems	Regulation (EU) 2021/535, Annex VIII
F11 Masses and dimensions	Regulation (EU) 2021/535, Annex XIII
F12 Mechanical couplings	UN Regulation No. 55 UN Regulation No. 102
F13 Vehicles intended for the transportation of dangerous goods	UN Regulation No. 105
F14 General bus construction (M2 and M3 Vehicles)	UN Regulation No. 107
F15 Bus strength of superstructure (M2 and M3 Vehicles)	UN Regulation No. 66
F16 Flammability in buses (M3 only)	UN Regulation No. 118

## G. Environmental Performance and Emissions



Subject	Regulatory Act
G1 Sound level	Regulation (EU) No. 540/2014
G2 Tailpipe emissions of vehicle in lab (M2 and N2 if applicable)	Regulation (EC) No. 715/2007
G2a Determination of specific CO <sub>2</sub> emissions and fuel consumption of vehicle and device for monitoring on board the vehicle the consumption of fuel and/or electric energy (M2 and N2 if applicable)	Regulation (EC) No. 715/2007
G3 Tailpipe emissions of engine in lab	Regulation (EC) No. 595/2009
G3a Determination of specific CO <sub>2</sub> emissions and fuel consumption of vehicle (M3, N2 and N3)	Regulation (EC) No. 595/2009

G4 Tailpipe emissions on the road	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G5 Durability of tailpipe emissions	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G6 Crankcase emissions	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G7 Evaporative emissions (M2 and N2 if applicable)	Regulation (EC) No. 715/2007
G8 Low-temperature tailpipe emissions in lab (M2 and N2 if applicable)	Regulation (EC) No. 715/2007
G9 On-board diagnostics	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G10 Absence of defeat device	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G11 Auxiliary emissions strategies	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009
G12 Anti-tampering	Regulation (EC) No. 715/2007 Regulation (EC) No. 595/2009

## H. Access to Vehicle Information and Software Update



Subject	Regulatory Act
H1 Access to vehicle OBD information and vehicle repair and maintenance information	Regulation (EU) 2018/858, Articles 61 to 66 and Annex X
H2 Software update	Regulation (EU) 2018/858, Annex IV UN Regulation No 156



# Type-Approval Requirements for Light (O1/O2) and Heavy (O3/O4) Trailers

- O1:** Trailers with a maximum mass not exceeding 750 kg e.g., small car trailers
- O2:** Trailers with a maximum mass exceeding 750 kg but not exceeding 3,500 kg e.g., larger car trailers and most trailer caravans
- O3:** Trailers with a maximum mass exceeding 3,500 kg but not exceeding 10,000 kg. **CVRT** tested annually.
- O4:** Trailers with a maximum mass exceeding 10,000 kg e.g., heavy trailers including articulated trailers. **CVRT** tested annually.



## A. Restraint Systems, Crash Testing, Fuel System Integrity and High Voltage Electrical Safety

Subject	Regulatory Act
A12 Rear underrun protection	UN Regulation No. 58
A13 Lateral protection (O3 and O4)	UN Regulation No. 73
A14 Fuel tank safety	UN Regulation No. 34

## B. Vulnerable Road Users, Vision and Visibility

Subject	Regulatory Act
B10 Safety glazing	UN Regulation No. 43

## C. Vehicle Chassis, Braking, Tyres and Steering

Subject	Regulatory Act
C1 Steering equipment	UN Regulation No. 79
C4 Braking	UN Regulation No. 13 UN Regulation No. 13-H
C7 Stability control	UN Regulation No. 13 UN Regulation No. 140
C10 Tyre safety and environmental performance	UN Regulation No. 30 UN Regulation No. 54 UN Regulation No. 117
C14 Tyre pressure monitoring for heavy-duty vehicles (O3 and O4)	UN Regulation No. 141
C15 Tyre installation	UN Regulation No. 142

## D. On-Board Instruments, Electrical System, Vehicle Lighting and Protection against Unauthorised Use, including Cyberattacks

Subject	Regulatory Act
D2 Radio interference (electromagnetic compatibility)	UN Regulation No. 10
D10 Heating systems	UN Regulation No. 122
D11 Light signalling devices	UN Regulation No. 4 UN Regulation No. 6 UN Regulation No. 7 UN Regulation No. 19 UN Regulation No. 23 UN Regulation No. 38 UN Regulation No. 77 UN Regulation No. 87 UN Regulation No. 91 UN Regulation No. 148
D13 Retro-reflective devices	UN Regulation No. 3 UN Regulation No. 104 UN Regulation No. 150
D14 Light sources	UN Regulation No. 37 UN Regulation No. 99 UN Regulation No. 128
D15 Installation of light signalling, road illumination and retro-reflective devices	UN Regulation No. 48

## F. General Vehicle Construction and Features

Subject	Regulatory Act
F1 Registration plate space	Regulation (EU) 2021/535, Annex III
F7 Statutory plate and vehicle identification number	Regulation (EU) 2021/535, Annex II
F10 Spray suppression systems	Regulation (EU) 2021/535, Annex VIII
F11 Masses and dimensions	Regulation (EU) 2021/535, Annex XIII
F12 Mechanical couplings	UN Regulation No. 55 UN Regulation No. 102
F13 Vehicles intended for the transportation of dangerous goods	UN Regulation No. 105

## G. Environmental Performance and Emissions

Subject	Regulatory Act
G3b Determination of specific energy efficiency performance of trailer (O3 and O4)	Regulation (EC) No. 595/2009

## H. Access to Vehicle Information and Software Update

Subject	Regulatory Act
H1 Access to vehicle OBD information and vehicle repair and maintenance information	Regulation (EU) 2018/858, Articles 61 to 66 and Annex X.
H2 Software update	Regulation (EU) 2018/858, Annex IV UN Regulation No 156

# Working To Save Lives

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