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# SWOV Fact sheet

## Vehicle regulations

### Summary

In the Netherlands, all vehicles using public roads must meet so-called permanent requirements. This is enforced by the police and, for some categories, also during the MOT. In the Netherlands, most types of motor vehicle<sup>1</sup> can only be introduced to the market if they meet the entry requirements. For this purpose, the vehicle has to undergo the type approval test in a certified European test facility. The European Union members are obliged to admit all vehicles with type approval. They are, however, allowed to impose their own rules of conduct on the user, such as compulsory helmet use. In addition to these legal requirements, vehicle manufacturers take account of the (crash) safety criteria of the test programme Euro NCAP; they aim to achieve the highest possible score in this test. At present, first steps are being taken towards legal criteria for vehicle dynamics of cars.

### Background and content

The vehicle requirements imposed by the Dutch government are mostly based on the relevant European Union legislation and other treaties in this area. The rules and regulations are determined in international consultations. Road safety is one of the criteria taken into account; others are environmental issues and removing trade barriers. This fact sheet discusses the national and international vehicle regulations that apply in the Netherlands.

### Which regulations apply?

The Dutch vehicle requirements have been incorporated in the Vehicle Regulations. The new Vehicle Regulations have been in force since 1 May 2009; they have made the old Motor Vehicle Regulations and the corresponding Ministerial regulations obsolete.

#### *National: Vehicle Regulations*

The Dutch Vehicle Regulations are part of the Road Traffic Act 1994. There are three types of vehicle requirements: type approval requirements, permanent requirements, and practical requirements (see also <http://wetten.overheid.nl/BWBR0025798>).

*Type approval requirements* apply to vehicles for which registration is compulsory, such as cars, lorries, delivery vans, motorcycles, mopeds and trailers for motor vehicles (with the exception of tractor drawn agricultural and forestry trailers). Type approval requirements also apply to certain types of agricultural vehicles and construction and maintenance vehicles as well as to vehicle parts such as safety equipment, mirrors, lights, trailer hitches and tyres. International requirements are an integral part of the national type approval requirements. Before a vehicle licence number is issued, each vehicle is assessed on whether it meets the type approval and individual approval requirements. This will be discussed later in this fact sheet.

*Permanent requirements* are requirements the vehicle must comply with when used on public roads. These requirements are less extensive than the type approval requirements, as it must be possible to test the vehicle concerned on the road (by the police) or during a periodic vehicle inspection (MOT). There are also permanent requirements for types of vehicle for which there is no type approval, such as bicycles, Segways and other so-called powered slow-moving vehicles.<sup>2</sup>

*Practical requirements* concern usage: coupling trailers, loading, and requirements regarding the dimensions and masses of vehicles.

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<sup>1</sup> In this fact sheet motor vehicles are defined as all (partly) engine powered non-rail vehicles, with the exception of e-bikes with pedal assistance which are categorized as bicycles. Therefore mopeds and power driven vehicles for the disabled are also classified as motor vehicles in the Dutch Road Traffic Act 1994 and in the Vehicle Regulations, but are not considered as motor vehicles under the Traffic Code 1990.

<sup>2</sup> <https://www.rijksoverheid.nl/onderwerpen/brommer/vraag-en-antwoord/welke-regels-gelden-er-voor-een-segway>

### *International: Directives, Decisions and Regulations*

Most of our current requirements regarding motor vehicles are determined in Brussels by the EU, in the form of *Directives* and *Regulations*. These EU Directives and Regulations are mandatory for all Member States. The individual Directives are based on Framework Directives<sup>3</sup>. For example, Directive [2007/46/EC](#) establishes a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles. Directive [2002/24/EC](#) concerns the type approval of powered two- and three-wheelers, and [2003/37/EC](#) of agricultural and forestry tractors. On 1 January 2016, these Directives will be replaced by Regulations [168/2013/EU](#) en [167/2013/EU](#) respectively, but it has already been possible to award type approvals based on this Guideline from 22 March 2013.

Type approval of vehicles and their relevant parts involves a comprehensive system of requirements with associated tests. Access to the market may not be denied by any Member State to any vehicles or parts of vehicles that comply with the EU requirements. Moreover, once vehicles or parts have been admitted, Member States are not allowed to impose more stringent requirements on them than described in the actual Directive or Regulation.

In addition to the European Directives, there are also international *Regulations* which are mainly concerned with technical requirements. They are determined in extensive consultation by the United Nations Economic Commission for Europe in Geneva (see also <http://www.unece.org/trans/main/welcwp29.html>). The consultations are also attended by non-EU countries such as the United States, Australia, Canada, Korea and Japan. The legal basis of these regulations is the ECE '1958 Agreement'. Initially ECE Regulations came about if at least two ECE member countries made a proposal. It was mandatory for the countries that co-signed the proposal to award a type approval to the vehicles that meet the requirements in the proposal and that have an E-certificate. The ECE regulations are often adopted word for word in EU Directives and are then mandatory for the EU Member States.

Since 24 March 1998, the European Union has been a member of ECE and the European Commission votes on new regulations or changes to existing regulations on behalf of all EU Member States after having consulted these countries in a working group (see also RDW, 2011). The regulations that were adopted by the EU and the regulations that came into being after the EU joined ECE have been translated in all the [languages of the Member States](#) and are mandatory for all Member States. Furthermore, ECE is working towards global requirements (Global Technical Regulations, GTR). Several of these, such as requirements for head rests and for Electronic Stability Control (ESC), have already been approved. They have no separate legal status, but can be included in the legislation of a country or a group of countries.

### *Scope of EU Member States*

As was mentioned earlier, EU Member States are not allowed to exclude a vehicle that complies with EU requirements. However, individual EU countries are allowed to impose certain rules of conduct, for instance that microcars are not allowed to drive on a road that has vehicle-type exclusion and that a seat belt is, but a helmet is not compulsory in an enclosed two-wheeled vehicle. In the Netherlands these national provisions are included in the Traffic Code (RVV, 1990, see also <http://wetten.overheid.nl/BWBR0004825>). However, there are prerequisites to imposing of rules of behaviour (Van Kampen, Krop & Schoon, 2005):

- From the viewpoint of view of possible (international) trade protection, the rules may not extend to making the actual use of the vehicle on the road impossible.
- The rules must be motivated on the basis of government interests that are to be protected, among which road safety interests.
- It must be possible to enforce the regulations in practice.

It is possible to apply for exemption from specific regulations, for instance in relation with long and heavy transport.

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<sup>3</sup> A regulation has general application. It is binding in its entirety and directly applicable in all Member States. A directive is binding, as to the result to be achieved, upon each Member State to which it is addressed, but leaves the choice of form and methods to the national authorities.

### Which vehicle requirements are there?

For the legal vehicle requirements, we must look at the EU Directives and Regulations, the ECE Regulations and the Global Technical Regulations. The requirements are different between vehicle types. The requirements that are most important with regard to road safety are those for the:

- braking system;
- lighting;
- steering system;
- seat belts;
- headrests;
- passenger protection in the event of a head-on crash;
- passenger protection in the event of side impact;
- pedestrian protection in the event of a crash with the car front.

In addition, the requirements also relate to, for example, noise, emissions, mass, dimensions and licence plates.

The Directives for vehicles and their parts mentioned earlier, consist of individual requirements and corresponding tests. The EU Directives also distinguish and classify the various types of vehicle the Directives apply for. The category 'M1', for instance, are passenger vehicles with a maximum total weight of 3,500 kg. The most extensively classified vehicle types are cars, delivery vans, lorries and buses classified under the letters M and N (see *Table 1*). Four types of trailers and semi-trailers (O1 to O4) are distinguished. The category O1 goes up to a mass of 750 kg. Since 2002, trailers that are heavier (O2 to O4) must have their own licence number. Two and three-wheeled motor vehicles such as mopeds and motorcycles are classified under the letter L.

Category	Type of motor vehicle	Equipped to carry	Mass
M1	Car	Max. 9 people	≤ 3,500 kg
M2	Minibus	More than 9 people	≤ 5,000 kg
M3	Bus	More than 9 people	> 5,000 kg
N1	Van	Freight	≤ 3,500 kg
N2	Light lorry	Freight	3,500-12,000 kg
N3	Heavy lorry	Freight	> 12,000 kg

Table 1. *The types of vehicle distinguished in the EU Directives for passenger transport (category M) and goods transport (category N).*

### How are the regulations enforced?

The legal vehicle requirements are enforced by means of various tests; the so-called type approval and periodic vehicle inspection. Inspections can also take place after traffic stops.

#### *Type approval (admission requirements)*

Type approval takes place at EU level. Using prescribed testing, a vehicle is examined to see whether it complies with the individual EU Directives. This requires a uniform interpretation of these Directives and careful application of the tests. The vehicle manufacturer is free to select the inspection authority for the type approval, provided that it is authorised and is located in an EU Member State. This may result in a certain amount of 'shopping around' to find the least critical authority. Increasingly, type approval authorities will go to the vehicle manufacturer. The type approval authority in the Netherlands is TNO Automotive in Helmond. The Vehicle Technology and Information Centre RDW is the other authority in the Netherlands that tests vehicles and awards type approvals.

The type approval contains an idiosyncrasy, namely that vehicles presented individually (by importers or individuals), or vehicles that are part of a small series do not need to comply with all the requirements: these vehicles do not have to undergo destructive tests so that certain requirements cannot be tested. These vehicles are given individual admission.

#### *Periodic Vehicle Inspection (permanent requirements)*

The technical condition of motor vehicles requiring registration of the M and N categories is determined by means of the periodic vehicle inspection (MOT test) which is based on European

Directive 2009/40/EG. Lorries are subject to the MOT 1 and for passenger cars and delivery vehicles the MOT 2 applies. The MOT test is no more than an inspection at a given moment in time. It would be better to continuously monitor the state of crucial vehicle parts and to be informed when a problem occurs. For more information see SWOV Fact sheet [Periodic Vehicle Inspection \(MOT\)](#).

### **Are there any requirements besides legal ones?**

The official Directives and the regulations they contain were formulated in international consultation, involving not only national governments, but also other interested parties such as type approval authorities, vehicle manufacturers, and suppliers. Compromises were therefore made. This is why, from a road safety point of view, the Directives must be seen as *minimum requirements*. The individual Member States are not allowed to impose more stringent requirements. However, vehicle manufacturers voluntarily make their products better and safer than legally required. For instance, the braking systems of cars, together with the tyres and the road surface provide a considerably higher deceleration rate than the legally prescribed 5.76 m/s<sup>2</sup> on a dry flat road surface. Airbags, which are not compulsory, also provide occupants with considerably more safety during head-on and side crashes than the minimum requirements.

The crashworthiness (secondary safety) is promoted by the 'European New Car Assessment Programme' Euro NCAP. Euro NCAP tests the crashworthiness of vehicles in head-on and lateral collisions and their pedestrian safety. In some of the tests the crash conditions are of a (considerably) higher level than the legal requirements. The results of these tests are published in the form of a star rating in which the highest safety level is represented by five stars. Since 2009, Euro NCAP has also paid attention to the prevention of crashes (primary safety; see also SWOV Fact sheet [EuroNCAP, a safety instrument](#)).

### **Have tests been developed for vehicle dynamics?**

In recent years performance requirements are being developed for vehicle dynamics characteristics of cars. This concerns road behaviour that is relevant to the avoidance of crashes (primary safety). There are informal test methods already (e.g. the Moose Test) and Euro NCAP gives extra points for the presence of ESC. Since 2008, there has been a Global Technical Regulation (GTR) which contains an objective assessment method for ESC. This GTR will probably provide the basis for EU legislation concerning ESC.

### **Conclusion**

In the Netherlands, all vehicles using public roads must comply with specific technical requirements. Vehicles for which registration is compulsory and agricultural and forestry tractors must meet entry requirements. The type approval or individual approval of these vehicles is given based on EU or ECE criteria. In addition, there are permanent requirements which vehicles must (continue to) comply with when they make use of public roads. These requirements apply to all vehicles, also, for instance, to bicycles. Cars and buses can be tested on the road and are also subject to periodic testing (MOT). Practical requirements regulate, among others, the use of trailers and the transport of loads.

### **Publications and sources**

ECE-reglementen: <http://www.unece.org/trans/main/welcwp29.htm>

EU-richtlijnen: <http://eur-lex.europa.eu/nl/index.htm>

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Dutch vehicle requirements:

<http://wetten.overheid.nl/BWBR0025798>.

Reglement Verkeersregels en Verkeerstekens (RVV, 1990):

<http://wetten.overheid.nl/BWBR0004825>