

Vehicle regulations

Summary

The Dutch government imposes certain requirements on motor vehicles in the interests of road safety. In this it has to adhere to the relevant European Union Directives. However, these international Directives are compromises between many parties, and are not aimed so much at improving road safety, but rather at removing trade barriers. From the point of view of road safety, these vehicle requirements must therefore be regarded as *minimum requirements*.

However, vehicle manufacturers make their products better and safer than the law requires. This is partly an achievement of the EuroNCAP crash test programme in which vehicle manufacturers aim to achieve the best possible test results.

How is the regulation organized?

The Dutch motor vehicle requirements have been incorporated in the Vehicle Regulations; they are mainly determined by international regulations. The new Vehicle Regulations have been in force since 1 May 2009, therefore the old Motor Vehicle Regulations and the corresponding Ministerial regulations are now obsolete.

National: Vehicle Regulations

The Dutch Vehicle Regulations are part of the Road Traffic Act 1994. There are three distinct vehicle requirements: type approval requirements, permanent requirements, and practical requirements.

Type approval requirements apply to vehicles for which a licence number is obligatory, such as cars, lorries, delivery vans, motorcycles, mopeds and trailers. Type approval requirements also apply to certain types of agricultural vehicles and 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 judged on whether it meets the type approval requirements. This will be discussed further on in this Fact sheet.

Permanent requirements are requirements with which the vehicle must comply when used on the road. These requirements are less extensive than the type approval requirements, as it must be possible to test the vehicle in question on the road (by the police) or during a periodic vehicle inspection (MOT test). There are also permanent requirements for types of vehicle for which there is no type approval, such as bicycles and Segways.

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

International: Directives and Regulations

Most of our current requirements regarding motor vehicles are determined in Brussels by the EU, in the form of *Directives*. These EU Directives are mandatory for all Member States based on Framework Directive 70/156 which coordinates individual Directives. This is a comprehensive system of requirements (with associated tests) for type approval of vehicles and their relevant parts (see also <http://eur-lex.europa.eu/en/index.htm>). Access to the market may not be denied to any vehicles or parts of vehicles that comply with the EU requirements by any Member State. Moreover, once vehicles or parts have been admitted Member States are not allowed to impose more stringent requirements on them than described in the Directive in question.

In addition to the European Directives, there are also international *Regulations* which are mainly concerned with technical requirements. They are determined in extensive consultation in Geneva by the United Nations Economic Commission for Europe (see also www.unece.org/trans/welcome.html). The consultations are also attended by non-EU countries such as the United States, Korea and Japan. The legal basis of these regulations is the 'ECE Agreement of 1958'. The ECE requirements are not obligatory until a country has voluntarily agreed to be a (co-)signatory. These ECE regulations are often adopted word for word in EU Directives (see also RDW, 2008).

Scope of EU Member States

As mentioned earlier, EU Member States are not allowed to exclude a vehicle that complies with EU requirements. However, EU countries are allowed to impose certain rules of behaviour, for instance that one-seat cars with moped engines (& registration), are not allowed to drive on a road that has vehicle-type exclusion, and that a helmet is not compulsory in an enclosed two-wheeled vehicle, but that a seatbelt is. In the Netherlands these national provisions are contained in the Traffic Code (RVV, 1990). However, there are prerequisites (Van Kampen, Krop & Schoon, 2005):

- From the point of view of trade protection, the rules must 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, including road safety interests.
- It must be possible to enforce the regulations in practice.

The European Directives also offer Member States the possibility to postpone the admittance of a type approved vehicle. The Netherlands has made no use of this until now. However, the Netherlands does sometimes impose certain limitations. For instance, the Dutch Vehicle Technology and information Centre RDW considered a particular type of quad to be unsuitable for high speeds. For this reason, a speed limit of 60 km/h was imposed on the vehicle (the minimum speed legally allowed on motorways), which is stated on the registration certificate (Schoon & Hendriksen, 2000).

What vehicle requirements are there?

For the legal vehicle requirements, we must look at the EU Directives. The Framework Directive 70/156 mentioned earlier, is the legal framework for an extensive system of separate requirements and associated tests for vehicles and vehicle parts. The EU Directives also contains binding and detailed vehicle categorization in which, for instance, 'M1' is a passenger vehicle with a maximum total weight of 3,500 kg.

The most extensively classified vehicle types are cars, delivery vans, lorries and buses with the code letters M and N (see *Table 1*). Two and three-wheeled motor vehicles such as mopeds and motor-cycles are classified under the letter L. Tractors for use in agriculture and forestry (which under certain conditions are also allowed on public roads) fall under the letter T. Finally, a distinction is made between four types of trailers and semi-trailers (O1 to O4). 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.

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 classified in the EU Directives for passenger transport (category M) and goods transport (category N).*

Most of the Directives apply to all vehicle types, although the requirements may be different for each type. The Directives that are most important with regard to road safety are those for the:

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

The Directives also relate to noise, emissions, mass, dimensions and licence plates.

How are the regulations enforced?

The legal vehicle requirements are enforced by means of various tests.

Type approval (admission requirements)

Type approval takes place at EU level. Using the prescribed tests, a vehicle is examined to see if 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 often, type approval authorities will also approach the vehicle manufacturer. The type approval authority in the Netherlands is TNO Automotive in Helmond.

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. This is because these vehicles do not have to undergo destructive tests, and that therefore certain requirements cannot be tested.

Periodic Vehicle Inspection (permanent requirements)

After type approval and road admittance, the technical condition of motor vehicles requiring registration is subsequently determined by means of the periodic vehicle inspection (MOT test). The MOT test varies according to the type of vehicle with regard to when the first inspection is carried out, the frequency of inspection, and the nature of the inspection (see the SWOV Fact sheet [Periodic Vehicle Inspection of cars \(MOT\)](#)).

The MOT test is no more than an inspection at a given moment in time. An on-board diagnosis system (OBD) can monitor the permanent requirements continuously, such as lighting, tyre tread, tyre pressure and possible wear on the brakes, and make them known to the driver. Modern safety provisions such as the anti-lock braking system (ABS), airbags, electronic braking system (EBS), and electronic stability control (ESC), fall outside the MOT test. It is difficult to test this type of electronically operated equipment, and there are also no legal requirements as their application is voluntary.

Are there any requirements besides legal ones?

The official Directives and the regulations they contain were formulated in international consultation, where not only national governments, but also other interested parties were involved, such as type approval authorities, car manufacturers, and suppliers. Compromises were therefore made between the European Member States. This is why, from a road safety point of view, the Directives must be seen as *minimum requirements*, all the more because their primary goal is to remove trade barriers. At the same time, these Directives represent the *most stringent* requirements possible, as the Member States are not allowed to impose more stringent requirements than the Directive does. It is therefore a good thing that vehicle manufacturers voluntarily choose to 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 5.5 m/s^2 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 compulsory seatbelts alone.

The crashworthiness (secondary safety) is also promoted by the 'European New Car Assessment Programme' EuroNCAP. EuroNCAP is (as yet) a brief set of crashworthiness safety requirements for head-on and lateral crashworthiness and for the safety of pedestrians. However, these requirements are at a (considerably) higher level than the legal requirements. The results of these tests are published in the form of a 'five star system', where the highest safety level is represented by five stars (see also the SWOV Fact sheet [EuroNCAP, a safety instrument](#)).

What vehicle requirements are still lacking?

Neither the legal requirements nor EuroNCAP contain requirements that provide an adequate insight into the most important dynamic vehicle characteristics of cars. This concerns road behaviour where this is relevant to the avoidance of crashes (primary safety). Although there are many informal test methods (e.g. the Moose Test), in general it is true to say that the result is 'driver-sensitive' and therefore difficult to render objectively. An objective assessment method is desirable. The aim is to expand EuroNCAP with requirements regarding primary vehicle safety (ESC), and with requirements regarding secondary safety (rear-end crashes).

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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RDW (2008). [Survey of ECE-Regulations and EC-Directives as per 1 September 2008](#). RDW Vehicle Approval and Information, Vehicle Standards Development Department, Zoetermeer.

Schoon, C.C. & Hendriksen, H. (2000). [Verkeersveiligheidsconsequenties van nieuwe, bijzondere voertuigsoorten; Veiligheid van de scootmobiel, open drie en vierwielers en motorvoertuigen met beperkte snelheid](#). R-2000-9. SWOV, Leidschendam.

Dutch vehicle requirements: <http://www.rdw.nl/> en <http://www.tdekkers.nl/>