## COMMISSION REGULATION (EU) No 458/2011

#### of 12 May 2011

concerning type-approval requirements for motor vehicles and their trailers with regard to the installation of their tyres and implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union.

Having regard to 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 therefor (1), and in particular Article 14(1)(a) thereof,

#### Whereas:

- (1) Regulation (EC) No 661/2009 is a separate Regulation for the purposes of the type-approval procedure provided for by Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (2).
- (2) Regulation (EC) No 661/2009 repeals Council Directive 92/23/EEC of 31 March 1992 relating to tyres for motor vehicles and their trailers and to their fitting (3). The requirements set out in that Directive should be carried over to this Regulation and, where necessary, adapted to the development of scientific and technical knowledge.
- (3) The scope of this Regulation should be in line with that of Directive 92/23/EEC. The Regulation should therefore cover vehicles of categories M, N and O.
- (4) Regulation (EC) No 661/2009 lays down basic requirements for the type-approval of motor vehicles with regard to the installation of tyres. Therefore, it is necessary to set out the specific procedures, tests and requirements for such type-approval to ensure that the tyres used on a vehicle are appropriate for the load, speed and use characteristics of that vehicle.
- (5) The measures provided for in this Regulation are in accordance with the opinion of the Technical Committee Motor Vehicles,

HAS ADOPTED THIS REGULATION:

# Article 1

### Scope

This Regulation applies to vehicles of categories M, N and O, as defined in Annex II to Directive 2007/46/EC.

#### Article 2

#### **Definitions**

For the purposes of this Regulation, the following definitions shall apply:

- (1) 'vehicle type with regard to the installation of its tyres' means vehicles which do not differ in such essential respects as the types of tyres, minimum and maximum tyre size designations, wheel dimensions and off-sets as well as speed and load capabilities suitable for fitment, and the characteristics of the wheel guards;
- (2) 'type of tyre' means a range of tyres which do not differ in the following essential characteristics:
  - (a) the tyre class: C1, C2 or C3, as described in Article 8(1) of Regulation (EC) No 661/2009; and
  - (b) in the case of class C1, tyres, the characteristics of a type of pneumatic tyre as defined in paragraph 2.1 of UNECE Regulation No 30 (4);
  - (c) in the case of class C2 or C3 tyres, the characteristics of a type of pneumatic tyre as defined in paragraph 2.1 of UNECE Regulation No 54 (5);
- (3) 'tyre size designation' means the designation as defined in paragraph 2.17 of UNECE Regulation No 30 for class C1 tyres and paragraph 2.17 of UNECE Regulation No 54 for class C2 and C3 tyres;
- (4) 'wheel off-set' means the distance from the hub abutment face to the centre line of the rim;

<sup>(1)</sup> OJ L 200, 31.7.2009, p. 1.

<sup>(2)</sup> OJ L 263, 9.10.2007, p. 1.

<sup>(3)</sup> OJ L 129, 14.5.1992, p. 95.

<sup>(4)</sup> OJ L 201, 30.7.2008, p. 70.

<sup>(5)</sup> OJ L 183, 11.7.2008, p. 41.

- (5) 'pneumatic-tyre structure' means the technical characteristics of the tyre's carcass;
- (6) 'normal tyre' means a tyre or run flat tyre intended for normal on-road use;
- (7) 'run flat tyre' means a tyre as defined in paragraph 2.4.3 of UNECE Regulation No 64 (1);
- (8) 'temporary-use spare tyre' means a tyre different from a tyre intended to be fitted to any vehicle for normal driving conditions but intended only for temporary-use under restricted driving conditions;
- (9) 'wheel' means a complete wheel consisting of a rim and a wheel disc:
- (10) 'temporary-use spare wheel' means a wheel different from one of the normal wheels on the vehicle type;
- (11) 'unit' means an assembly of a wheel and tyre;
- (12) 'standard unit' means a unit which is capable of being fitted to the vehicle for normal operation;
- (13) 'spare unit' means a unit which is intended to be exchanged for a standard unit in case of malfunction of the latter and may be either of the following;
- (14) 'standard spare unit' means an assembly of a wheel and tyre identical in terms of wheel and tyre size designation, wheel offset and tyre structure to that fitted in the same axle position and to the particular vehicle variant and version for normal operation, including wheels produced from a different material and which may use different wheel fixing nut or bolt designs, but which is otherwise identical to the wheel intended for normal operation;
- (15) 'temporary-use spare unit' means an assembly of any wheel and tyre that does not fall within the definition of standard spare unit and which falls within one of the temporary-use spare unit type descriptions as defined in paragraph 2.10 of UNECE Regulation No 64;

- (16) 'speed category symbol' means the symbol as defined in paragraph 2.29 of UNECE Regulation No 30 for class class C1 tyres and paragraph 2.28 of UNECE Regulation No 54 for class C2 and C3;
- (17) 'load capacity index' means a number associated to the maximum load rating of the tyre in relation to the definition in paragraph 2.28 of UNECE Regulation No 30 for class C1 tyres and paragraph 2.27 of UNECE Regulation No 54 for class C2 and C3 tyres;
- (18) 'maximum load rating' means the mass which a tyre can carry when operated in conformity with requirements governing utilisation specified by the tyre manufacturer.

#### Article 3

# Provisions for EC type-approval of a vehicle with regard to the installation of its tyres

- 1. The manufacturer or the representative of the manufacturer shall submit to the type-approval authority the application for EC type-approval of a vehicle with regard to the installation of its tyres.
- 2. The application shall be drawn up in accordance with the model of the information document set out in Part 1 of Annex I.
- 3. If the relevant requirements set out in Annex II to this Regulation are met, the type-approval authority shall grant an EC type-approval and issue a type-approval number in accordance with the numbering system set out in Annex VII to Directive 2007/46/EC.
- A Member State may not assign the same number to another vehicle type.
- 4. For the purposes of paragraph 3, the approval authority shall deliver an EC type-approval certificate established in accordance with the model set out in Part 2 of Annex I.

## Article 4

## Entry into force

This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2011.

For the Commission
The President
José Manuel BARROSO

# ANNEX I

Administrative provisions for the type-approval of vehicles with regard to the installation of their tyres

## PART 1

## Information document

## MODEL

Information document No ... relating to the EC type-approval of a vehicle with regard to the installation of its tyres.

The following information, if applicable, shall be supplied in triplicate and include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units referred to in this information document have electronic controls, information concerning their performance shall be supplied.

0.	GENERAL
0.1.	Make (trade name of manufacturer):
0.2.	Туре:
0.2.1.	Commercial name(s) (if available):
0.3.	Means of identification of type, if marked on the vehicle (b):
0.3.1.	Location of that marking:
0.4.	Category of vehicle (c):
0.5.	Name and address of manufacturer:
0.8.	Name(s) and address(es) of assembly plant(s):
0.9.	Name and address of the manufacturer's representative (if any):
1. 1.1.	GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE  Photographs and/or drawings of a representative vehicle:
1.3.	Number of axles and wheels:
1.3.1.	Number and position of axles with tyres in dual (twin) formation:
1.3.2.	Number and position of steered axles:
1.3.3.	Powered axles (number, position, interconnection):
2.	MASSES AND DIMENSIONS (f) (8)
2.3.	Axle track(s) and width(s)
2.3.1.	Track of each steered axle (g4):
2.3.2.	Track of all other axles (84):
2.3.3.	Width of the widest rear axle:
2.3.4.	Width of the foremost axle (measured at the outermost part of the tyres excluding the bulging of the tyres close to the ground):
2.8.	Technically permissible maximum laden mass stated by the manufacturer (i) (3):
2.9	Technically permissible maximum mass on each axle

2.11.5.	Vehicle is/is not (1) suitable for towing loads
4.7.	Maximum vehicle design speed (in km/h) (4):
6.	SUSPENSION
6.6.	Tyres and wheels
6.6.1.	Tyre/wheel combination(s) (¹)
	(a) for tyres indicate;
	— size designation(s),
	— load-capacity index (3),
	— speed category symbol (3),
	- rolling resistance coefficient (measured in accordance with ISO 28580);
	(b) for wheels indicate rim size(s) and off-set(s).
6.6.1.1.	Axles
6.6.1.1.1.	Axle 1:
6.6.1.1.2.	Axle 2:
	etc.
	The many many (a) as a second and the share which many (a) the share (b) (b)
6.6.3.	Tyre pressure(s) as recommended by the vehicle manufacturer (kPa):
6.6.3.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:
	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s)
6.6.4.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:
6.6.4. 6.6.5.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):
6.6.4. 6.6.5. 6.6.6.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):
6.6.4. 6.6.5. 6.6.6. 9.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK
6.6.4. 6.6.5. 6.6.6. 9. 9.16.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK  Wheel guards
6.6.4. 6.6.5. 6.6.6. 9. 9.16.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK  Wheel guards  Brief description of the vehicle with regard to its wheel guards:
6.6.4. 6.6.5. 6.6.6. 9. 9.16. 9.16.1.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK  Wheel guards  Brief description of the vehicle with regard to its wheel guards:  MISCELLANEOUS
6.6.4. 6.6.5. 6.6.6. 9. 9.16. 9.16.1. 12.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK  Wheel guards  Brief description of the vehicle with regard to its wheel guards:  MISCELLANEOUS  Speed limitation devices
6.6.4. 6.6.5. 6.6.6. 9. 9.16. 9.16.1. 12. 12.6.	Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:  Brief description of temporary-use spare unit (if any):  Brief description of tyre pressure monitoring system (TPMS) (if fitted):  BODYWORK  Wheel guards  Brief description of the vehicle with regard to its wheel guards:  MISCELLANEOUS  Speed limitation devices  Manufacturer(s):

## Explanatory notes:

- (1) Delete where not applicable.
- (3) Please fill in here the upper and lower values for each variant.
- (b) If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).
- (°) Classified according to the definitions set out in Directive 2007/46/EC Part A of Annex II.
- (i) Where there is one version with a normal cab and another with a sleeper cab, both sets of masses and dimensions are to be stated.
- (8) Standard ISO 612: 1978 Road vehicles Dimensions of motor vehicles and towed vehicles terms and definitions.
- (g4) Term No 6.5.
- () For trailers or semi-trailers, and for vehicles coupled with a trailer or a semi-trailer, which exert a significant vertical load on the coupling device or the fifth wheel, this load, divided by standard acceleration of gravity, is included in the maximum technically permissible mass.
- (9) With respect to motor vehicles, if the vehicle manufacturer permits that certain controller functions are modified (e.g. by means of software, hardware, upgrading, selection, enabling, disabling) before or after the vehicle has been put into service, resulting in the vehicle having an increased maximum speed, the maximum possible speed achievable by means of adjustment of these controller functions is declared. With respect to trailers, the maximum speed as permitted by the vehicle manufacturer is declared.
- (\*) For tyres marked with the inscription ZR before the rim diameter code, intended to be fitted on vehicles whose maximum vehicle design speed exceeds 300 km/h, equivalent information shall be provided.

# PART 2

# EC type-approval certificate

MODEL

Format: A4 (210 × 297 mm)

# EC TYPE-APPROVAL CERTIFICATE

Stamp of type-approval authority

Communication concerning:		
<ul> <li>EC type-approval (¹)</li> <li>extension of EC type-approval (¹)</li> <li>refusal of EC type-approval (¹)</li> <li>withdrawal of EC type-approval (¹)</li> </ul>		
with regard to Regulation (EU) No/2011		
EC type-approval number:		
Reason for extension:		
SECTION I		
0.1. Make (trade name of manufacturer):		
0.2. Type:		
0.2.1. Commercial name(s) (if available):		
0.3. Means of identification of type, if marked on the vehicle (2):		
0.3.1. Location of that marking:		
0.4. Category of vehicle (3):		
0.5. Name and address of manufacturer:		
0.8. Name(s) and address(es) of assembly plant(s):		
0.9. Name and address of the manufacturer's representative (if any):		
SECTION II		
1. Additional information: see Addendum.		
2. Technical service responsible for carrying out the tests:		
3. Date of test report:		
4. Number of test report:		
5. Remarks (if any): see Addendum.		
6. Place:		
7. Date:		
8. Signature:		
Attachments: Information package.		
Test report		

<sup>(1)</sup> Delete where not applicable.
(2) If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).

<sup>(3)</sup> As defined in Directive 2007/46/EC, Annex II, Section A.

# Addendum

# to EC type-approval certificate No ...

1.	Additional information:
1.1.	Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
1.2.	Tyre/wheel combination(s) (including tyre size, rim size and wheel off-set):
1.3.	The minimum speed category symbol compatible with the maximum vehicle design speed (of each variant) (for tyres marked with the inscription ZR before the rim diameter code, intended to be fitted on vehicles whose maximum vehicle design speed exceeds 300 km/h, equivalent information shall be provided)
1.4.	The minimum load-capacity index compatible with the technically permissible maximum mass on each axle (of each variant) (if applicable adjusted according to paragraph 3.2.2 of Annex II)
1.5.	Tyre/wheel combination(s) (including tyre size, rim size and wheel off-set) to be used with the snow traction device(s):
2.	Vehicle of category $M_1$ is/is not (1) suitable for towing loads and the load rating of the rear tyres is exceeded by $\%$
3.	The vehicle is/is not (¹) approved according to UNECE Regulation No 64 with regard to its temporary-use spare unit.
3.1.	Vehicle category $M_1$ : yes/no (1), type $1/2/3/4/5$ (1)
3.2.	Vehicle category $N_1$ : yes/no (1), type $1/2/3/5$ (1)
4.	Vehicle is/is not $(^1)$ approved according to UNECE Regulation No 64 with regard to its tyre pressure monitoring system (TPMS).
4.1.	Brief description of the tyre pressure monitoring system (TPMS) (if fitted):
5.	Remarks:

<sup>(1)</sup> Delete where not applicable.

#### ANNEX II

#### Requirements for vehicles with regard to the installation of their tyres

- 1. GENERAL REQUIREMENTS
- 1.1. Subject to the provisions of paragraph 5.4, every tyre fitted to a vehicle, including where applicable any spare tyre, shall meet the requirements of Regulation (EC) No 661/2009 and its implementing measures.
- TYRE FITMENT
- 2.1. All tyres normally fitted to the vehicle, thus excluding any temporary-use spare unit, shall have the same structure.
- 2.2. All of the tyres normally fitted to one axle shall be of the same type.
- 2.3. The space in which the wheel revolves shall be such as to allow unrestricted movement when using the maximum permissible size of tyres and rim widths, taking into account the minimum and maximum wheel off-sets, within the minimum and maximum suspension and steering constraints as declared by the vehicle manufacturer. This shall be verified by performing the checks with the largest and the widest tyres, taking into account the applicable dimensional tolerances (i.e. maximum envelope) related to the tyre size designation as specified in the relevant UNECE Regulation.
- 2.4. The technical service may agree to an alternative test procedure (e.g. virtual testing) to verify that the requirements of paragraph 2.3 of this Annex are met.
- 3. LOAD CAPACITY
- 3.1. Subject to the provisions of paragraph 5 of this Annex, the maximum load rating of every tyre as determined in paragraph 3.2 of this Annex, including a spare tyre (if provided), with which the vehicle is fitted shall be:
- 3.1.1. In the case of a vehicle fitted with tyres of the same type in single formation: at least equal to half of the technically permissible maximum axle mass for the most heavily loaded axle, as declared by the manufacturer of the vehicle.
- 3.1.2. In the case of a vehicle fitted with tyres of more than one type, in single formation: at least equal to half of the technically permissible maximum axle mass as declared by the manufacturer of the vehicle, in respect of the relevant axle.
- 3.1.3. In the case of a vehicle fitted with tyres of class C1 in dual (twin) formation: at least equal to 0,27 times the technically permissible maximum axle mass, as declared by the manufacturer of the vehicle, in respect of the relevant axle.
- 3.1.4. In the case of axles fitted with tyres of class C2 or C3 in dual (twin) formation: at least equal to 0,25 times, with reference to the load capacity index for dual application, the technically permissible maximum axle mass as declared by the manufacturer of the vehicle, in respect of the relevant axle.
- 3.2. The maximum load rating of a tyre is determined as follows:
- 3.2.1. In the case of tyres of class C1, the 'maximum load rating' as referred to in paragraph 2.31 of UNECE Regulation No 30 is taken into account.
- 3.2.2. In the case of tyres of class C2 or C3, the 'table load-capacity variation with speed' as referred to in paragraph 2.29 of UNECE Regulation No 54 is taken into account, which shows, as a function of the load-capacity indices and nominal-speed-category symbols, the load variations which a pneumatic tyre can withstand taking into account the maximum design speed of the vehicle.
- 3.3. The relevant information shall be stated clearly in the vehicle owner's handbook in order to ensure that suitable replacement tyres with an appropriate load capacity shall be fitted when necessary, once the vehicle has been put into service.
- 4. SPEED CAPACITY
- 4.1. Every tyre with which the vehicle is normally fitted shall bear a speed category symbol.
- 4.1.1. In the case of a tyre of class C1, the speed category symbol shall be compatible with the maximum vehicle design speed and shall take into account, in the case of tyres of speed categories V, W and Y, the maximum load rating as described in UNECE Regulation No 30.
- 4.1.2. In the case of a tyre of class C2 or C3, the speed category symbol shall be compatible with the maximum vehicle design speed and the applicable load/speed combination derived from the 'table load-capacity variation with speed' as described in paragraph 3.2.2 of this Annex.

- 4.2. The requirements of paragraphs 4.1.1 and 4.1.2 shall not apply in the following situations:
- 4.2.1. In the case of temporary-use spare units for which paragraph 6 of this Annex applies.
- 4.2.2. In the case of vehicles normally equipped with ordinary tyres and occasionally fitted with snow tyres (i.e. with the alpine or three-peaked mountain snowflake symbol marking) where in such a case the speed category symbol of the snow tyre shall correspond to a speed either greater than the maximum vehicle design speed or not less than 160 km/h (or both). However, if the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted snow tyres, a maximum speed warning label, specifying the lowest value of the maximum speed capability of the fitted snow tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver. Other tyres with improved snow traction (i.e. with the M+S marking, but without the alpine or three-peaked mountain snowflake symbol marking) shall comply with the requirements of paragraphs 4.1.1 and 4.1.2 of this Annex.
- 4.2.3. In the case of vehicles equipped with professional off-road tyres with the POR marking. However, if the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted special use tyres, a maximum speed warning label, specifying the lowest value of the maximum speed capability of the fitted special use tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
- 4.2.4. In the case of vehicles of categories M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> or N<sub>3</sub> equipped with a speed limitation device (SLD) approved according to UNECE Regulation No 89 (¹) where in such a case the speed symbol of the tyres shall be compatible with the speed at which the limitation is set. However, if the vehicle manufacturer has foreseen that the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted tyres, a maximum speed warning label, specifying the maximum speed capability of the tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
- 4.2.5. In the case of vehicles of categories  $M_1$  or  $N_1$  equipped with an on-board system fulfilling a speed limitation function where in such a case the speed symbol of the tyres shall be compatible with the speed at which the limitation is set. However, if the vehicle manufacturer has foreseen that the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted tyres, a maximum speed warning label, specifying the maximum speed capability of the tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
- 4.3. The relevant information shall be stated clearly in the vehicle owner's handbook in order to ensure that suitable replacement tyres with an appropriate speed capacity shall be fitted when necessary, once the vehicle has been put into service.
- 5. SPECIAL CASES
- 5.1. In the case of trailers of categories  $O_1$  and  $O_2$ , with a maximum vehicle design speed of 100 km/h or less and fitted with tyres of class C1 in single formation, the maximum load rating of every tyre shall be at least equal to 0,45 times the technically permissible maximum axle mass for the most heavily loaded axle, as declared by the manufacturer of the trailer. For tyres in dual (twin) formation this factor shall be at least equal to 0,24. In such cases a maximum operating speed warning label, specifying the maximum vehicle design speed, shall be permanently and durably affixed near the front coupling device of the trailer.
- 5.2. In the case of vehicles of categories  $M_1$  and  $N_1$ , which are designed to be capable of towing a trailer, the additional load imposed at the trailer coupling device may cause the rear tyre maximum load ratings to be exceeded in case of class C1 tyres, but not by more than 15 %. In such a case, the vehicle owner's handbook shall contain clear information and advice on the maximum permissible vehicle speed when towing a trailer, in any case not exceeding 100 km/h, and on the rear tyre pressure, at least 20 kPa (0,2 bar) above the tyre pressure(s) as recommended for normal use (i.e. without a trailer attached).
- 5.3. In the case of some special vehicles, as listed below, fitted with tyres of class C2 or C3, the 'table load-capacity variation with speed' as described in paragraph 3.2.2 of this Annex shall not be applied. In such a case, the tyre maximum load rating to check against the technically permissible maximum axle mass (see paragraphs 3.1.2 to 3.1.4) shall be determined by multiplying the load corresponding to the load capacity index by an appropriate coefficient which is related to the type of vehicle and its use, rather than to the maximum vehicle design speed, and the requirements of paragraphs 4.1.1 and 4.1.2 of this Annex shall not apply.

The appropriate coefficients shall be the following:

5.3.1. 1,15 in the case of a Class I or Class A vehicle (M<sub>2</sub> or M<sub>3</sub>), as referred to in paragraphs 2.1.1.1 (Class I) and 2.1.2.1 (Class A) of UNECE Regulation No 107 (2).

<sup>(1)</sup> OJ L 158, 19.5.2007, p. 1.

<sup>(2)</sup> OJ L 255, 29.9.2010, p. 1.

- 5.3.2. 1,10 in the case of vehicles of category N which are specifically designed for use over short distances in urban and suburban applications, such as street and road sweepers or refuse collection vehicles, provided that the maximum vehicle design speed does not exceed 60 km/h.
- 5.4. In exceptional cases, where vehicles are designed for conditions of use which are incompatible with the characteristics of tyres of class C1, C2 or C3 and it is therefore necessary to fit tyres with different characteristics, the requirements of paragraph 1.1 of this Annex shall not apply, provided that all of the following conditions are met:
- 5.4.1. the tyres shall be approved according to either UNECE Regulation No 75 (1) or UNECE Regulation No 106 (2); and
- 5.4.2. the type-approval authority and technical service are satisfied that the tyres fitted are suitable for the operating conditions of the vehicle. The nature of the exemption and motivation of acceptance shall be stated in the test report as well as under the remarks on the type-approval certificate.
- 6. SPARE WHEELS AND TYRES
- 6.1. In cases where a vehicle is provided with a spare unit, it shall be one of the following:
- 6.1.1. A standard spare unit in the same size as the tyres actually fitted to the vehicle.
- 6.1.2. A temporary-use spare unit of a type suitable for use on the vehicle, however, vehicles of categories other than  $M_1$  or  $N_1$  shall not be equipped or fitted with a temporary-use spare unit.
- 6.1.2.1. If specific precautions have to be taken in order to fit a temporary-use spare unit to the vehicle (e.g. temporary-use spare unit is only to be fitted on the front axle and therefore a front standard unit must first be fitted on the rear axle in order to address a malfunction of a rear standard unit) this shall be stated clearly in the vehicle owner's handbook and compliance with the appropriate aspects of paragraph 2.3 of this Annex shall be verified.
- 6.2. Every vehicle provided with a temporary-use spare unit or run flat tyres shall hold a valid type-approval under UNECE Regulation No 64 with respect to the requirements concerning the equipment of vehicles with temporary-use spare units and run flat tyres.

<sup>(1)</sup> Has not been published yet. Will be published by May 2011.

<sup>(2)</sup> OJ L 257, 30.9.2010, p. 231.