Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance)

ANNEX III

Regulation (EU) 2017/1151 is corrected as follows:

(1) Annex I is corrected as follows:

(a) in point 2.4 Figure I.2.4 is replaced by the following:

FIGURE I.2.4

Application of test requirements for type-approval and extensions

Vehicle category	**Vehicles with positive ignition engines including hybrids**[a]								**Vehicles with compression ignition engines including hybrids**	**Pure electric vehicles**	**Hydrogen fuel cell vehicles**
	Mono fuel				**Bi-fuel**[c]			**Flex-fuel**[c]			
Reference fuel	Petrol (E10)	LPG	NG/ Biomethane	Hydrogen (ICE)	Petrol (E10) – LPG	Petrol (E10) – NG/ Biomethane	Petrol (E10) – Hydrogen (ICE)	Petrol (E10) – Ethanol (E85)	Diesel (B7)[e]	—	Hydrogen (Fuel Cell)
Gaseous pollutants (Type 1 test)	Yes	Yes	Yes	Yes[d]	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	—	—
PM (Type 1 test)	Yes[b]	—	—	—	Yes[b] (petrol only)	Yes[b] (petrol only)	Yes[b] (petrol only)	Yes[b] (both fuels)	Yes	—	—
PN	Yes[b]	—	—	—	Yes[b] (petrol only)	Yes[b] (petrol only)	Yes[b] (petrol only)	Yes[b] (both fuels)	Yes	—	—
Gaseous pollutants, RDE (Type	Yes	Yes	Yes	Yes[d]	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	—	—

a Specific test procedures for hydrogen and flex fuel biodiesel vehicles will be defined at a later stage.

b Particulate mass and particle number limits and respective measurement procedures shall apply only to vehicles with direct injection engines

c When a bi-fuel vehicle is combined with a flex fuel vehicle, both test requirements are applicable.

d Only NO_x emissions shall be determined when the vehicle is running on hydrogen.

e Further requirements for biodiesel will be defined later.

1A test)											
PN, RDE (Type 1A test)	Yes[b]	—	—	—	Yes (both fuels)[b]	Yes (both fuels)[b]	Yes (both fuels)[b]	Yes (both fuels)[b]	Yes	—	—
Idle emissions (Type 2 test)	Yes	Yes	Yes	—	Yes (both fuels)	Yes (both fuels)	Yes (petrol only)	Yes (both fuels)	—	—	—
Crankcase emissions (Type 3 test)	Yes	Yes	Yes	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	—	—	—
Evaporative emissions (Type 4 test)	Yes	—	—	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	—	—	—
Durability (Type 5 test)	Yes	Yes	Yes	Yes	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes	—	—
Low temperature emissions (Type 6 test)	Yes	—	—	—	Yes (petrol only)	Yes (petrol only)	Yes (petrol only)	Yes (both fuels)	—	—	—
In-service conformity	Yes	Yes	Yes	Yes	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	—	—
On-board diagnostics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	—	—

a Specific test procedures for hydrogen and flex fuel biodiesel vehicles will be defined at a later stage.

b Particulate mass and particle number limits and respective measurement procedures shall apply only to vehicles with direct injection engines

c When a bi-fuel vehicle is combined with a flex fuel vehicle, both test requirements are applicable.

d Only NO_x emissions shall be determined when the vehicle is running on hydrogen.

e Further requirements for biodiesel will be defined later.

CO_2 emissions, fuel consumption, electric energy consumption and electric range	Yes	Yes	Yes	Yes	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes (both fuels)	Yes	Yes	Yes
Smoke opacity	—	—	—	—	—	—	—	—	Yes	—	—
Engine power	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

a	Specific test procedures for hydrogen and flex fuel biodiesel vehicles will be defined at a later stage.
b	Particulate mass and particle number limits and respective measurement procedures shall apply only to vehicles with direct injection engines
c	When a bi-fuel vehicle is combined with a flex fuel vehicle, both test requirements are applicable.
d	Only NO_x emissions shall be determined when the vehicle is running on hydrogen.
e	Further requirements for biodiesel will be defined later.

(b) Appendix 3 is corrected as follows:

(i) the following points are inserted:

3.5.7.2.1.1. Vehicle high (NEDC): …g/km

3.5.7.2.1.2. Vehicle low (if applicable) (NEDC): …g/km

3.5.7.2.2.1. Vehicle high (NEDC): …g/km

3.5.7.2.2.2. Vehicle low (if applicable) (NEDC): …g/km

3.5.7.2.2.3. Vehicle M (if applicable) (NEDC): …g/km

3.5.7.2.3.1. Vehicle high (NEDC): …g/km

3.5.7.2.3.2. Vehicle low (if applicable) (NEDC): …g/km

3.5.7.2.3.3. Vehicle M (if applicable) (NEDC): …g/km;

(ii) in point 3.5.8.3 the explanatory notes corresponding to the letters ([w]) to ([w5]) are deleted

(iii) after the table in the model information document the following text is inserted:
Explanatory notes

([1]) Delete where not applicable (there are cases where nothing needs to be deleted when more than one entry is applicable).

([2]) Specify the tolerance.

([3]) Please fill in here the upper and lower values for each variant.

([6]) Vehicles can be fuelled with both petrol and a gaseous fuel but, where the petrol system is fitted for emergency purposes or starting only and of which the petrol tank cannot contain more than 15 litres of petrol, will be regarded for the test as vehicles which can only run a gaseous fuel.

([7]) Optional equipment that affects the dimensions of the vehicle shall be specified.

([c]) Classified according to the definitions set out in Part A of Annex II.

([f]) 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.

([g]) Standard ISO 612: 1978 — Road vehicles — Dimensions of motor vehicles and towed vehicles — terms and definitions.

([h]) The mass of the driver is assessed at 75 kg.

The liquid containing systems (except those for used water that must remain empty) are filled to 100 % of the capacity specified by the manufacturer.

The information referred to in points 2.6(b) and 2.6.1(b) do not need to be provided for vehicle categories N 2, N 3, M 2, M 3, O 3, and O 4.

([i]) 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.

([k]) In the case of a vehicle that can run either on petrol, diesel, etc., or also in combination with another fuel, items shall be repeated.

In the case of non-conventional engines and systems, particulars equivalent to those referred to here shall be supplied by the manufacturer.

([l]) This figure shall be rounded off to the nearest tenth of a millimetre.

([m]) This value shall be calculated (π = 3,1416) and rounded off to the nearest cm3.

([n]) Determined in accordance with the requirements of Regulation (EC) No 715/2007 or Regulation (EC) No 595/2009 as applicable.

([o]) Determined in accordance with the requirements of Council Directive 80/1268/EEC (OJ L 375, 31.12.1980, p. 36).

([p]) The specified particulars are to be given for any proposed variants.

([q]) With respect to trailers, maximum speed permitted by the manufacturer.

([w]) Eco-innovations.

([w1]) Expand the table if necessary, using one extra row per eco-innovation.

([w2]) Number of the Commission Decision approving the eco-innovation.

([w3]) Assigned in the Commission Decision approving the eco-innovation.

([w4]) Under agreement of the type-approval authority, if a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.

([w5]) Sum of the CO_2 emissions savings of each individual eco-innovation.

(iv) in the Appendix to information document, the table is replaced by the following:

VL (if existing)		**VH**		**V representative (only for road load matrix family)**	
2.2.	Vehicle bodywork type (variant/ version)	2.2.	Vehicle bodywork type (variant/ version)	2.2.	Vehicle bodywork type (variant/ version)
2.3.	Road load method used (measurement or calculation by road load family)	2.3.	Road load method used (measurement or calculation by road load family)	2.3.	Road load method used (measurement or calculation by road load matrix family)

2.4.	Road load information from the test	2.4.	Road load information from the test	2.4.	Road load information from the test
2.4.1.	Tyres make and type:	2.4.1.	Tyres make and type:	2.4.1.	Tyres make and type:
2.4.2.	Tyre dimensions (front/ rear):	2.4.2.	Tyre dimensions (front/ rear):	2.4.2.	Tyre dimensions (front/ rear):
2.4.4.	Tyre pressure (front/ rear) (kPa):	2.4.4.	Tyre pressure (front/ rear) (kPa):	2.4.4.	Tyre pressure (front/ rear) (kPa):
2.4.5.	Tyre rolling resistance (front/ rear) (kg/ t):	2.4.5.	Tyre rolling resistance (front/ rear) (kg/ t):	2.4.5.	Tyre rolling resistance (front/ rear) (kg/ t) and RR class (A-G):
2.4.6.	Vehicle test mass (kg):	2.4.6.	Vehicle test mass (kg):	2.4.6.	Vehicle test mass (kg):
2.4.7.	Delta Cd.A compared to VH (m^2)				
2.4.8.	Road load coefficient f0, f1, f2	2.4.8.	Road load coefficient f0, f1, f2	2.4.8.	Road load coefficient f0, f1, f2
				2.4.9.	Frontal area m^2 (0,0000 m^2)

		2.4.10.	Calculation tool information to calculate VH and VL road loads

(c) in Appendix 4, the 'Addendum to EC type-approval certificate No …' is corrected as follows:

(i) in point 2.1, the following table is inserted after the table entitled 'ATCT test':

'ATCT test Result	**CO(mg/km)**	**THC(mg/km)**	**NMHC(mg/km)**	**NO_x(mg/km)**	**THC + NOx(mg/km)**	**PM(mg/km)**	**PN(#.10^{11}/km)**
Measured[ab]							

a Where applicable.

b Round to two decimal numbers.';

(ii) in point 2.1, the words 'Type 4: … g/test' are replaced by the words 'Type 4: … g/test; test procedure in accordance with Annex VI to Regulation (EC) No 692/2008: Yes/No';

(iii) in the Appendix to the Addendum to the Type Approval Certificate, point 3 is replaced by the following:

3. Deviation and verification factors (determined in accordance with point 3.2.8 of Annex I to Implementing Regulations (EU) 2017/1152 and (EU) 2017/1153):

Deviation factor (if applicable)	
Verification factor (if applicable)	"1" or "0"
Hash identifier code of the correlation tool output report	

(d) in Appendix 6, Table 1 is replaced by the following:

TABLE 1

'Characteri	**Emission standard**	**OBD standard**	**Vehicle category and class**	**Engine**	**Implementation date: new types**	**Implementation date: new vehicles**	**Last date of registration**
AA	Euro 6c	Euro 6-1	M, N1 class I	PI, CI			31.8.2018

BA	Euro 6b	Euro 6-1	M, N1 class I	PI, CI			31.8.2018
AB	Euro 6c	Euro 6-1	N1 class II	PI, CI			31.8.2019
BB	Euro 6b	Euro 6-1	N1 class II	PI, CI			31.8.2019
AC	Euro 6c	Euro 6-1	N1 class III, N2	PI, CI			31.8.2019
BC	Euro 6b	Euro 6-1	N1 class III, N2	PI, CI			31.8.2019
AD	Euro 6c	Euro 6-2	M, N1 class I	PI, CI		1.9.2018	31.8.2019
AE	Euro 6c-EVAP	Euro 6-2	N1 class II	PI, CI		1.9.2019	31.8.2020
AF	Euro 6c-EVAP	Euro 6-2	N1 class III, N2	PI, CI		1.9.2019	31.8.2020
AG	Euro 6d-TEMP	Euro 6-2	M, N1 class I	PI, CI	1.9.2017[a]		31.8.2019
BG	Euro 6d-TEMP-EVAP	Euro 6-2	M, N1 class I	PI, CI	1.9.2019	1.9.2019	31.12.2020
AH	Euro 6d-TEMP	Euro 6-2	N1 class II	PI, CI	1.9.2018[a]		31.8.2019
BH	Euro 6d-TEMP-EVAP	Euro 6-2	N1 class II	PI, CI	1.9.2019	1.9.2020	31.12.2021
AI	Euro 6d-TEMP	Euro 6-2	N1 class III, N2	PI, CI	1.9.2018[a]		31.8.2019
BI	Euro 6d-TEMP-EVAP	Euro 6-2	N1 class III, N2	PI, CI	1.9.2019	1.9.2020	31.12.2021
AJ	Euro 6d	Euro 6-2	M, N1 class I	PI, CI	1.1.2020	1.1.2021	

AK	Euro 6d	Euro 6-2	N1 class II	PI, CI	1.1.2021	1.1.2022	
AL	Euro 6d	Euro 6-2	N1 class III, N2	PI, CI	1.1.2021	1.1.2022	
AX	n.a.	n.a.	All vehicles	Battery full electric			
AY	n.a.	n.a.	All vehicles	Fuel cell			
AZ	n.a.	n.a.	All vehicles using certificates according to point 2.1.1 of Annex I	PI, CI			

a This limitation does not apply if a vehicle was type-approved in accordance with the requirements of Regulation (EC) No 715/2007 and its implementing legislation prior to 1 September 2017 in the case of category M and N1 class I vehicles, or prior to 1 September 2018 in the case of category N1 class II and III and category N2 vehicles, according to the last subparagraph of Article 15(4).

Key:

"Euro 6-1" OBD standard	=	Full Euro 6 OBD requirements but with preliminary OBD threshold limits as defined in point 2.3.4 of Annex XI and partially relaxed IUPR;
"Euro 6-2" OBD standard	=	Full Euro 6 OBD requirements but with final OBD threshold limits as defined in point 2.3.3 of Annex XI;
"Euro 6b" emissions standard	=	Euro 6 emission requirements including revised measurement procedure for particulate matter, particle number standards (preliminary values for PI direct injection);
"Euro 6c" emissions standard	=	RDE NOx testing for monitoring only (no NTE emission limits applied), otherwise full Euro 6 tailpipe emission requirements (including PN RDE);
"Euro 6c-EVAP" emissions standard	=	RDE NOx testing for monitoring only (no NTE emission limits applied), otherwise full Euro 6 tailpipe emission requirements (including PN RDE), revised evaporative emissions test procedure;
"Euro 6d-TEMP" emissions standard	=	RDE NOx testing against temporary conformity factors, otherwise full Euro 6 tailpipe emission requirements (including PN RDE);
"Euro 6d-TEMP-EVAP" emissions standard	=	RDE NOx testing against temporary conformity factors, otherwise full Euro 6 tailpipe emission requirements (including PN RDE), revised evaporative emissions test procedure;
"Euro 6d" emissions standard	=	RDE testing against final conformity factors, otherwise full Euro 6 tailpipe emission requirements, revised evaporative emissions test procedure.';

(e) Appendix 8b is corrected as follows:

(i) in point 2.1.3, the following text is inserted before the table:

The manufacturer and the type approval authority shall agree which vehicle test model is representative.

The vehicle parameters test mass, tyre rolling resistance and frontal area of both a vehicle H_M and L_M shall be determined in such a way that vehicle H_M produces the highest cycle energy demand and vehicle L_M the lowest cycle energy demand from the road load matrix family. The manufacturer and the type approval authority shall agree on the vehicle parameters for vehicle H_M and L_M.

The road load of vehicles H_M and L_M of the road load matrix family shall be calculated according to paragraph 5.1 of Sub-Annex 4 of Annex XXI.;

(ii) in point 2.4.3, the words ‘Repeat §2.4.1. with the representative vehicle data if applicable’ are deleted;

(iii) in point 2.6.1, the last row of the table ‘ROAD LOAD MATRIX (Annex XXI, Sub Annex 4, §5)’ is replaced by the following:

Final results		Torque method: c0r = c1r = c2r = and f0r (calculated for vehicle H_M) = f2r (calculated for vehicle H_M) = f0r (calculated for vehicle L_M) = f2r (calculated for vehicle L_M) = Coastdown method: f0r (calculated for vehicle H_M) = f2r (calculated for vehicle H_M) =

		f0r (calculated for vehicle L_M) = f2r (calculated for vehicle L_M) =.

(f) in the table in Appendix 8c the first 4 rows are replaced by the following:

Adjustable wheel alignment parameters Annex XXI, Sub-Annex 4, §4.2.1.8.3.	:	
The coefficients, c0, c1 and c2,	:	c0 = c1 = c2 =
The coastdown times measured on the chassis dynamometer Annex XXI, Sub-Annex 4, §4.4.4.	:	**Reference speed (km/h)** / **Coastdown time (s)** 130 120 110 100 90 80 70 60 50 40 30 20
Additional weight may be placed on or in the vehicle to eliminate tyre slippage Annex XXI, Sub-Annex 4, §7.1.1.1.1.	:	weight (kg) on/in the vehicle
The coastdown times after performing the vehicle coast down procedure according	:	**Reference speed (km/h)** / **Coastdown time (s)** 130

paragraph 4.3.1.3 of Annex XXI, Sub-Annex 4 Annex XXI, Sub-Annex 4, §8.2.4.2.		120	
		110	
		100	
		90	
		80	
		70	
		60	
		50	
		40	
		30	
		20	

(2) Annex IIIA is corrected as follows:

(a) point 3.1 is replaced by the following:

3.1. The following requirements apply to PEMS tests referred to in Article 3(11), second subparagraph.

(b) Appendix 6 is corrected as follows:

(i) in point 2 the line corresponding to the symbol 'a_{ref}' is replaced by the following:

a_{ref} …Reference acceleration for $P_{drive;}$

(ii) in point 2 the line corresponding to the symbol 'TM' is replaced by the following:

TM …Test mass of the vehicle;

(iii) in point 2 the line corresponding to the symbol 'v_{ref}' is replaced by the following:

v_{ref} …Reference velocity for $P_{drive;}$

(iv) point 3.4.1 shall be replaced by the following:

3.4.1. The power classes and the corresponding time shares of the power classes in normal driving are defined for normalised power values to be representative for any LDV (Table 1-2).

Table 1-2

Normalised standard power frequencies for urban driving and for a weighted average for a total trip consisting of 1/3 urban, 1/3 road, 1/3 motorway mileage

Power class No	**$P_{c,norm,j}$ [-]**		**Urban**	**Total trip**
	From >	**to ≤**	**Time share, $t_{C,j}$**	

Table 1-2

Normalised standard power frequencies for urban driving and for a weighted average for a total trip consisting of 1/3 urban, 1/3 road, 1/3 motorway mileage

1		– 0,1	21,9700 %	18,5611 %
2	– 0,1	0,1	28,7900 %	21,8580 %
3	0,1	1	44,0000 %	43,4582 %
4	1	1,9	4,7400 %	13,2690 %
5	1,9	2,8	0,4500 %	2,3767 %
6	2,8	3,7	0,0450 %	0,4232 %
7	3,7	4,6	0,0040 %	0,0511 %
8	4,6	5,5	0,0004 %	0,0024 %
9	5,5		0,0003 %	0,0003 %

The $P_{c,norm}$ columns in Table 1-2 shall be de-normalised by multiplication with P_{drive}, where P_{drive} is the actual wheel power of the tested car in the type approval settings at the chassis dynamometer at v_{ref} and a_{ref}.

$P_{c,j}$ [kW] = $P_{c,norm,\,j}$ * P_{drive}

$$P_{drive} = \frac{v_{ref}}{3{,}6} \times \left(f_0 + f_1 \times v_{ref} + f_2 \times v_2^{ref} + TM_{WLTP} \times \alpha_{ref}\right) \times 0{,}001$$

Where:

— j is the power class index according to Table 1

— v_{ref} = 66 km/h

— α_{ref} = 0,44 m/s^2

— The driving resistance coefficients f_0, f_1, f_2 are the target WLTP road load values for the individual vehicle to be PEMS tested, as defined in point 2.4 of sub-Annex 4 of Annex XXI

— TM_{WLTP} is the WLTP test mass of the individual vehicle to be PEMS tested, as defined in point 3.2.25 of Annex XXI.

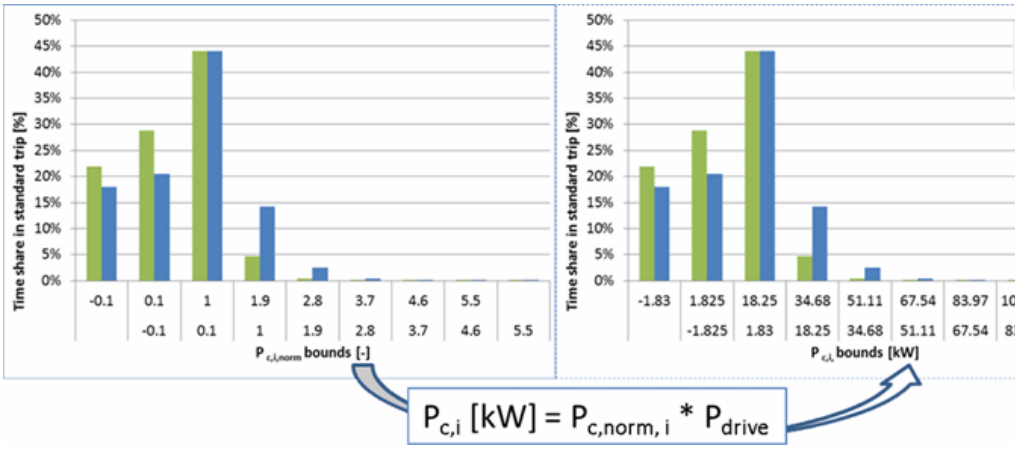
(v) point 3.4.2 is replaced by the following:

3.4.2. *Correction of the wheel power classes*

The maximum wheel power class to be considered is the highest class in Table 1 which includes (P_{rated} × 0,9). The time shares of all excluded classes shall be added to the highest remaining class.

From each $P_{c,norm,j}$ the corresponding $P_{c,j}$ shall be calculated to define the upper and lower bounds in kW per wheel power class for the tested vehicle as shown in Figure 1.

Figure 1 **Schematic picture for converting the normalised standardised power frequency into a vehicle specific power frequency**



An example for this de-normalisation is given below.

Example for input data:

Parameter	Value
f_0 [N]	86
f_1 [N/(km/h)]	0,8
f_2 [N/(km/h)^2]	0,036
TM [kg]	1 590
P_{rated} [kW]	120 (Example 1)
P_{rated} [kW]	75 (Example 2)

Corresponding results:

P_{drive} = 66[km/h]/3,6 * (86 + 0,8[N/(km/h)] * 66[km/h] + 0,036[N/(km/h)] * (66[km/h])^2 + 1 590[kg] * 0,44[m/s^2]) * 0,001

P_{drive} = 18,25 kW

TABLE 2

De-normalised standard power frequency values from Table 1 (for Example 1)

Power class No	$P_{c,j}$ [kW]		Urban	Total trip
	From >	to ≤	Time share, $t_{C,j}$ [%]	
1		– 1,825	21,97 %	18,5611 %

([1]) The highest wheel power class to be considered is the one containing 0,9 × Prated. Here 0,9 × 120 = 108.

2	– 1,825	1,825	28,79 %	21,8580 %
3	1,825	18,246	44,00 %	43,4583 %
4	18,246	34,667	4,74 %	13,2690 %
5	34,667	51,088	0,45 %	2,3767 %
6	51,088	67,509	0,045 %	0,4232 %
7	67,509	83,930	0,004 %	0,0511 %
8	83,930	100,351	0,0004 %	0,0024 %
9	100,351		0,00025 %	0,0003 %

([1]) The highest wheel power class to be considered is the one containing 0,9 × Prated. Here 0,9 × 120 = 108.

TABLE 3

De-normalised standard power frequency values from Table 1 (for Example 2)

Power class No	**$P_{c,j}$ [kW]**		**Urban**	**Total trip**
	From >	**to ≤**	**Time share, $t_{C,j}$ [%]**	
1	All < – 1,825	– 1,825	21,97 %	18,5611 %
2	– 1,825	1,825	28,79 %	21,8580 %
3	1,825	18,246	44,00 %	43,4583 %
4	18,246	34,667	4,74 %	13,2690 %
5	34,667	51,088	0,45 %	2,3767 %
6[a]	51,088	All > 51,088	0,04965 %	0,4770 %
7	67,509	83,930	—	—
8	83,930	100,351	—	—
9	100,351	All > 100,375	—	—;

a The highest class wheel power class to be considered is the one containing 0,9 × P_{rated}. Here 0,9 × 75 = 67,5.

(3) in Annex V, point 2.3 is replaced by the following:

2.3. The road load coefficients to be used shall be those for vehicle low (VL). If VL does not exist or the total load of vehicle (VH) at 80 km/h is higher than the total load of VL at 80 km/h + 5 %, then the VH road load shall be used. VL and VH are defined in point 4.2.1.2 of Sub-Annex 4 to Annex XXI. Alternatively the manufacturer may choose to use road loads that have been determined according to the provisions of Appendix 7 of Annex 4a of UN/ECE Regulation No 83 for a vehicle included in the interpolation family.;

(4) in Annex VI point 5.2.8 is replaced by the following:

5.2.8. As an exception to points 5.2.1 to 5.2.7 above, the Manufacturers using multilayer or metal tanks may choose to use the following assigned permeability factor (APF) instead of the complete measurement procedure mentioned above:

APF multilayer/metal tank = 120 mg/24 h;

(5) in Annex VII, point 3.10 is replaced by the following:

3.10. The road load coefficients to be used shall be those for vehicle low (VL). If VL low does not exist or the total load of vehicle (VH) at 80 km/h is higher than the total load of VL at 80 km/h + 5 %, then the VH road load shall be used. VL and VH are defined in point 4.2.1.2 of Sub-Annex 4 to Annex XXI.;

(6) in Annex VIII, point 3.3 is replaced by the following:

3.3. The road load coefficients to be used shall be those for vehicle low (VL). If VL low does not exist or the total load of vehicle (VH) at 80 km/h is higher than the total load of VL at 80 km/h + 5 %, then the VH road load shall be used. VL and VH are defined in point 4.2.1.2 of Sub-Annex 4 to Annex XXI. Alternatively the manufacturer may choose to use road loads that have been determined according to the provisions of Appendix 7 of Annex 4a of UN/ECE Regulation No 83 for a vehicle included in the interpolation family.;

(7) in Annex XII, point 5.4 is replaced by the following:

5.4. The manufacturer of the base vehicle shall test a vehicle representative of a completed multi-stage vehicle for road load determination. The manufacturer of the base vehicle shall calculate the road load coefficients of vehicle H_M and L_M of a road load matrix family as set in paragraph 5 of Sub-Annex 4 to Annex XXI and shall determine the CO_2 emission and fuel consumption of both vehicles. The manufacturer of the base vehicle shall make available a calculation tool to establish, on the basis of the parameters of completed vehicles, the final fuel consumption and CO_2 values as set in Sub-Annex 7 to Annex XXI.;

(8) Annex XXI is corrected as follows:

(a) point 3.2.19 is replaced by the following:

3.2.19. "Target road load" means the road load to be reproduced on the chassis dynamometer.;

(b) Sub-Annex 4 is amended as follows:

(i) in point 5.1.1.1, the line corresponding to the symbol 'RR' is replaced by the following:

RR is the tyre rolling resistance class value of the individual vehicle of the road load matrix family, kg/tonne;;

(ii) in point 5.1.2.1, the line corresponding to the symbol 'RR' is replaced by the following:

RR is the tyre rolling resistance class value of the individual vehicle of the road load matrix family, kg/tonne;;

(iii) in point 8.2, in the second paragraph, the last sentence is replaced by the following:

The target running resistance values are the values calculated using the method specified in paragraph 5.1 of this Sub-Annex.;

(c) in Sub-Annex 6a the following point 3.7.3 is inserted:

3.7.3. In particular, the tailpipe emissions measured at an ATCT test shall not be above the Euro 6 emission limits applicable to the vehicle tested defined in Table 2 of Annex I to Regulation (EC) No 715/2007..

Changes to legislation:
There are currently no known outstanding effects for the Commission Regulation (EU) 2017/1347, ANNEX III.