

Commission Directive 2012/46/EU of 6 December 2012 amending Directive 97/68/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (Text with EEA relevance)

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ANNEX V

In Annex VII to Directive 97/68/EC Appendix 1 is replaced by the following:

‘Appendix 1

Test report for compression ignition engines test results⁽¹⁾**Information concerning the test engine**

Engine type: ...

Engine identification number: ...

1. Information concerning the conduct of the test: ...

1.1. Reference fuel used for test

1.1.1. Cetane number: ...

1.1.2. Sulphur content: ...

1.1.3. Density: ...

1.2. Lubricant

1.2.1. Make(s): ...

1.2.2. Type(s): ...

(state percentage of oil in mixture if lubricant and fuel are mixed)

1.3. Engine driven equipment (if applicable)

1.3.1. Enumeration and identifying details: ...

1.3.2. Power absorbed at indicated engine speeds (as specified by the manufacturer):

Equipment	Power P_{AE} (kW) absorbed at various engine speeds ^{ab} , taking into account Appendix 3 to this Annex		
	Intermediate speed(if applicable)	Maximum power speed(if different from rated)	Rated speed ^c
Total:			

a Delete as appropriate.

b Shall not be greater than 10 per cent of the power measured during the test.

c Insert values at engine speed corresponding to 100 % normalised speed if NRSC test uses this speed.

1.4. Engine performance

1.4.1. Engine speeds:

Idle: ... min⁻¹

Intermediate: ... min⁻¹

Maximum power: ... min⁻¹

Rated⁽²⁾: ... min⁻¹

1.4.2. Engine power⁽³⁾

Condition	Power setting (kW) at various engine speeds		
	Intermediate speed(if applicable)	Maximum power speed(if different from rated)	Rated speed ^a
Maximum power measured at specified test speed (P _M) (kW) (a)			
Total power absorbed by engine driven equipment as per paragraph 1.3.2 of this Appendix taking into account Appendix 3 (kW) (b)			
Net engine power as specified in Section 2.4 of Annex I (kW) (c)			
<i>c = a+b</i>			

^a Replace with values at engine speed corresponding to 100 % normalised speed if NRSC test uses this speed.

2. Information concerning the conduct of the NRSC test:

2.1. Dynamometer setting (kW)

Per cent load	Dynamometer setting (kW) at various engine speeds				Rated speed ^a
	Intermediate speed(if applicable)	63 %(if applicable)	80 %(if applicable)	91 %(if applicable)	
10 (if applicable)					
25 (if applicable)					

^a Replace with values at engine speed corresponding to 100 % normalised speed if NRSC test uses this speed.

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50					
75 (if applicable)					
100					

a Replace with values at engine speed corresponding to 100 % normalised speed if NRSC test uses this speed.

2.2. Emission results of the engine/parent engine⁽⁴⁾

Deterioration Factor (DF): calculated/fixed⁽⁴⁾

Specify the DF values and the emission results in the following table⁽⁴⁾:

NRSC test						
DF mult/add ³	CO	HC	NO _x	HC + NO _x	PM	
Emissions	CO(g/ kWh)	HC(g/ kWh)	NO _x (g/ kWh)	HC + NO _x (g/ kWh)	PM(g/ kWh)	CO ₂ (g/ kWh)
Test result						
Final test result with DF						

Additional control area test points (if applicable)						
Emissions at test point	Engine speed	Load(%)	CO(g/ kWh)	HC(g/ kWh)	NO _x (g/ kWh)	PM(g/ kWh)
Test result 1						
Test result 2						
Test result 3						

2.3. Sampling system used for the NRSC test:

2.3.1. Gaseous emissions⁽⁵⁾: ...

2.3.2. PM⁽⁵⁾: ...

2.3.2.1. Method⁽⁶⁾: single/multiple filter

3. Information concerning the conduct of the NRTC test (if applicable):

3.1. Emission results of the engine/parent engine⁽⁶⁾

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Deterioration Factor (DF): calculated/fixed^a

Specify the DF values and the emission results in the following table^a:

Regeneration related data may be reported for Stage IV engines.

NRTC test

DF mult/add ^a	CO	HC	NO _x	HC + NO _x	PM	
Emissions	CO(g/kWh)	HC(g/kWh)	NO_x(g/kWh)	HC + NO_x(g/kWh)	PM(g/kWh)	
Cold start						
Emissions	CO(g/kWh)	HC(g/kWh)	NO_x(g/kWh)	HC + NO_x(g/kWh)	PM(g/kWh)	CO₂(g/kWh)
Hot start w/o regeneration						
Hot start with regeneration ^a						
kr,u (mult/add) ^a						
kr,d (mult/add) ^a						
Weighted test result						
Final test result with DF						

^a Delete as appropriate.

Cycle work for hot start w/o regeneration kWh

3.2. Sampling system used for the NRTC test:

Gaseous emissions⁽⁷⁾: ...

PM⁽⁷⁾: ...

Method⁽⁸⁾: single/multiple filter

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- (1) For the case of several parent engines, the following is to be indicated for each of them.
- (2) Insert engine speed corresponding to 100 % normalised speed if NRSC test uses this speed.
- (3) Uncorrected power measured in accordance with Section 2.4 of Annex I.
- (4) Delete as appropriate.
- (5) Indicate figure number of system used as defined in Annex VI Section 1 or Section 9 of Annex 4B of ECE R96 03 series of amendments, as applicable.
- (6) Delete as appropriate.
- (7) Indicate figure number of system used as defined in Annex VI Section 1 or Section 9 of Annex 4B of ECE R96 03 series of amendments, as applicable.
- (8) Delete as appropriate.'