Directive 2005/55/EC of the European Parliament and of the Council of 28 September 2005 on the approximation of the laws of the Member States relating to the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles (Text with EEA relevance) (repealed)

ANNEX I

SCOPE, DEFINITIONS AND ABBREVIATIONS, APPLICATION FOR EC TYPE-APPROVAL, SPECIFICATIONS AND TESTS AND CONFORMITY OF PRODUCTION

Appendix 1

PROCEDURE FOR PRODUCTION CONFORMITY TESTING WHEN STANDARD DEVIATION IS SATISFACTORY

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Appendix 2

PROCEDURE FOR PRODUCTION CONFORMITY TESTING WHEN STANDARD DEVIATION IS UNSATISFACTORY OR UNAVAILABLE

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Appendix 3

PROCEDURE FOR PRODUCTION CONFORMITY TESTING AT MANUFACTURER'S REQUEST

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Appendix 4

DETERMINATION OF SYSTEM EQUIVALENCE

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ANNEX II

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Appendix 1

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Appendix 2

ESSENTIAL CHARACTERISTICS OF THE ENGINE FAMILY

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Appendix 3

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Appendix 4

CHARACTERISTICS OF THE ENGINE-RELATED VEHICLE PARTS

Appendix 5

OBD-RELATED INFORMATION

1. . . . .
1.1. . . . .
1.2. . . . .
1.3. . . . .
1.3.1. . . . .
1.3.2. . . . .
1.3.3. . . . .

Appendix 6

Information required for roadworthiness testing
A. Measurement of carbon monoxide emissions
3.2.1.6. . . . .
3.2.1.6.1.. . . . .
3.2.1.7. . . . .
B. Measurement of smoke opacity
3.2.13. . . . .
4. . . . .
4.3. . . . .
4.3.1. . . . .

ANNEX III

TEST PROCEDURE

Appendix 1

ESC AND ELR TEST CYCLES

Appendix 2

ETC TEST CYCLE

Appendix 3

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Appendix 4

MEASUREMENT AND SAMPLING PROCEDURES

Appendix 5

CALIBRATION PROCEDURE

Appendix 6

CARBON FLOW CHECK

ANNEX IV

TECHNICAL CHARACTERISTICS OF REFERENCE FUEL PRESCRIBED FOR APPROVAL TESTS AND TO VERIFY CONFORMITY OF PRODUCTION

ANNEX V

ANALYTICAL AND SAMPLING SYSTEMS

V6, V7 Solenoid valve
V8 Needle valve
V9, V10 Needle valve
V11, V12 Toggle valve (optional)

1.3. NMHC analysis (NG fuelled gas engines only)

1.3.1. Gas chromatographic method (GC, Figure 9)

Components of Figure 9

PC Porapak column
MSC Molecular sieve column
OV Oven
SLP Sample loop
P Pump
D Dryer
HC
V1 Sample injection valve
V3 Selector valve
V2, V4, V5, V6, V7, V8 Needle valve
R1, R2, R3 Pressure regulator
FC Flow capillary
G1, G2, G3 Pressure gauge
F1, F2, F3, F4, F5 Filter
FL1

1.3.2. Non-methane cutter method (NMC, Figure 10)

Components of Figure 10

NMC Non-methane cutter
HC
V1 Selector valve
V2, V3 Solenoid valve
V4 Needle valve
R1 Pressure regulator
FL1 Flowmeter

2. EXHAUST GAS DILUTION AND DETERMINATION OF THE PARTICULATES

2.1. Introduction

2.2. Partial flow dilution system

Isokinetic systems (Figures 11, 12)
Flow controlled systems with concentration measurement (Figures 13 to 17)...
Flow controlled systems with flow measurement (Figures 18, 19)

2.2.1. Components of Figures 11 to 19

EP Exhaust pipe
SP Sampling probe (Figures 10, 14, 15, 16, 18, 19)...
ISP Isokinetic sampling probe (Figures 11, 12)
FD1, FD2 Flow divider (Figure 16)
FD3 Flow divider (Figure 17)
EGA Exhaust gas analyser (Figures 13, 14, 15, 16, 17)...
TT Transfer tube (Figures 11 to 19)
DPT Differential pressure transducer (Figures 11, 12, 17)
FC1 Flow controller (Figures 11, 12, 17)
PCV1, PCV2 Pressure control valve (Figure 16)
DC Damping chamber (Figure 17)
VN Venturi (Figure 15)
FC2 Flow controller (Figures 13, 14, 18, 19, optional)

ANNEX VI

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Appendix 1

to EC type-approval certificate No … concerning the type approval of a vehicle/separate technical unit/component

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1.4. Emission levels of the engine/parent engine:
- 1.4.1. ESC test:
- 1.4.2. ELR test:
- 1.4.3. ETC test:

1.5. . . . .

1.6. Carbon monoxide emissions test results

1.7. Smoke opacity test results
- 1.7.1. . . . .
- 1.7.2. Free acceleration tests
  - 1.7.2.1. Engine test in accordance with Section 4.3 of Annex VI...
  - 1.7.2.2. Under free acceleration
    - 1.7.2.2.1.. . . . .
    - 1.7.2.2.2.. . . . .
    - 1.7.2.2.3.. . . . .
  - 1.7.2.3. Vehicle test according to section 3 of Annex VI to...
    - 1.7.2.3.1.. . . . .
    - 1.7.2.3.2.. . . . .
- 1.7.3. . . . .
- 1.7.4. . . . .
- 1.7.5. Principal characteristics of engine type
  - 1.7.5.1. . . . .
  - 1.7.5.2. . . . .
  - 1.7.5.3. . . . .
  - 1.7.5.4. . . . .
  - 1.7.5.5. . . . .

Appendix 2

OBD RELATED INFORMATION

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ANNEX VII

EXAMPLE OF CALCULATION PROCEDURE

ANNEX VIII

SPECIFIC TECHNICAL REQUIREMENTS RELATING TO ETHANOL-FUELLED DIESEL ENGINES

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IN ANNEX III, APPENDIX 1:
4.2. Dry/wet correction
4.3. NOx correction for humidity and temperature
4.4. Calculation of the emission mass flow rates

IN ANNEX III, APPENDIX 2:
4.2. . . . .
4.3. Calculation of the emission mass flow
4.3.1 Systems with constant mass flow
4.3.1.1. Determination of the background corrected concentrations
4.3.2. Systems with flow compensation
4.4. Calculation of the specific emissions

ANNEX IX

TIME-LIMITS FOR THE TRANSPOSITION OF THE REPEALED DIRECTIVES INTO NATIONAL LAWS

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ANNEX X

CORRELATION TABLE

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