KES

# Diesel Engine Emission Test
# (6 mode)

**KES T – C004A**

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## 1. Purpose

This standard shall be for determining emission test method for developed engine.

## 2. Scope of Application

This standard shall be applicable for measuring concentration of carbon monoxide, hydrocarbon and nitric oxide(Hereinafter carbon monoxide shall be referred to CO, hydrocarbon to HC and nitric oxide to NOx) contained in emission discharged from exhaust pipe of normal car, small-sized car, which are fueled with gas oil.

## 3. Test Conditions

3.1 Interior temperature of test room

Interior temperature during the test shall be 25±5℃.

However, if it is possible to maintain the temperature of engine intake air with 25±5℃, there is no need to restrict interior temperature.

3.2 Specifications and conditions

Test car or test engine shall have same specifications(structure, instruments and performance shall accord with specification table) as a product and have following conditions.

3.2.1 Test car

(1) No leakage in exhaust system, which is the cause of emission gas dilution

(2) Maintained state

3.2.2 Test engine

(1) No leakage in exhaust system, which is the cause of emission gas dilution

(2) Maintained state

(3) With supplementary parts of engine necessary to drive the car and emission gas controller.

3.3 Fuel



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Fuel for test car or test engine shall have properties based on KS M 2610(Gas oil).

## 4. Instruments for Test

4.1 Chassis dynamometer

(1) Setup standard of chassis dynamometer inertia weight shall be equivalent weight of test car.

(2) Set up load of chassis dynamometer according to driving force of driving wheel at maximum load for corresponding engine RPM indicated on Table 1.

(3) After setting up the load according to (2), set engine load to that of 5th driving mode indicated on Table 1 and carry out warm-up driving at constant speed of more than 40 ± 5km / H for 20 minutes without a break.

4.2 Engine dynamometer

(1) Set up load of engine dynamometer according to shaft torque at maximum load for corresponding engine RPM.

(2) After setting up the load according to (1), carry out warm-up drive for test engine according to 5th driving mode indicated on Table 1 for 20 minutes without a break.

(3) Load measurement method shall accord with KS R 1003(Performance test method for diesel engine for car).

4.3 Exhaust emission gas analyzer, etc.

Exhaust emission gas analyzer, measuring instruments of fuel consumption and intake air flow rate shall have been maintained and corrected previously.

## 5. Test Method

After installing test car onto chassis dynamometer or test engine onto engine dynamometer, driving the car or engine according to following 5.1, measure CO, HC and NOx contained in emission discharged from exhaust pipe according to 5.2.

Also intake air flow rate and fuel consumption shall be measured during driving the car or engine.



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