

Gasoline and clean alternative fuel engine exhaust emissions standards for Carbon monoxide (CO),Hydrocarbons (HC), Nitrogen oxides (NOx), Particulate matter (PM), and Particulate number (PN) derived from driving cycle testing and idle testing stipulated as the following:

Gasoline and clean alternative fuel engine exhaust emissions standards for Carbon monoxide (CO),Hydrocarbons (HC), Nitrogen oxides (NOx), Particulate matter (PM), and Particulate number (PN) derived from driving cycle testing and idle testing stipulated as the following:												
Type of Transportation Vehicle	Date of Implementation	Application	Emissions Standards						Remarks			
			Classification	CO (g/km)	HC (g/km)	NOx (g/km)	HC + NOx (g/km)	CO (%)		HC (ppm)		
Motor vehicles with gasoline and alternative clean fuel engines	Date of promulgation	New vehicle model Certification	-	-	-	-	-	3.5	900	New vehicle model certification and new vehicle testing: Vehicle models in mass production before the date of promulgation shall comply with previous standards (CO: 4.5%, HC: 1200 ppm). Domestic vehicles entering mass production and imported vehicles on-ship after promulgation date shall comply with these Standards.		
		New vehicle testing	-	-	-	-	-	-	-			
		In-use Vehicle Testing	-	-	-	-	-	4.5	1200			
	July 1, 1987	New vehicle model certification New vehicle testing (prototype)	Reference Vehicle Mass (kilograms) ≤1020	14.31	-	-	4.69	-	-	New vehicle model certification and new vehicle testing: 1. When performing the driving cycle test on trucks, non-sedans, and non-station wagon passenger vehicles, the HC+NOx standards shall be eased by 25%. 2. Domestic vehicle models in mass production before June 30, 1987 but leaving the plant after July 1, 1988 shall comply with these Standards. 3. Domestic vehicle models entering mass production and imported vehicles on-ship after July 1, 1987 shall comply with these standards. 4. Driving cycle testing methods shall comply with the Chinese National Standard (hereinafter referred to as CNS 7895).		
			1021 ~ 1250	16.54	-	-	5.06	3.5	600			
			1251 ~ 1470	18.76	-	-	5.43	-	-			
			1471 ~ 1700	20.73	-	-	5.80	-	-			
			1701 ~ 1930	22.95	-	-	6.17	-	-			
			1931 ~ 2150	24.93	-	-	6.54	-	-			
			≥ 2151	27.15	-	-	6.91	-	-			
		New vehicle model certification New vehicle testing (mass production)	Reference Vehicle Mass (kilograms) ≤ 1020	17.28	-	-	5.87	-	-			
			1021 ~ 1250	19.74	-	-	6.32	-	-			
			1251 ~ 1470	22.46	-	-	6.79	3.5	900			
			1471 ~ 1700	24.93	-	-	7.26	-	-			
			1701 ~ 1930	27.64	-	-	7.72	-	-			
			1931 ~ 2150	29.86	-	-	8.17	-	-			
			≥ 2151	32.58	-	-	8.64	-	-			
			In-use Vehicle Testing	-	-	-	-	-	4.5		1200	
	July 1, 1990	New vehicle model certification New vehicle testing	Sedans and Station Wagons	2.11	0.255	0.62	-	3.5	600	1. New vehicle model certification and new vehicle testing: 1.1. New vehicle model certification shall include a durability test of 80,000 km and comply with these Standards. 1.2. Domestic vehicle models in mass production before June 30, 1989, but leaving the plant after July 1, 1993, shall comply with these Standards. 1.3. Domestic vehicle models in mass production between July 1, 1989 and June 30, 1990, but leaving the plant after July 1, 1994 shall comply with these Standards. 1.4. Domestic vehicle models entering mass production and imported vehicles on-ship after July 1, 1990 shall comply with these standards. 1.5. The driving cycle test method shall comply with the US FTP-75 testing methods. 2. In-use vehicle testing: Those vehicles leaving plant or imported after July 1, 1990, shall comply with these Standards.		
			Trucks, Non-Sedans, and Non-Station Wagon Passenger Vehicles	11.18	1.06	1.43	-	-	-			
		In-use Vehicle Testing	-	-	-	-	-	3.5	900			
	August 1, 1992	New vehicle model certification New vehicle testing	Sedans and Station Wagons	2.11	0.255	0.62	-	1.0	200	1. New vehicle model certification and new vehicle testing: 1.1. New vehicle model certification shall include a durability test of 80,000 km and comply with these Standards. The useful life of the emissions control systems and the warranty period shall be 5 years or 80,000 km whichever comes first. 1.2. New models complying with July 1, 1990, emission standards shall comply with these Standards. 1.3. The driving cycle test methods shall be in accordance with the "gasoline vehicle testing procedures and testing methods." 2. In-use vehicle testing: 2.1. For new models that comply with July 1, 1990, emission standards, the domestic vehicles leaving plant and imported vehicles on-ship after August 1, 1992, shall comply with these Standards. 2.2. The In-use vehicle testing shall be in accordance with the "Chassis dynamometer motor vehicle exhaust concentration testing method." (for vehicles without chassis dynamometer testing equipment may use the original testing methods).		
			Trucks, Non-Sedans, and Non-Station Wagon Passenger Vehicles	11.18	1.06	1.43	-	-	-			
			In-use Vehicle Testing	-	-	-	-	-	1.2		220	
				Sedans and Station Wagons	2.11	0.255	0.62	-	-		-	
		July 1, 1995	New vehicle model certification New vehicle testing	Trucks, Non-Sedans, and Non-Station Wagon Passenger Vehicles	Over 1,200 cc	6.20	0.50	1.43	-		1.0	200
				1200 cc and below	11.18	1.06	1.43	-	-		-	
			In-use Vehicle Testing	-	-	-	-	-	1.2		220	
				Sedans and Station Wagons	2.11	0.155	0.25	-	-		-	
		January 1, 1999	New vehicle model certification New vehicle testing	Trucks, Non-Sedans, and Non-Station Wagon Passenger Vehicles	Over 1,200 cc	3.11	0.242	0.68	-		0.5	100
				1200 cc and below	6.20	0.50	1.43	-	-		-	
	In-use Vehicle Testing			-	-	-	-	-	1.2	220		
January 1, 2008	New vehicle model certification New vehicle testing		Passenger Cars, Light-duty Trucks, Passenger-cargo Dual-purpose Station Wagons, Passenger-cargo Dual-purpose Vans, Substitution Passenger cars, Special-constructed light-duty Vehicles	2.11	0.045	0.07	-	0.5	100	1. New vehicle model certification and new vehicle testing: 1.1. New vehicle model certification shall include a durability test of 80,000 km and comply with these Standards. The useful life of the emissions control systems and the warranty period shall be 5 years or 80,000 km whichever comes first. 1.2. For domestic vehicle models leaving plant and imported vehicles on-ship after January 1, 2008, and 2008 model year vehicles shall comply with these Standards and shall be equipped with on board diagnostics system (OBD). 1.3. The non-methane hydrocarbon (NMHC) standards shall be applied for the driving cycle test. 1.4. The On Board Diagnostics (OBD) and relevant regulations shall be in accordance with "Gasoline and Clean Alternative Fuel Engine Motor Vehicle Exhaust Testing Compliance Verification Issuance and Cancellation Regulations". 1.5. The test methods of these standards shall be in accordance with the "Gasoline Vehicle Exhaust Emissions Testing Methods and Procedures" and the "Gasoline Vehicle Durability Testing Methods and Procedures". 1.6. For vehicles comply with the European Union Directive 98/69/EC Types I, II, V and the Annex XI stipulated testing regulations, and comply with the Section 5.3.1.4 of Annex I B (2005) stipulated emissions standards along with the useful life and warranty period requirements, shall be deemed as comply with these Standards. 2. In-use vehicle testing: 2.1. For domestic vehicle models leaving plant and imported vehicles on-ship after January 1, 2008 shall comply with these Standards, and equipped with the On Board Diagnostics System (OBD). 2.2. For imported foreign in-use vehicles shall comply with the "driving cycle testing" and "idle testing" standards for new vehicle testing. However, if a vehicle leaving plant at least five years ago and has passed effective operation tests of emissions control devices by an EPA-designated testing organization, the said vehicle need to perform the "idling test". 2.3. The testing and inspection methods of these Standards shall be in accordance with the "Gasoline Vehicle Exhaust Emissions Testine Methods and Procedures".		
		In-use Vehicle Testing	-	-	-	-	-	1.2	220			
		New vehicle model certification New vehicle testing	-	-	-	-	-	-	-			
	In-use Vehicle Testing		-	-	-	-	-	1.2	220			

Type of Transportation Vehicle	Date of Implementation	Application	Emissions Standards								Remarks															
			Driving Cycle Testing					Idle Testing																		
			Classification	CO (g/km)	HC (g/km)	NMHC (g/km)	NOx (g/km)	PM (g/km)	CO (%)	HC (ppm)																
Motor vehicles with gasoline and alternative clean fuel engines	October 1, 2012	New vehicle model certification New vehicle testing	Sedans and Station Wagons	1.000	0.100	0.068	0.060	0.0050	0.2	0.3	---	1. New vehicle model certification and new vehicle inspection: 1.1 For new vehicle model certification a 160,000 kilometers durability test are required and the test results shall comply with these standards. The useful life of the exhaust emissions control systems and warranty period shall be 5 years or 100,000 kilometers whichever comes first. 1.2 For domestic vehicle models leaving plant and imported vehicles on-ship after October 1, 2012 shall comply with these standards and equipped with the On Board Diagnostics System (OBD). 1.3 The relevant regulations of OBD system are in accordance with the "Regulations Governing Issuance, Revocation, and Cancellation of Compliance Certification for Gasoline and Alternative Clean Fuel Engine Vehicle Emissions Inspections". 1.4 The unit being used in the driving cycle test results is g/km, the New European Driving Cycle test shall be conducted on chassis dynamometer. 1.5 The Particulate matter standard only applicable on gasoline direct injection (GDI) engine vehicles. 1.6 The reference mass of tested vehicles for NEDC driving cycle test shall be defined as: The curb weight of gasoline vehicle plus 100 kilograms. The curb weight means the weight of gasoline vehicle without driver and lubricant, engine with lubricant, radiator with coolant, fuel tank with fuel, and necessary OEM equipment (spare tire and tools). 1.7 The limit values (in units of g/km) for passenger cars and light duty trucks when conducting the US FTP-75 driving cycle test on chassis dynamometer are shown in Table 1. For new vehicle model certification, a 192,000 kilometer durability test is required to comply with these standards. The useful life and warranty period for exhaust emissions control systems relevant and main components are regulated as in Table 2. Table 1. Limit values for FTP-75driving cycle test : <table><tr><th rowspan="2">Classification</th><th rowspan="2">CO</th><th rowspan="2">NMHC</th><th rowspan="2">NOx</th><th colspan="2">Idle Testing</th></tr><tr><th>CO (%)</th><th>HC (ppm)</th></tr><tr><td>Passenger cars and light duty trucks</td><td>2.61</td><td>0.054</td><td>0.044</td><td>0.5</td><td>100</td></tr></table>	Classification	CO	NMHC	NOx	Idle Testing		CO (%)	HC (ppm)	Passenger cars and light duty trucks	2.61	0.054	0.044	0.5	100
			Classification	CO	NMHC	NOx	Idle Testing																			
							CO (%)						HC (ppm)													
			Passenger cars and light duty trucks	2.61	0.054	0.044	0.5						100													
		Trucks, Non-Sedans, and Non-Station Wagon Passenger Vehicles	Reference Mass ≤ 1305 kg	1.000	0.100	0.068	0.060	0.0050	0.2	0.3	---															
		Reference Mass > 1305 kg and ≤ 1760 kg	1.810	0.130	0.090	0.075																				
		Reference Mass > 1760 kg	2.270	0.160	0.108	0.082																				
		In-use Vehicle Testing	-	-	-	-	-	-	-	1.2	220															

The main components of exhaust emissions control systems are defined as: Catalytic Converter, OBD system, Electronic Control Unit (ECU) in accordance with the stipulations in Article 2 of the "Regulations Governing the Air Pollution Control Equipment for Motor Source of Air Pollution".

1.8 The vehicles with certificate of compliance being issued before September 30, 2012 may continue to be produced (plant leaving date for domestic vehicles) or imported (on-ship date for foreign vehicles) till September 30, 2013.

1.9 The testing and inspection methods shall be in accordance with the "Gasoline Vehicle Exhaust Emission Testing Methods and Procedures" and "Gasoline Vehicle Durability Testing Methods and Procedures".

1.10 The emission standards for passenger cars are applicable on the Passenger-car Dual-purpose Station Wagons. The emission standards for light-duty trucks are applicable on Passenger-car Dual-purpose Vans, Substitution Passenger Cars, and Special Constructed Light-duty Vehicles.

1.11 For domestic vehicle models leaving plant and imported vehicles on-ship after January 1, 2008 shall comply with these standards and equipped with the On Board Diagnostics System (OBD).

2 For imported in-use vehicles on-ship after May 1, 2017, the "Driving Cycle Testing" and "Idle Test" shall be conducted in accordance with the applicable standards as follows for the new vehicle testing. However, if the imported in-use vehicles on-ship before April 30, 2017 (include) and leaving plant for more than five years and the operation of the installed emission control components being examined by the central competent authority designated inspection laboratory and deemed effective, only the in-use vehicle idle testing emission standards in accordance with the required standards shall be applied.

2.3 The in-use vehicle idle testing and inspection methods shall be in accordance with the "Gasoline Vehicle Exhaust Emission Testing Methods and Procedures".

New vehicle model certification and new vehicle inspection:

- 1.1 For new vehicle model certification a 160,000 kilometers durability test is required and the test results shall comply with these standards. The useful life of exhaust emission control systems shall be at least 10 years or 160,000 kilometers whichever comes first.
- 1.2 For domestic vehicle models leaving plant and imported vehicles on-ship after September 1, 2019 shall comply with these standards and equipped with the On Board Diagnostics System (OBD).
- 1.3 The relevant regulations of OBD system shall be in accordance with the "Regulations Governing Issuance, Revocation, and Cancellation of Compliance Certification for Gasoline and Alternative Clean Fuel Engine Vehicle Emissions Inspection".
- 1.4 The units being used for the drive cycle test shall be in mg/km, either under the New European Driving Cycle or the Worldwide Harmonized Light Vehicles Test Cycle (WLTC) and being conducted on chassis dynamometer.
- 1.5 The Particulate matter and Particulate number standards only applicable on gasoline direct injection (GDI) engine vehicle.
- 1.6 The reference mass of tested vehicles for NEDC or WLTC driving cycle tests shall be defined as the stipulations defined in Directive 92/2008/EC and its subsequent amendments.
- 1.7 The limit values for passenger cars and light duty trucks when conducting the US FTP-75 driving cycle test on chassis dynamometer are shown in Table 1 and in units of mg/km. For new vehicle model certification, a 150,000 kilometers durability test is required to comply with these standards. The useful life of warranty period for the exhaust emission control relevant and main components are regulated as in Table 2.

Classification	Driving Cycle Testing (mg/km)			Idle Testing	
	CO	NMHC	NOx	CO (%)	HC (ppm)
Passenger cars and light duty trucks	2610	54	44	0.5	100

Table 2. The useful life and warranty period for exhaust emission relevant and main components :

Relevant components	Main components
5 years or 80,000 kilometers	8 years or 192,000 kilometers

The main components include catalytic converter, OBD system, and Electronic Control Unit (ECU). The relevant components are in accordance with Article 2 of "Regulations Governing the Air Pollution Control Equipment of Motor Vehicle of Air Pollution."

1.8 The vehicles with certificate of compliance being issued before August 31, 2019 may continue to be produced (plant leaving date for domestic vehicles) or imported (on-ship date for foreign vehicles) till February 28, 2021.

1.9 The testing and inspection methods shall be in accordance with the "Gasoline Vehicle Exhaust Emissions Testing Methods and Procedures" and "Gasoline Vehicle Durability Testing Methods and Procedures".

1.10 The emission standards for passenger cars are applicable on the Passenger-cargo Dual-purpose Station Wagons. The emission standards for light-duty trucks are applicable on Passenger-cargo Dual-purpose Vans, Substitution Passenger Cars, and Special Constructed Vehicles.

1.11 Requirements for the idle emission inspection of the new car application for license plate as in Table 3.

Table 3. Idle inspection standards of new car application for license plate.

Idle Testing	CO (%)	HC (ppm)
	0.5	100

In-use vehicle inspection

2.1 For domestic vehicle models leaving plant and imported vehicles on-ship after January 1, 2008 shall comply with these standards and equipped with the On Board Diagnostics System (OBD).

2.2 For imported in-use vehicles, the "Driving Cycle Testing" and "Idle Testing" shall be conducted

2.3 The in-use vehicle idle testing and inspection methods shall be in accordance with the "Gasoline Vehicle Exhaust Emission Testing Methods and Procedures".