

Results of testing diesel engine automobile exhaust gas (10-15 mode)

Details of testing automobile

Car's manufacturer: Nissan	Type: U-SP2F23	Motor type: TD27	Rating: 85/4300 kw/rpm
VIN: P2F23-012229	Application: Cargo	Cycle: 4 Cylinder: 4	Total Emission: 2.663 L
Mileage:	49 km	Transmission: Automatic	Forward: 4 Steps
Weight of vehicle:	1530 Kg	Speed reducing ratio:	3.700
Gross vehicle mass:	2695 Kg	Fuel: Diesel Oil	
Weight of testing automobile:	1920 Kg	Tire air pressure at driving (standard):	417 kPa
Equivalent Inertia weight:	1750 Kg	Tire air pressure at driving (actual):	441 KPa

Test equipment

Chassis dynamo meter (Banzal Co., Ltd) BCD1100E-DC

Air blower (car speed proportional type): (Banzal Co., Ltd) ECF-850

Exhaust gas and particulate measuring equipment

Exhaust gas analyzer: (Best Locater Co. Ltd) Bex-5200DGS

CVS device: (Best Locater Co. Ltd) Bex-030-CX-TWG

(gathered quantity: 8.6 m³/min)

Dilution tunnel: (Best Locater Co. Ltd) LDD-310W

Precision balance: (Zaltrius Co., Ltd) MSP-F

Filter soak record

Soak time before testing: 69 hours (17:00, 17th – 14:00, 20th)

Soak time after testing: 19 hours (14:00, 20th – 9:30, 21st)

Room temperature of capacity of impact testing machine: Max 25.2 °C

Room humidity of capacity of impact testing machine: Max 61% - Min 54%

10-15 mode exhaust gas test

Start: 13:00 Finish: 14:22

Dry bulb temp. of testing room: 23.8 °C, after 23.8 °C

Wet bulb temp. of testing room: 15.2 °C, after 15.2 °C

Dilution ratio (DF): 20.489

Open mouth pressure difference: ----- kPa (70km/h)

Atmospheric pressure: 102.4 kpa

Relative humidity: 38.8 %

KH (NO_x humidity correction factor) 0.937

Quantity of diluted exhaust gas 22845 L/km

Exhaust gas

Component	Density of diluted exhaust gas (A)	Density of diluted air (B)	Net density A-[B*(1-1/DF)]	Target quantity of emissions	Actual emissions with Fuel Preparator
CO (NDIR)	22.90 ppm	0.50 ppm	22.42 ppm	3.46 g/km	0.599 g/km
HC (HFID)	8.35 ppmC	2.69 ppmC	5.79 ppmC	0.63 g/km	0.076 g/km
NO _x (CLD)	29.70 ppm	0.21 ppm	29.50 ppm	1.75 g/km	1.206 g/km
CO ₂ (NDIR)	0.65 %	0.04 %	0.61 %		

Particulate

Collection efficiency of PM (η): 94.2%

Correction against collected quantity of PM:

Changes of quantity of correction filter 5 μg

Ratio against bare minimum of collected quantity: 0.4 %

Collected quantity PMp	Sample flow Vp	Density A=PMp/Vp	Collected quantity PMb	Sample flow Vb	Density B=PMb/Vb	Net density A-[B*(1-1/DF)]
2116 μg	663 L	3.1916 μg/L	21 μg	659 L	.00319 μg/L	3.1312 μg/L
Total DPM* allowed: 0.07 g/km				Total DPM* with Fuel Preparator: 0.064 g/km		

*Diesel Particulate Matter

10*15 mode-run exhaust gas test

Start: 13:00 Finish: 14:22

Dry-bulb temperature of testing room: before start 23.8 °C - after finish 23.8 °C

Wet-bulb temperature of testing room: before start 15.2 °C - after finish 15.2 °C

Dilution ratio (DF): 20.489

Open mouth (air release pipe) pressure difference: - kPa (70km/h)

Atmosphere pressure of testing room: 102.4 kPa

Relative humidity of testing room: 38.8 %

KH (NOx humidity correction factor): 0.937

Quantity of diluted exhaust gas (Vmix): 22845 L/km

Exhaust gas

TARGET
MAX
ALLOWED

3.46
.63
1.75

Component	Density of diluted exhaust gas A	Density of diluted air B	Net density A-[B*(1-1/DF)]	Quantity of emissions
CO(NDIR)	22.90 ppm	0.50 ppm	22.42 ppm	0.599 g/km
HC(HFID)	8.35 ppmC	2.69 ppmC	5.79 ppmC	0.076 g/km
Nox(CLD)	29.70 ppm	0.21 ppm	29.50 ppm	1.206 g/km
CO ₂ (NDIR)	0.65%	0.04%	0.61%	253.4 g/km

Particulate

Collection efficiency of PM (η): 94.2 %

Correction against collected quantity of PM:

Changes of quantity of correction filter: 5 μ g

Ratio against bare minimum of collected quantity: 0.4 %

Quantity of diluted exhaust gas			Diluted air			Net density A-B(1-1DF)
Collected quantity PMp	Sample flow Vp	Density A=PMp/VP	Collected quantity Pmb	Sample flow Vb	Density B=Pmb/Vb	
2116 μ g	663 L	3.1916 μ g/L	21 μ g	659 L	0.00319 μ g/L	3.1312 μ g/L
						Emissions 0.064 g/km

.070

Remarks Regular no-load rotational speed (N): 700 rpm Injection timing: 3(?) BTDC

Co (and the stuff) divergence preventior device	Kind (Quantity)	Oxidation catalyst	Three way catalyst	EGR	L PREPORA			
		(-)	(-)	(-)	1	(-)	(-)	(-)
		(-)	(-)	(-)		(-)	(-)	(-)

VEHICLES WITH NO ENHANCEMENT - 2.22 NOX CO
 " " ENHANCEMENTS 3.46 - CO

15 MODE

ディーゼル自動車排出ガス試験結果成績表(10・15モード)

試験年月日 H 15 年 12 月 5 日 天候 晴 試験機関 (財)日本車両検査協会 自動車試験所 ㊦

◎自動車諸元

車名	ニッサン	型式	U-SP2F23	原動機型式	TD27	最高出力	85 / 4300	kw/rpm		
車台番号	P2F23-012229	用途	貨物	サイクル	4	気筒	4	総排気量	2.663	L
走行キロ数			49	変速機	自動	前進	4	段		
車両重量			1530	減速比		3.700				
車両総重量			2695	使用燃料	軽油	比重	-	(温度	-	℃)
試験自動車重量			1920	駆動輪タイヤ空気圧	(標準)		417	kPa		
等価慣性重量			1750	駆動輪タイヤ空気圧	(実測)		441	kPa		

◎試験装置

シャーシダイナモメータ	(株)バンザイ製	BCD1100E-DC
送風機(車速比例型)	(株)バンザイ製	ECF-850(車速比例型)
○排出ガス及び粒子状物質測定機器		
排出ガス分析計	(株)ベスト測器製	Bex-5200DGS
CVS装置	(株)ベスト測器製	C.Bex-030CX-TWG
希釈トンネル	(株)ベスト測器製	LDD-310W
	精密天秤	ザルトリウス(株) M5P-F

◎フィルタソーク記録

試験前ソーク時間	69	時間	(17 日 17 時 00 分 ~ 20 日 14 時 00 分)
試験後ソーク時間	19	時間	(20 日 14 時 00 分 ~ 21 日 9 時 30 分)
秤量室内温度:最大値	25.2	℃	~最小値 25.0
秤量室内湿度:最大値		%	~最小値 54

◎10・15モード走行排出ガス試験

運転開始時刻	13 時 00 分	運転終了時刻	14 時 22 分	試験室内大気圧	102.4	kPa
試験室内乾球温度	開始前	23.8	℃	~終了後	23.8	℃
試験室内湿球温度	開始前	15.2	℃	~終了後	15.2	℃
希釈率(DF)		20.489				
排気管開口部静圧差						kPa(70km/h)
				試験室内相対湿度	38.8	%
				KH(NOx湿度補正係数)	0.937	
				希釈排出ガス量(Vmix)	22845	L/km

○排出ガス

成分	希釈排出ガス濃度 A	希釈空気濃度 B	正味濃度 A - [B × (1-1/DF)]	排出重量
CO(NDIR)	22.90 ppm	0.50 ppm	22.42 ppm	0.599 g/km
HC(HFID)	8.35 ppmC	2.69 ppmC	5.79 ppmC	0.076 g/km
NOx(CLD)	29.70 ppm	0.21 ppm	29.50 ppm	1.206 g/km
CO2(NDIR)	0.646 %	0.042 %	0.606 %	253.4 g/km

○粒子状物質

PMの捕集効率(η)	94.2	%
PMの捕集重量に対する補正		
補正用フィルタの重量変化	5	μg
必要最小捕集重量に対する割合	0.4	%

希釈排出ガス量			希釈空気			正味濃度 A-B(1-1/DF)
捕集重量 PMp	サンプル流量 Vp	濃度 A=PMp/Vp	捕集重量 PMb	サンプル流量 Vb	濃度 B=PMb/Vb	
2116 μg	663 L	3.1916 μg/L	21 μg	659 L	0.0319 μg/L	3.1612 μg/L
					排出量	0.072 g/km

TOTAL PM CONCENTRATIONS

◎備考 正規 無負荷回転速度(N) 700 rpm AFTER DIR 噴射時期 0.064 BTDC FINAL

一酸化炭素等発散防止装置	種類 (個数)	酸化触媒 (-)	三元触媒 (-)	EGR (-)	L PREPORA (1)	(-)	(-)	(-)
	製作者名	---	---	---	---	---	---	---

MAX ALLOWED LEGAL
 2.22
 SEE ABOVE 3.46
 .63
 1.75

ALLOWED .07

ACTUAL

Results of testing diesel engine automobile exhaust gas (10-15 mode)

Date: 2004/12/05 weather: fair

Tested by Japan Vehicle Inspection Association

Details of a testing automobile

Car's name: Nissan Type: U-SP2F23

Vehicle number: P2F23-012229 Application: Cargo

Kilometrage: 49 km

Weight of vehicle: 1530 kg

Gross vehicle mass: 2695 kg

Weight of testing automobile: 1920 kg

Equivalent inertia weight: 1750 kg

Motor type: TD27 Rating: 85/4300 kw/rpm

Cycle: 4 Cylinder: 4 Total Emission: 2.663 L

Transmission: Automatic Forward: 4 steps

Speed reducing ratio: 3.700

Fuel: Diesel oil Ratio: - (Temperature: - °C)

Tire air pressure at driving (standard): 417 kPa

Tire air pressure at driving (actual measurement): 441 kPa

Test equipment

Chassis dynamo meter: (Banzai Co., Ltd) BCD1100E-DC

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