

Low Emission Bus Scheme Certificate

Customer:	Alexander Dennis Ltd				
Customer Address:	Plaxton, Cayton Low Road, Eastfield, Scarborough, YO11 3BY				
Test Purpose:	LEB Testing			DYNAMOMETER SETTINGS	
Vehicle Type & Manufacturer:	E400	Unladen weight (kg)	10746.0	INERTIA	13269 kg
Vehicle Number:	G406	Gross Weight (kg)	19500.0	F°	44.74 N
Engine:	Cummins ISB6.7E6250B	Max Seated Capacity	72	F ¹	15.05 N/kmh
Transmission:	Auto	Passenger Capacity	99	F ²	-0.22356 N/kmh ²
Euro VI certificate Y/N	Manufacturer Certified	OK		F ³	0.0029580 N/kmh ³
Net Heating Energy (MJ/Litre)	36		Fuel Provider:	N/A	
Well-to-Tank Factor: (g CO ₂ e/MJ)	15.42		WTT evidence	DECC Conversion Factors	
DECC Tank-to-Wheel Factor (g CO ₂ e /kg)	5.49		Fuel Type:	Pump Diesel	

Emissions and Energy consumption results from approved test facility - Average 3 tests

Test Phase	HC (g/km)	CO (g/km)	NOx (g/km)	PM (g/km)	CO ₂ (g/km)	CH ₄ (g/km)*	N ₂ O** (g/km)	Fuel Consumption (l/100 km)
Rural	0.000	0.011	0.005	N/A	787.6	0.000	0.086	29.74
Outer London	0.000	0.037	0.004	N/A	941.8	0.000	0.169	35.57
Inner London	0.000	0.045	0.006	N/A	1232.9	0.000	0.252	46.56
MLTB Average	0.000	0.039	0.005	N/A	1022.9	0.000	0.192	38.63
LUB Average	0.000	0.027	0.005	0.0116	916.3	0.000	0.144	34.60

Total Tank-to-Wheel GHG CO₂ equivalent



Test Phase	CO ₂ (g/km)	CH ₄ (g/km x 25)*	N ₂ O (g/km x 298)*	TTW GHG (CO ₂ e (g/km))
Rural	787.6	0.000	25.729	813.3
Outer London	941.8	0.000	50.365	992.2
Inner London	1232.9	0.000	75.224	1308.1
MLTB Average	1022.9	0.000	57.288	1080.2
LUB Average	916.3	0.000	43.019	959.3

Electric energy consumption and charge efficiency

Total measured energy consumed on vehicle (kWhr)	N/A	Distance covered km	N/A
Measured grid energy during charging kWhr	N/A	Charging efficiency	N/A

Well-to-Wheel GHG CO₂ equivalent

Test Phase	Fuel/energy used over cycle (litres/km)	Total Fuel Energy (MJ/km)	Calculated WTT* GHG Emissions (CO ₂ Equivalent g/km)	Calculated TTW** GHG Emissions (CO ₂ Equivalent g/km)	Calculated WTW*** GHG Emissions (CO ₂ Equivalent g/km)
Rural	0.297	10.71	165.1	813.3	978.4
Outer London	0.356	12.80	197.4	992.2	1189.6
Inner London	0.466	16.76	258.5	1308.1	1566.6
MLTB Average	0.386	13.91	214.4	1080.2	1294.6
LUB Average	0.346	12.46	192.1	959.3	1151.4

Data Generated by (On behalf of Test facility)  Date: 29/09/2016 Data Approved by:  Date: 10/10/2016

Low Emission Bus Certificate Summary

GHG Well-to-Wheel	1151.4	g CO ₂ e / km
Euro V Average Diesel Equivalent	1412.6	g CO ₂ e / km
WTW GHG saving (compared to Euro V equivalent)	261.2	g CO₂e / km
% WTW GHG saving (compared to Euro V equivalent)	18%	g CO₂e / km
Zero Emission operating range (km)	N/A	km
WTW CO ₂ e per passenger km (@Max Pass Capacity)	11.63	g CO ₂ e/pass km
Approved as Low Emission Bus? (15% saving or more)	YES	

*WTT - Well to Tank **TTW - Tank to Wheel ***WTW - Wheel to Wheel

COMMENTS: * compound measured via Fourier Transfer Infra-Red (FTIR), Values in RED are below levels of detectability.

Bus fitted with single 455/45R22.5 tyres at the rear, simulating having standard double 275/70R22.5 tyres for this test. Coastdown data used from bus with double 275/70R22.5 tyres fitted to rear.

** No N2O Data for ML02015872

Test Numbers: ML02015872 (28 September 2016), ML02015873 (28 September 2016), ML02015874 (28 September 2016).

Certificate approved by:
On behalf of Bus manufacturer

Certificate Approved by:
On behalf of LowCVP/DfT