





## ATTACHMENT

## EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

(For bi-, dual- or flexible-fueled vehicles, the STD and CERT in parentheses are those applicable to testing on gasoline test fuel.)

NMOG FLEET AVERAGE [g/mi]		NMOG @ RAF=* CH4 RAF = *		NMOG or NMHC STD [g/mi]	CH4=methane; NMOG=non-CH4 organic gas; NMHC=non-CH4 hydrocarbon; CO=carbon monoxide; NOx=oxides of nitrogen; HCHO=formaldehyde; PM=particulate matter; RAF=reactivity adjustment factor; 2/3 D [g/test]=2/3 day diurnal+hot-soak; RL [g/mi]=running loss; ORVR [g/gallon dispensed]=on-board refueling vapor recovery; g=gram; mg=milligram; mi=mile; K=1000 miles; F=degrees Fahrenheit; SFTP=supplemental federal test procedure									
CERT	STD	NMOG CERT [g/mi]	NMHC CERT [g/mi]		CO [g/mi]		NOx [g/mi]		HCHO [mg/mi]		PM [g/mi]		Hwy NOx [g/mi]	
0.022	0.035				CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
	@ 50K	0.026	*	0.040	0.3	1.7	0.02	0.05	*	8.	*	*	0.01	0.07
	@ UL	0.031	*	0.055	0.4	2.1	0.03	0.07	*	11.	*	0.01	0.02	0.09
	@ 50°F & 4K	0.068	*	0.080	0.5	1.7	0.02	0.05	*	16.	*	*	*	*

CO [g/mi] @ 20°F & 50K		SFTP @ 4000 miles	NMHC+NOx [g/mi] (composite)		CO [g/mi] (composite)		NMHC+NOx [g/mi] [US06]		CO [g/mi] [US06]		NMHC+NOx [g/mi] [SC03]		CO [g/mi] [SC03]	
CERT	STD		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
2.3	10.0	SFTP @ * miles	*	*	*	*	0.01	0.14	1.2	8.0	0.02	0.20	0.2	2.7
			*	*	*	*	*	*	*	*	*	*	*	*

Evaporative Family	3-Days Diurnal + Hot Soak (grams/test) @ UL		2-Days Diurnal + Hot Soak (grams/test) @ UL		Running Loss (grams/mile) @ UL		On-Board Refueling Vapor Recovery (grams/gallon) @ UL	
	CERT	STD	CERT	STD	CERT	STD	CERT	STD
BHYXR0148PSH	0.38	0.50	0.19	0.65	0.01	0.05	0.03	0.20
*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*

\* = not applicable; UL=useful life; PC=passenger car; LDT=light-duty truck; MDV=medium-duty vehicle; ECS=emissions control system; STD=Standard; CERT=Certification; LVW=loaded vehicle weight; ALVW=adjusted LVW; LEV=low emission vehicle; TLEV=transitional LEV; ULEV=ultra LEV; SULEV=super ULEV; TWC=3-way catalyst; ADSTWC=adsorbing TWC; WU=warm-up catalyst; OC=oxidizing catalyst; O2S=oxygen sensor; HO2S=heated O2S; AFS/HAFS=air-fuel ratio sensor / heated AFS; EGR=exhaust gas recirculation; AIR=secondary air injection; PAIR=pulsed AIR; MFI=multiport fuel injection; SFI=sequential MFI; TBI=throttle body injection; DGI=direct gasoline fuel injection; TC/SC=turbo/super charger; CAC=charge air cooler; OBD (F)/(P)=full/partial on-board diagnostic; LDR=direct zone reducing; prefix 2=parallel; (2) suffix=series; CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85="85%" Ethanol Fuel;

## 2011 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	EVAPORATIVE FAMILY	ECS NO.	ENGINE SIZE (L)	INTERMEDIATE IN-USE COMPLIANCE (*=N/A or full in-use; A/E=exh. / evap. intermediate in-use)		PHASE-IN STD.	OBD II
					EXH	EVAP		
HYUNDAI	ELANTRA TOURING	BHYXR0148PSH	1	2	*	*	SFTP	Full