

Off-Road Emission Factors for GLE Building Construction Phase

Equipment Type	Engine hp	Load Factor	Average Operating Hours per Work day	Number of Equipment Type used	Adjusted Emission Factors (g/hp-hr)				
					CO	NO _x	PM ₁₀	SO ₂	HC
Crane	175	0.43	10	1	0.9976	2.5200	0.3241	0.0049	0.1886
Tractor/loader/backhoe	100	0.21	10	4	4.1657	3.1450	0.6496	0.0049	0.1980
Forklift	75	0.59	10	4	4.1657	3.1450	0.6496	0.0049	0.1980
Aerial lift	75	0.21	10	4	6.9973	3.6590	1.0473	0.0057	0.4318
Air compressor	75	0.43	10	2	2.7227	3.0240	0.4419	0.0049	0.1886
					0.0000	0.0000	0.0000	0.0000	0.0000

Equipment Type	Engine hp	Load Factor	Average Operating Hours per Work day	Number of Equipment Type used	Daily Emissions (lb per work day)				
					CO	NO _x	PM ₁₀	SO ₂	VOC
Crane	175	0.43	10	1	1.65	0.04	0.00	0.00	0.00
Tractor/loader/backhoe	100	0.21	10	4	7.71	0.45	0.20	0.00	0.09
Forklift	75	0.59	10	4	16.24	2.66	2.47	0.00	0.19
Aerial lift	75	0.21	10	4	9.71	0.66	0.59	0.00	0.15
Air compressor	75	0.43	10	2	3.87	0.22	0.02	0.00	0.13
					0.00	0.00	0.00	0.00	0.00
Total Daily Emissions					39.2	4.0	3.3	0.00	0.6

Equipment Type	Engine hp	Average Operating Hours per Work day	Number of Equipment Type used	Work Days per Year	Annual Emissions (ton per year)				
					CO	NO _x	PM ₁₀	SO ₂	VOC
Crane	175	10	1	260	0.21	0.01	0.00	0.0000	0.00
Tractor/loader/backhoe	100	10	4	260	1.00	0.06	0.03	0.0001	0.01
Forklift	75	10	4	260	2.11	0.35	0.32	0.0002	0.03
Aerial lift	75	10	4	260	1.26	0.09	0.08	0.0001	0.02
Air compressor	75	10	2	260	0.50	0.03	0.00	0.0001	0.02
Total Annual Emissions					5.09	0.52	0.43	0.0006	0.07

Equipment Type	Engine hp				GLE Site-Specific Emission Factors (lb per ft ² per work day)				
					CO	NO _x	PM ₁₀	SO ₂	VOC
Crane	175				3.80E-07	9.06E-09	1.07E-10	7.49E-17	9.46E-25
Tractor/loader/backhoe	100				1.77E-06	1.03E-07	4.54E-08	2.09E-10	2.10E-08
Forklift	75				3.73E-06	6.10E-07	5.67E-07	4.41E-10	4.43E-08
Aerial lift	75				2.23E-06	1.51E-07	1.35E-07	1.83E-10	3.44E-08
Air compressor	75				8.88E-07	5.09E-08	3.83E-09	1.59E-10	3.07E-08
Off-Road Equipment Diesel Engine Emission Factor					8.99E-06	9.23E-07	7.51E-07	9.92E-10	1.30E-07

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Tier 3 Steady-state Emission Factor (E _{ss}) [g/hp-hr]					
CO	NO _x	PM ₁₀	SO ₂	HC	BSFC
0.8667	2.5	0.22	N.A.	0.1836	0.367
2.3655	3	0.3	N.A.	0.1836	0.367
2.3655	3	0.3	N.A.	0.1836	0.367
2.3655	3	0.3	N.A.	0.1836	0.367
2.3655	3	0.3	N.A.	0.1836	0.367

Transient Adjustment Factor (TAF) [unitless]					
CO	NO _x	PM ₁₀	SO ₂	HC	BSFC
1.00	1.00	1.00	1.00	1.00	1.00
1.53	1.04	1.47	N.A.	1.05	1.01
1.53	1.04	1.47	N.A.	1.05	1.01
2.57	1.21	2.37	N.A.	2.29	1.18
1.00	1.00	1.00	1.00	1.00	1.00

Tier 3 Deterioration Factor (DF) [unitless]				
CO	NO _x	PM ₁₀	SO ₂	HC
1.151	1.008	1.473	N.A.	1.027
1.151	1.008	1.473	N.A.	1.027
1.151	1.008	1.473	N.A.	1.027
1.151	1.008	1.473	N.A.	1.027
1.151	1.008	1.473	N.A.	1.027

soxcnv = 0.02247

soxdsi = 0.0015 (0.0015 or 15 ppm) for nonroad diesel fuel beginning 2010