

California Air Resources Board (ARB)
Off-Road Compression Ignition Engine Standards – g/bhp-hr (g/kwh)

| Engine Power | Tier | Year | CO | HC | NMHC + NOx | NOx | PM |
|---|--------|---------------|------------|----------------|------------|------------|--------------|
| hp < 11 (kW < 8) | Tier 1 | 2000 | 6.0 (8.0) | - | 7.8 (10.5) | - | 0.75 (1.0) |
| | Tier 2 | 2005 | 6.0 (8.0) | - | 5.6 (7.5) | - | 0.6 (0.8) |
| | Tier 4 | 2008 | 6.0 (8.0) | - | 5.6 (7.5) | - | 0.3 (0.4) |
| 11 ≤ hp < 25 (8 ≤ kW < 19) | Tier 1 | 2000 | 4.9 (6.6) | - | 7.1 (9.5) | - | 0.6 (0.8) |
| | Tier 2 | 2005 | 4.9 (6.6) | - | 5.6 (7.5) | - | 0.6 (0.8) |
| | Tier 4 | 2008 | 4.9 (6.6) | - | 5.6 (7.5) | - | 0.3 (0.4) |
| 25 ≤ hp < 50 (19 ≤ kW < 37) | Tier 1 | 2000 | 4.1 (5.5) | - | 7.1 (9.5) | - | 0.6 (0.8) |
| | Tier 2 | 2004 | 4.1 (5.5) | - | 5.6 (7.5) | - | 0.45 (0.6) |
| | Tier 4 | 2008 | 4.1 (5.5) | - | 5.6 (7.5) | - | 0.22 (0.3) |
| | | 2013 | 4.1 (5.5) | - | 3.5 (4.7) | - | 0.022 (0.03) |
| 50 ≤ hp < 100 (37 ≤ kW < 75) | Tier 1 | 2000 | - | - | - | 6.9 (9.2) | - |
| | Tier 2 | 2004 | 3.7 (5.0) | - | 5.6 (7.5) | - | 0.3 (0.4) |
| | Tier 3 | 2008 | 3.7 (5.0) | - | 3.5 (4.7) | - | 0.3 (0.4) |
| 50 ≤ hp < 75 (37 ≤ kW < 56) | Tier 4 | 2008 | 3.7 (5.0) | - | 3.5 (4.7) | - | 0.22 (0.3) |
| | | 2013 | 3.7 (5.0) | - | 3.5 (4.7) | - | 0.022 (0.03) |
| 100 ≤ hp < 175 (75 ≤ kW < 130) | Tier 1 | 2000 | - | - | - | 6.9 (9.2) | - |
| | Tier 2 | 2003 | 3.7 (5.0) | - | 4.9 (6.6) | - | 0.22 (0.3) |
| | Tier 3 | 2007 | 3.7 (5.0) | - | 3.0 (4.0) | - | 0.22 (0.3) |
| 75 ≤ hp < 175 (56 ≤ kW < 130) | Tier 4 | 2012 | 3.7 (5.0) | 0.14 (0.19) | - | 0.3 (0.4) | 0.015 (0.02) |
| 175 ≤ hp < 300 (130 ≤ kW < 225) | Tier 1 | 1996 | 8.5 (11.4) | 1.0 (1.3) | - | 6.9 (9.2) | 0.4 (0.54) |
| | Tier 2 | 2003 | 2.6 (3.5) | - | 4.9 (6.6) | - | 0.15 (0.2) |
| | Tier 3 | 2006 | 2.6 (3.5) | - | 3.0 (4.0) | - | 0.15 (0.2) |
| 300 ≤ hp < 600 (225 ≤ kW < 450) | Tier 1 | 1996 | 8.5 (11.4) | 1.0 (1.3) | - | 6.9 (9.2) | 0.4 (0.54) |
| | Tier 2 | 2001 | 2.6 (3.5) | - | 4.8 (6.4) | - | 0.15 (0.2) |
| | Tier 3 | 2006 | 2.6 (3.5) | - | 3.0 (4.0) | - | 0.15 (0.2) |
| 600 ≤ hp < 750 (450 ≤ kW < 560) | Tier 1 | 1996 | 8.5 (11.4) | 1.0 (1.3) | - | 6.9 (9.2) | 0.4 (0.54) |
| | Tier 2 | 2002 | 2.6 (3.5) | - | 4.8 (6.4) | - | 0.15 (0.2) |
| | Tier 3 | 2006 | 2.6 (3.5) | - | 3.0 (4.0) | - | 0.15 (0.2) |
| 175 ≤ hp < 750 (130 ≤ kW < 560) | Tier 4 | 2011- 2014 | 2.6 (3.5) | 0.14 (0.19) | - | 0.3 (0.4) | 0.015 (0.02) |
| hp ≥ 750 (kW ≥ 560) | Tier 1 | 2000 | 8.5 (11.4) | 1.0 (1.3) | - | 6.9 (9.2) | 0.4 (0.54) |
| | Tier 2 | 2006 | 2.6 (3.5) | - | 4.8 (6.4) | - | 0.15 (0.2) |
| hp ≥ 750 (kW ≥ 560) generator sets | Tier 4 | 2011- 2014 | 2.6 (3.5) | - | 0.3 (0.4) | 0.5 (0.67) | 0.07 (0.1) |
| | | 2015 | 2.6 (3.5) | - | 0.14(0.19) | 0.5 (0.67) | 0.022 (0.03) |
| hp ≥ 750 (kW ≥ 560) all other engines | Tier 4 | 2011- 2014 | 2.6 (3.5) | - | 0.3 (0.4) | 2.6 (3.5) | 0.07 (0.1) |
| | | 2015 | 2.6 (3.5) | - | 0.14(0.19) | 2.6 (3.5) | 0.03 (0.04) |

1 – The standards are for carbon monoxide (CO), hydrocarbons (HC), non-methane hydrocarbons, (NMHC), nitrogen oxides (NOx), and particulate matter (PM) expressed in units of grams per brake horsepower per hour (g/bhp-hr) and grams per kilowatt per hour (g/kw-hr).

2 – Power is maximum rated power expressed in horsepower (hp) or kilowatts (kw).