

**Environmental Protection Agency**

**§ 1060.525**

[73 FR 59298, Oct. 8, 2008, as amended at 75 FR 23027, Apr. 30, 2010]

**§ 1060.521 How do I test fuel caps for permeation emissions?**

If you measure a fuel tank’s permeation emissions with a nonpermeable covering in place of the fuel cap under §1060.520(b)(5)(ii)(B), you must separately measure permeation emissions from a fuel cap. You may show that your fuel tank and fuel cap meet emission standards by certifying them separately or by combining the separate measurements into a single emission rate based on the relative surface areas of the fuel tank and fuel cap. However, you may not combine these emission measurements if you test the fuel cap at a nominal temperature of 28 °C and you test the fuel tank at 40 °C. Measure the fuel cap’s permeation emissions as follows:

(a) Select a fuel cap expected to have permeation emissions at least as high as the highest-emitting fuel cap that you expect to be used with fuel tanks from the emission family. Include a gasket that represents production models. If the fuel cap includes vent paths, seal these vents as follows:

(1) If the vent path is through grooves in the gasket, you may use an-

other gasket with no vent grooves if it is otherwise the same as a production gasket.

(2) If the vent path is through the cap, seal any vents for testing.

(b) Attach the fuel cap to a fuel tank with a capacity of at least one liter made of metal or some other impermeable material.

(c) Use the procedures specified in §1060.520 to measure permeation emissions. Calculate emission rates using the smallest inside cross sectional area of the opening on which the cap is mounted as the fuel cap’s surface area.

**§ 1060.525 How do I test fuel systems for diurnal emissions?**

Use the procedures of this section to determine whether your fuel tanks meet diurnal emission standards as specified in §1060.105.

(a) Except as specified in paragraph (c) of this section, use the following procedure to measure diurnal emissions:

(1) Diurnal measurements are based on a representative temperature cycle. For marine fuel tanks, the temperature cycle specifies fuel temperatures rather than ambient temperatures. The applicable temperature cycle is indicated in the following table:

TABLE 1 TO § 1060.525—DIURNAL TEMPERATURE PROFILES FOR FUEL TANKS

Time (hours)	Ambient Temperature Profile for Land-based Fuel Tanks ( °C)	General Fuel Temperature Profile for Installed Marine Fuel Tanks ( °C)	Fuel Temperature Profile for Marine Fuel Tanks Installed in Nontrailerable Boats ( °C)
0	22.2	25.6	27.6
1	22.5	25.7	27.6
2	24.2	26.5	27.9
3	26.8	27.9	28.5
4	29.6	29.2	29.0
5	31.9	30.4	29.5
6	33.9	31.4	29.9
7	35.1	32.0	30.1
8	35.4	32.2	30.2
9	35.6	32.2	30.2
10	35.3	32.1	30.2
11	34.5	31.7	30.0
12	33.2	31.0	29.7
13	31.4	30.2	29.4
14	29.7	29.3	29.1
15	28.2	28.6	28.8
16	27.2	28.0	28.5
17	26.1	27.5	28.3
18	25.1	27.0	28.1
19	24.3	26.6	28.0
20	23.7	26.3	27.9
21	23.3	26.1	27.8
22	22.9	25.9	27.7
23	22.6	25.7	27.6