

**Subpart D—Production Verification Testing**

**§ 1060.301 Manufacturer testing.**

(a) Using good engineering judgment, you must evaluate production samples to verify that equipment or components you produce are as specified in the certificate of conformity. This may involve testing using certification procedures or other measurements.

(b) You must give us records to document your evaluation if we ask for them.

**§ 1060.310 Supplying products to EPA for testing.**

Upon our request, you must supply a reasonable number of production samples to us for verification testing.

**Subpart E—In-use Testing**

**§ 1060.401 General Provisions.**

We may perform in-use testing of any equipment or fuel-system components subject to the standards of this part.

**Subpart F—Test Procedures**

**§ 1060.501 General testing provisions.**

(a) This subpart is addressed to you as a certifying manufacturer but it applies equally to anyone who does testing for you.

(b) Unless we specify otherwise, the terms “procedures” and “test procedures” in this part include all aspects of testing, including the equipment specifications, calibrations, calculations, and other protocols and procedural specifications needed to measure emissions.

(c) The specification for gasoline to be used for testing is given in 40 CFR 1065.710. Use the grade of gasoline spec-

ified for general testing. For testing specified in this part that requires a blend of gasoline and ethanol, blend this grade of gasoline with fuel-grade ethanol meeting the specifications of ASTM D4806 (incorporated by reference in §1060.810). You do not need to measure the ethanol concentration of such blended fuels and may instead calculate the blended composition by assuming that the ethanol is pure and mixes perfectly with the base fuel. For example, if you mix 10.0 liters of fuel-grade ethanol with 90.0 liters of gasoline, you may assume the resulting mixture is 10.0 percent ethanol. You may use more or less pure ethanol if you can demonstrate that it will not affect your ability to demonstrate compliance with the applicable emission standards. Note that unless we specify otherwise, any references to gasoline-ethanol mixtures containing a specified ethanol concentration means mixtures meeting the provisions of this paragraph (c).

(d) Accuracy and precision of all temperature measurements must be  $\pm 1.0$  °C or better. If you use multiple sensors to measure differences in temperature, calibrate the sensors so they will be within 0.5 °C of each other when they are in thermal equilibrium at a point within the range of test temperatures (use the starting temperature in Table 1 to §1060.525 unless this is not feasible).

(e) Accuracy and precision of mass balances must be sufficient to ensure accuracy and precision of two percent or better for emission measurements for products at the maximum level allowed by the standard. The readability of the display may not be coarser than half of the required accuracy and precision. Examples are shown in the following table for a digital readout:

	Example #1	Example #2	Example #3
Applicable standard .....	1.5 g/m <sup>2</sup> /day .....	1.5 g/m <sup>2</sup> /day .....	15 g/m <sup>2</sup> /day.
Internal surface area .....	1.15 m <sup>2</sup> .....	0.47 m <sup>2</sup> .....	0.015 m <sup>2</sup> .
Length of test .....	14.0 days .....	14.0 days .....	14.1 days.
Maximum allowable mass change .....	24.15 g .....	9.87 g .....	3.173 g.
Required accuracy and precision .....	$\pm 0.483$ g or better .....	$\pm 0.197$ g or better .....	$\pm 0.0635$ g or better.
Required readability .....	0.1 g or better .....	0.1 g or better .....	0.01 g or better.

## § 1060.505

[73 FR 59298, Oct. 8, 2008, as amended at 74 FR 8427, Feb. 24, 2009]

### § 1060.505 Other procedures.

(a) *Your testing.* The procedures in this part apply for all testing you do to show compliance with emission standards, with certain exceptions listed in this section.

(b) *Our testing.* These procedures generally apply for testing that we do to determine if your equipment complies with applicable emission standards. We may perform other testing as allowed by the Clean Air Act.

(c) *Exceptions.* We may allow or require you to use procedures other than those specified in this part in the following cases:

(1) You may request to use special procedures if your equipment cannot be tested using the specified procedures. We will approve your request if we determine that it would produce emission measurements that represent in-use operation and we determine that it can be used to show compliance with the requirements of the standard-setting part.

(2) You may ask to use emission data collected using other procedures, such as those of the California Air Resources Board or the International Organization for Standardization. We will approve this only if you show us that using these other procedures does not affect your ability to show compliance with the applicable emission standards. This generally requires emission levels to be far enough below the applicable emission standards so any test differences do not affect your ability to state unconditionally that your equipment will meet all applicable emission standards when tested using the specified test procedures.

(3) You may request to use alternate procedures that are equivalent to allowed procedures or are more accurate or more precise than allowed procedures. See 40 CFR 1065.12 for a description of the information that is generally required to show that an alternate test procedure is equivalent.

(4) The test procedures are specified for gasoline-fueled equipment. If your equipment will use another volatile liquid fuel instead of gasoline, use a test fuel that is representative of the

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fuel that will be used with the equipment in use. You may ask us to approve other changes to the test procedures to reflect the effects of using a fuel other than gasoline.

(d) *Approval.* If we require you to request approval to use other procedures under paragraph (c) of this section, you may not use them until we approve your request.

### § 1060.510 How do I test EPA Low-Emission Fuel Lines for permeation emissions?

For EPA Low-Emission Fuel Lines, measure emissions according to SAE J2260, which is incorporated by reference in § 1060.810.

[74 FR 8427, Feb. 24, 2009]

### § 1060.515 How do I test EPA Nonroad Fuel Lines and EPA Cold-Weather Fuel Lines for permeation emissions?

Measure emission as follows for EPA Nonroad Fuel Lines and EPA Cold-Weather Fuel Lines:

(a) Prior to permeation testing, use good engineering judgment to precondition the fuel line by filling it with the fuel specified in this paragraph (a), sealing the openings, and soaking it for at least four weeks at  $43 \pm 5$  °C or eight weeks at  $23 \pm 5$  °C.

(1) For EPA Nonroad Fuel Lines, use Fuel CE10, which is Fuel C as specified in ASTM D471 (incorporated by reference in § 1060.810) blended with ethanol such that the blended fuel has 10.0  $\pm$  1.0 percent ethanol by volume.

(2) For EPA Cold-Weather Fuel Lines, use gasoline blended with ethanol such that the blended fuel has 10.0  $\pm$  1.0 percent ethanol by volume.

(b) Drain the fuel line and refill it immediately with the fuel specified in paragraph (a) of this section. Be careful not to spill any fuel.

(c) Measure fuel line permeation emissions using the equipment and procedures for weight-loss testing specified in SAE J30 or SAE J1527 (incorporated by reference in § 1060.810). Start the measurement procedure within 8 hours after draining and refilling the fuel line. Perform the emission test over a sampling period of 14 days. Determine your final emission result