

§ 160.066-7

46 CFR Ch. I (10-1-06 Edition)

(1) A self-contained unit with all necessary components for firing the signal, or

(2) A cartridge intended for firing from a signal pistol that is approved under Subpart 160.028 of this chapter.

(b) Each signal unit must have an interior chamber which contains the main propulsion charge and which is constructed so that it is capable of withstanding the forces generated by ignition without rupture, crack, or deformation of any kind.

(c) Signals must be constructed in lots numbered serially by the manufacturer. A new lot must be started when:

(1) Any change in construction details occurs;

(2) Any change in sources of raw materials occurs;

(3) Production is started on a new production line or on a previously discontinued production line; or

(4) A lot exceeds 30,000 units.

§ 160.066-7 Performance requirements.

(a) Each signal must:

(1) Burn "vivid red" when tested as specified in §160.021-4(d)(7) for at least 5.5 seconds.

(2) Have a peak luminous intensity of at least 10,000 candela.

(3) Burn a total of not less than 1,000 candleminutes (Cm) using the formula

$$I \times T = Cm$$

Where:

I=the luminous intensity measured as in subsection (c);

T=the total burn time of the device in minutes; and

Cm=the candle-minute rating of the device.

(4) Burn out completely before falling back to the level of launch.

(5) Function in a manner that would not cause burns or injury to an unprotected person firing the signal in accordance with the manufacturer's instructions.

(6) Not malfunction in a manner that would cause burns or injury to an unprotected person firing the signal in accordance with the manufacturer's instructions.

(b) Each signal must meet the requirements of paragraph (a) after:

(1) Submersion in water for 24 hours, or

(2) If protected by a sealed container, submersion in water for 24 hours inside the sealed container immediately followed by submersion for 10 minutes without the container, and

(3) Being exposed to the Elevated Temperature, Humidity, and Storage Test in §160.066-13(b).

(c) Testing for burn time and luminous intensity pursuant to paragraphs (a)(1) and (a)(2), respectively, shall be conducted in conformity with the following requirements and procedures:

(1) The chart speed of the light measuring equipment shall not be slower than 5 seconds per inch;

(2) The chart sweep of the light measuring equipment shall not be slower than .5 seconds for full scale;

(3) The first and last seconds of the burn shall be eliminated in measuring luminous intensity;

(4) The time during which the candle burns (excluding first and last seconds of burn) is to be used to determine the luminous intensity by averaging the readings taken during the burning; and

(5) Burn time is to be measured from first light of the signal to dark.

§ 160.066-9 Labeling.

(a) Each signal must be legibly and indelibly marked with the following information:

(1) The manufacturer's name,

(2) The designed burning time of the pyrotechnic candle(s),

(3) The specific signal pistol for which the signal is designed, if any,

(4) The lot number,

(5) The Coast Guard approval number,

(6) Operation and storage instructions,

(7) The month and year of expiration determined by §160.066-10, and

(8) The words:

"Aerial Flare. Acceptable as a Day and Night Visual Distress Signal for boats as required by 33 CFR 175.110. For Emergency Use Only".

(b) If the signal is too small to contain all of the information required by paragraph (a) and any labeling which may be required by paragraph (d), the information required by paragraphs (a) (2), (6), and (8) may be printed on a separate piece of paper packed with each

signal or with the smallest container in which several signals are packed.

(c) The largest carton or box in which the manufacturer ships signals must be marked with the following or equivalent words: "Keep under cover in a dry place."

(d) Compliance with the labeling requirements of this section does not relieve the manufacturer of the responsibility of complying with the label requirements of the Federal Hazardous Substances Act, 15 U.S.C. 1263.

§ 160.066-10 Expiration date.

Each approved signal must have an expiration date marked on it. That date must not be more than forty-two months from date of manufacture.

§ 160.066-11 Approval procedures.

(a) Red aerial pyrotechnic flare distress signals are approved under the procedures of subpart 159.005 of this chapter.

(b) The manufacturer must produce a lot of at least 100 signals from which samples for approval testing must be drawn. Approval testing must be conducted in accordance with the operational tests in §160.066-12 and the technical tests in §160.066-13. In order for the signal to be approved, the samples must pass both the operational and the technical tests.

(c) The approval tests must be performed by an independent laboratory accepted by the Commandant under Subpart 159.010 of this chapter.

[CGD 76-183a, 44 FR 73050, Dec. 17, 1979, as amended by CGD 93-055, 61 FR 13931, Mar. 28, 1996]

§ 160.066-12 Operational tests.

(a) The procedure for conducting operational tests is described in figure (1).

(1) An "accept lot" decision must be reached in order to pass the operational tests.

(2) If a "reject lot" decision is reached, the entire lot is rejected.

(3) Signals from "reject lots" may be reworked by the manufacturer to cor-

rect the deficiency for which they were rejected and be resubmitted for inspection. Records shall be kept of the reasons for rejection, the reworking performed on the "reject lot", and the result of the second test. Signals from "reject lots" may not, unless subsequently accepted, be sold or offered for sale as being in compliance with this specification.

(b) Each signal selected for the operational tests must be conditioned by:

(1) Being submerged under at least 25 mm (1 in.) of water for 24 hours without any protection other than its waterproofing; or

(2) If waterproofing is provided by a sealed plastic bag or other waterproof packaging, submersion under 25 mm (1 in.) of water for 24 hours in the packaging, followed immediately by submersion under 25 mm (1 in.) of water for 10 minutes with the signal removed from the packaging.

(c) After each signal selected has undergone the conditioning required by paragraph (b) of this section it must be fired as described by the manufacturer's operating instructions. The following data as observed must be recorded for each signal:

(1) Burning time of the pyrotechnic candle;

(2) Color;

(3) Whether the pyrotechnic candle burns out above, at, or below the level of launch.

(d) A signal fails the operational tests if:

(1) It fails to fire,

(2) The pyrotechnic candle fails to ignite,

(3) The pyrotechnic candle continues to burn after it falls back to the level of launch,

(4) The observed color is other than vivid red, or

(5) The burning time is less than 5.5 seconds.

(e) A lot is rejected if a "reject lot" decision is reached using Figure (1) and Table 1 after completion of the operational tests.