§ 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
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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 correct 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.