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 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.
§ 160.066–12

START

Determine individual sample size for the lot from Table I.

Select the required number of signals at random from the lot.

Condition each signal as prescribed in § 160.066-12(f).

Test each signal as prescribed in § 160.066-12(g).

Did any signal when fired explode or ignite in a way that would burn or injure an unprotected person using it?

Yes

Reject Lot

No

Determine the number of failures in accordance with the defects table in § 160.066-12(d).

Add the total sample number of failures to the cumulative number of failures.

Is the cumulative number of failures less than or equal to the Accept criterion on Table 2 for the sample?

Yes

Accept Lot

No

Is the cumulative number of failures greater than or equal to the Reject criterion on Table 2 for the sample?

Yes

Reject Lot

No

Figure 1. Operational test procedure.
Table 1—Accept and Reject Criteria for Operational Test Lots

<table>
<thead>
<tr>
<th>Lot size</th>
<th>Individual sample size</th>
<th>Sample</th>
<th>Cumulative sample size</th>
<th>Accept 1</th>
<th>Reject 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>280 or less.</td>
<td>8 First ........................... 8 (1)</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>500.</td>
<td>Second ...................... 16 1</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>281 to 500.</td>
<td>Third .......................... 24 2</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>501 to 1,200.</td>
<td>Fourth ........................ 32 3</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>1,201 to 3,200.</td>
<td>Fifth ........................... 40 5</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>More than 3,200.</td>
<td>Sixth .......................... 48 7</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seventh ..................... 56 9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

1 Cumulative number of failures.
2 Lot may not be accepted. Next sample must be tested.

§ 160.066–13 Technical tests.

(a) The following conditions apply to technical tests as described in this section:

(1) A total of nine signals must be selected at random from the lot being tested;

(2) If the signals are protected by sealed packaging, then the conditioning for the technical tests must be conducted with the signal in the sealed packaging;

(3) If signals in the test sample fail to pass one of the technical tests, the entire lot is rejected;

(4) 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) The Elevated Temperature, Humidity, and Storage Test must be conducted in the following manner:

(1) Select three signals from the nine;

(2) Place each signal in a thermostatically controlled even-temperature oven held at 55 Degrees C (131 Degrees F), and at not less than 90% relative humidity, for at least 72 hours (If for any reason it is not possible to operate the oven continuously for the 72 hour period, it may be operated at the required temperature and humidity for 8 hours of each 24 during the 72 hour conditioning period.);

(3) After removal from the oven immediately place each signal in a chamber: