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MIL-DTL-82967A (OS)  
08 August 2002  
 SUPERSEDING  
 MIL-DTL-82967 (OS)  
 27 November 2000

## DETAIL SPECIFICATION

### SQUIB, ELECTRIC SQ85

*This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.*

## 1. SCOPE

**1.1 Scope.** This specification covers the SQ85 Electric Squib, referred to herein as the squib.

## 2. APPLICABLE DOCUMENTS

**2.1 General.** The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or documents recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements for documents referenced in sections 3 and 4 of this specification, whether or not they are listed.

### 2.2 Government documents.

**2.2.1 Specifications and standards.** The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplements thereto, cited in the solicitation (see 6.2).

## SPECIFICATIONS

### DEPARTMENT OF DEFENSE

|             |  |
|-------------|--|
| MIL-L-3055  | Lead Azide   |
| MIL-I-23659 | Initiators, Electrical, General Design Specification for |

|   |
|---|
| Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Indian Head Division, Naval Surface Warfare Center, Engineering Documentation Branch (Code 4230), 101 Strauss Avenue, Indian Head, MD 20640-5035 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by sending a letter . |
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AMSC N/A

FSC 1377

**Distribution Statement A:** Approved for public release; distribution is unlimited.

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## STANDARDS

## DEPARTMENT OF DEFENSE

MIL-STD-1168 Ammunition Lot Numbering and Ammunition Data Card

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.)

**2.2.2 Other Government documents, drawings, and publications.** The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

## DRAWINGS

NAVAL AIR SYSTEMS COMMAND (CAGE CODE 30003)

|             |                                    |
|-------------|------------------------------------|
| 2518510     | Squib Assembly Test Fixture        |
| 855AS117    | Squib, Electric                    |
| DL 855AS117 | Squib, Electric, Data List         |
| 855AS123    | Packaging SPI for Squibs, Electric |

(Application for copies should be addressed to: Commander, Indian Head Division, Naval Surface Warfare Center, Engineering Documentation Branch (Code 4230), Indian Head, MD 20640-5035.)

**2.3 Non-Government publications.** The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 1742 Standard Practice for Radiographic Examination

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

**2.4 Order of precedence.** In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

**3.1 First article.** When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.2 and 6.2).

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**3.2 Primary components.** The Lead Azide (MIL-L-3055, Type I), Boron Calcium Chromate, and the Tetramethylammonium Perchlorate/Ammonium Perchlorate (TMAP/AP) are the squibs primary components (see 6.7.1). Only one lot of each primary component shall be used in a squib lot. One primary lot may be used in more than one squib lot.

**3.3 Squib production.** The squibs shall be manufactured in accordance with DL 855AS117 and the documents listed thereon. Each production squib shall meet the requirements of 3.2 through 3.3. Failure of any squib to meet the applicable requirements of 3.3 shall result in rejection of that unit.

**3.3.1 Visual inspection.** All squibs manufactured under contract shall be visually inspected and screened for defects as outlined in 4.5.1.

**3.3.2 Radiographic examination.** Squibs shall show proper assembly, presence of parts, sealing, when examined radiographically in accordance with 4.5.2.

**3.3.3 Electrostatic discharge.** The squib shall not fire, dud, or otherwise be affected when tested in accordance with 4.5.3.

**3.3.4 Bridge circuit resistance.** The bridge circuit resistance of the squib shall be 0.9 to 1.1 ohms, including leadwires, when tested in accordance with 4.5.4.

**3.3.5 Dielectric withstanding voltage.** The squib shall not exhibit a dielectric current leakage in excess of 0.1 milliamperes when tested in accordance with 4.5.5.

**3.3.6 Leakage.** Each squib shall not exhibit a leak rate in excess of  $1.0 \times 10^{-5}$  cubic centimeters per second (cc/sec) of helium at a pressure differential of  $1.0 \pm 0.1$  atmospheres when tested in accordance with 4.5.6.

### **3.4 Squib performance.**

#### **3.4.1 Electrical characteristics.**

**3.4.1.1 Stray voltage.** The squib shall not fire, dud, or otherwise be affected when tested in accordance with 4.5.7.

**3.4.1.2 No-Fire.** The squib shall not function or degrade when subjected to 1 amp/1 watt DC for 5 minutes, when tested in accordance with 4.5.8.

#### **3.4.2 Environmental.**

**3.4.2.1 Six-foot drop.** The squib shall not fire or incur any detrimental internal or external degradation as a result of the six-foot drop test in accordance with 4.5.9 and shall meet the performance requirement of 3.4.3 when tested.

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**3.4.2.2 Shock.** The squibs shall not fire or incur any detrimental internal or external degradation as a result of the shock test in accordance with 4.5.10 and shall meet the performance requirement of 3.4.3 when tested.

**3.4.2.3 Vibration.** The squibs shall not fire or incur any detrimental internal or external degradation as a result of the vibration test in accordance with 4.5.11 and shall meet the performance requirement of 3.4.3 when tested.

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**3.4.2.4 Temperature, humidity, and altitude (TH&A) cycling.** The squibs shall not fire or incur any detrimental internal or external degradation as a result of the TH&A test in accordance with 4.5.12 and shall meet the performance requirement of 3.4.3 when tested.

**3.4.3 Ballistic requirements.** Squibs shall meet the requirements of 3.4.3.1 through 3.4.3.4 when tested in accordance with 4.5.13.

**3.4.3.1 Function.** Each squib shall function when evaluated in accordance with 4.5.13.1.

**3.4.3.2 Ignition delay.** The ignition delay shall not exceed 0.100 seconds when evaluated in accordance with 4.5.13.2.

**3.4.3.3 Velocity.** Each squib shall develop sufficient output to propel the steel piston of the test fixture at a minimum velocity of 100 feet per second when evaluated in accordance with 4.5.13.3.

**3.4.3.4 Misfire.** There shall be no misfires.

## 4. VERIFICATION

**4.1 Classification of inspections.** The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2).
- b. Production inspection (see 4.3).
- c. Lot acceptance inspection (see 4.4).

**4.2 First article inspection.** Before entering into quantity production, an acceptable first article sample of 57 squibs shall be prepared using the same procedures and methods proposed for the production lot. A first article sample acceptable for performance and environmental testing shall be defined as a sample which has met the applicable requirements of 3.2 through 3.3 of this specification. Fifty-four of these squibs shall be expended in the tests listed in table I and three shall be retained for investigative purposes. The contractor shall deliver the squibs to the activity designated by the contracting agency for tests. Any damage inflicted by the environmental treatments, which would adversely affect the performance of the item in service application shall be cause for rejection of the first article sample. Any further production prior to notification by the contracting agency of the first article sample acceptability shall be at the contractor's risk. Failure of any squib to comply with the requirements of section 3 shall be cause for rejection of the first article represented. A first article sample shall be required if:

- a. Two or more years have passed since the SQ85 squib or similar items have been manufactured,
- b. There has been a major turnover in personnel,
- c. There have been major changes to the production facility, or
- d. There has been a transfer of production to a new facility.

TABLE I. First article test plan.

| Test Sequence | Requirement | Test  | Test Group |    |    |    |    |   | Total |
|---------------|-------------|-------|------------|----|----|----|----|---|-------|
|               |             |       | A          | B  | C  | D  | E  | F |       |
| 1. Visual     | 3.3.1       | 4.5.1 | 6          | 12 | 12 | 12 | 12 | 3 | 57    |

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|                               |         |        |   |    |    |    |    |   |    |
|-------------------------------|---------|--------|---|----|----|----|----|---|----|
| 2. Radiographic               | 3.3.2   | 4.5.2  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 3. Dielectric                 | 3.3.5   | 4.5.5  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 4. Bridge Circuit             | 3.3.4   | 4.5.4  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 5. Leakage                    | 3.3.6   | 4.5.6  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 6. Stray Voltage              | 3.4.1.1 | 4.5.7  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 7. No-Fire                    | 3.4.1.2 | 4.5.8  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 8. Bridge Circuit Resistance  | 3.3.4   | 4.5.4  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 9. 6-Foot Drop                | 3.4.2.1 | 4.5.9  | 6 |    |    |    |    |   | 6  |
| 10. Shock                     | 3.4.2.2 | 4.5.10 |   | 12 |    |    |    |   | 12 |
| 11. Vibration                 | 3.4.2.3 | 4.5.11 |   |    | 12 |    |    |   | 12 |
| 12. TH&A Cycling              | 3.4.2.4 | 4.5.12 |   |    |    | 12 |    |   | 12 |
| 13. Visual Inspection         | 3.3.1   | 4.5.1  | 6 | 12 | 12 | 12 |    |   | 42 |
| 14. Radiographic Examination  | 3.3.2   | 4.5.2  | 6 | 12 | 12 | 12 |    |   | 42 |
| 15. Bridge Circuit Resistance | 3.3.4   | 4.5.4  | 6 | 12 | 12 | 12 |    |   | 42 |
| 16. Leakage                   | 3.3.6   | 4.5.6  | 6 | 12 | 12 | 12 |    |   | 42 |
| 17. Electrostatic Discharge   | 3.3.3   | 4.5.3  | 6 | 12 | 12 | 12 | 12 |   | 54 |
| 18. Bridge Circuit Resistance | 3.3.4   | 4.5.4  | 6 | 12 | 12 | 12 | 12 | 3 | 57 |
| 19. Ballistic Test (-65± 5°F) | 3.4.3   | 4.5.13 |   |    | 4  | 3  | 4  |   | 11 |
| 20. Ballistic Test (70± 5°F)  | 3.4.3   | 4.5.13 | 6 | 12 | 4  | 6  | 4  |   | 32 |
| 21. Ballistic Test (160± 5°F) | 3.4.3   | 4.5.13 |   |    | 4  | 3  | 4  |   | 11 |

**4.3 Production inspection.** All production squibs manufactured under contract shall be inspected and screened to requirements specified in 3.2 and 3.3. Any unit failing to meet the requirements listed in 3.2 through 3.3 shall be rejected and removed from the lot.

**4.4 Lot acceptance inspection.** Lot acceptance inspection shall consist of the examinations and tests specified in table II. Failure of any sample squib to comply with the requirements listed in table II shall be cause for rejection of the lot represented.

**4.4.1 Sample size.** A random sample of squibs from each production lot, including the samples retained for investigative purposes, shall be selected in accordance with table III for lot acceptance inspection. Test sample squibs and samples retained for investigative purposes shall not be applied as part of the quantity specified for delivery by the contract or purchase order.

Table II. Lot acceptance inspections and tests.

| Test sequence               | Requirement Paragraph | Test Paragraph | Quantity                 |
|-----------------------------|-----------------------|----------------|--------------------------|
| 1. Visual inspection        | 3.3.1                 | 4.5.1          | Test and retained sample |
| 2. Radiographic Examination | 3.3.2                 | 4.5.2          | Test and retained sample |
| 3. Electrostatic Discharge  | 3.3.3                 | 4.5.3          | Test and retained sample |
|                             |                       |                | Test and retained sample |

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|                                    |         |        |                          |
|------------------------------------|---------|--------|--------------------------|
| 4. Bridge Circuit Resistance       | 3.3.4   | 4.5.4  |                          |
| 5. Dielectric Withstanding Voltage | 3.3.5   | 4.5.5  | Test and retained sample |
| 6. Bridge Circuit Resistance       | 3.3.4   | 4.5.4  | Test and retained sample |
| 7. Leakage                         | 3.3.6   | 4.5.6  | Test and retained sample |
| 8. No-Fire                         | 3.14.12 | 4.5.8  | Test and retained sample |
| 9. Ballistic test                  |         |        |                          |
| -65 ± 5°F                          | 3.4.3   | 4.5.13 | 1/3 test sample          |
| 70 ± 5°F                           | 3.4.3   | 4.5.13 | 1/3 test sample          |
| 160 ± 5°F                          | 3.4.3   | 4.5.13 | 1/3 test sample          |

Table III: Lot acceptance sampling.

| Lot Size | Test Sample Size | Retained Sample Size | Total Sample Size |
|----------|------------------|----------------------|-------------------|
| 0-25     | 6                | 3                    | 9                 |
| 26-50    | 9                | 3                    | 12                |
| 51-90    | 12               | 3                    | 15                |
| 91-150   | 15               | 3                    | 18                |
| 151-280  | 24               | 3                    | 27                |
| 281-500  | 33               | 3                    | 36                |

**4.5 Inspections and tests.****4.5.1 Visual inspections.**

**4.5.1.1 Squib inspections.** All assembled squibs shall be visually examined. Reject those with inadequate or illegible descriptive markings or serial numbers, dents, deep scratches, or other defects that may prevent proper installation or function.

**4.5.1.2 Packaging inspection.** The condition of the packaging (inner containers), packing (outer container), and markings shall be determined by comparison to the requirements of section 5 and 855AS123.

**4.5.2 Radiographic examination.** Each squib shall be radiographically examined in accordance with ASTM E 1742. All squibs shall be identified with serial numbers beginning with 001 prior to examination. The squibs shall be arranged on trays or boards in consecutive numerical order with any missing serial numbers identified on the radiographic plate. The squibs shall be positioned for the most revealing exposure with the long axis perpendicular to the radiographic beam. Each radiographic plate shall carry a permanent identification of the item displayed thereon in a 4 x 6-inch region maximum. Radiographic plate identification shall include the government drawing number, the complete lot number in accordance with MIL-STD-1168, the contract number, the DOD identification code (DODIC), and the span of serial numbers displayed. Squibs shall be free of imperfections in assembly. Any observable imperfections as outlined in 3.3.2 shall be cause for rejection of the squib. Defective squibs found by the contractor shall be clearly identified on the radiographic plate and those defective shall be discarded. Radiographs of the entire production lot shall accompany the ballistic sample to the activity conducting the tests (see 6.2).

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**4.5.3 Electrostatic discharge.** To determine if the squib meets the requirement of 3.3.3, a  $500 \pm 5$  percent picofarad capacitor charged to  $25,000 \pm 500$  volts and a  $5000 \pm 5$  percent ohm resistor shall be connected in a 5 microhenry total inductance series circuit between leadwires shorted together and the case of the squib. The series connection shall be maintained for 60 seconds. Each series test shall constitute a separate test. Squibs shall be temperature conditioned for a minimum of 12 hours at  $70 \pm 5^\circ\text{F}$  just prior to test.

**4.5.4 Bridge circuit resistance.** Conformance with the bridge circuit resistance shall be ascertained by means of a test circuit that limits the bridge current to 25 milliamperes, maximum. Each squib shall meet the requirements of 3.3.4. The test shall be performed under room conditions of  $70 \pm 18^\circ\text{F}$ .

**4.5.5 Dielectric withstanding voltage.** To determine if the squib meets the requirement of 3.3.5, a direct current of  $500 \pm 25$  volts shall be applied between the shorted lead wires and squib case in accordance with MIL-I-23659 for a maximum of 60 seconds. An instrument reading may be taken and the test terminated after 20 seconds of applied voltage, as long as the leakage current meets the requirements of 3.3.5, and is steady or decreasing. The test shall be performed under room conditions of  $70 \pm 18^\circ\text{F}$ .

**4.5.6 Leakage.** To determine if the squib meets the requirement of 3.3.6, perform the following procedure:

- a. Place the squib in the vacuum/pressure chamber. Do not submit more units to test than can be leak tested within 20 minutes.
- b. Evacuate the pressure to 27 in Hg minimum. Hold vacuum for five minutes minimum.
- c. Pressurize the chamber to  $30 +2/-0$  psig of helium. Maintain this pressure for 20 minutes minimum.
- d. Release pressure and remove squib to be tested.
- e. Flush exterior of squib thoroughly with low-pressure air or dry nitrogen.
- f. Perform helium leak test on the squib using a calibrated leak detector. Squibs not meeting the requirements of 3.3.6 shall be considered defective. All defective squibs shall be rejected.

**4.5.7 Stray voltage.** The squib shall be conditioned at  $70 \pm 5^\circ\text{F}$  for a minimum of 12 hours. The squib shall be subjected to 2000 pulses of direct current. Each pulse shall be of 300 milliseconds duration, have a rate of 2 per second and an amplitude of  $100 \pm 5$  milliamperes. Each squib shall meet the requirements of 3.4.1.1.

**4.5.8 No-Fire.** Verification shall occur by inspection and test as follows: The squib shall be tested at the temperature indicated in the test matrix of Table I. This test shall be performed within a temperature tolerance. The squibs shall be preconditioned at either  $70 \pm 5^\circ\text{F}$  or  $225 \pm 5^\circ\text{F}$  for a minimum of 12 hours.

Connect the squibs into an electrical series string and place inside the temperature chamber. Connect the power supply, preset to  $1.0 +0.1/-0$  ampere or the appropriate current that satisfies the 1 watt minimum requirement, and subject the squibs to this current for 5 minutes  $+5/-0$  seconds. Remove the squibs from the temperature chamber and allow them to return to ambient temperature before removing the electrical string. Visually verify the squibs did not function.



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**4.5.9 Six-foot drop.** To determine if the squibs meet the requirements of 3.4.2.1, six unprotected squibs are to be dropped from a height of 6 feet +2, -0 inches and impacted onto a 2-inch-thick steel plate imbedded in concrete. Two squibs shall be dropped in each of the three mutually perpendicular axes as shown in Figure 1.

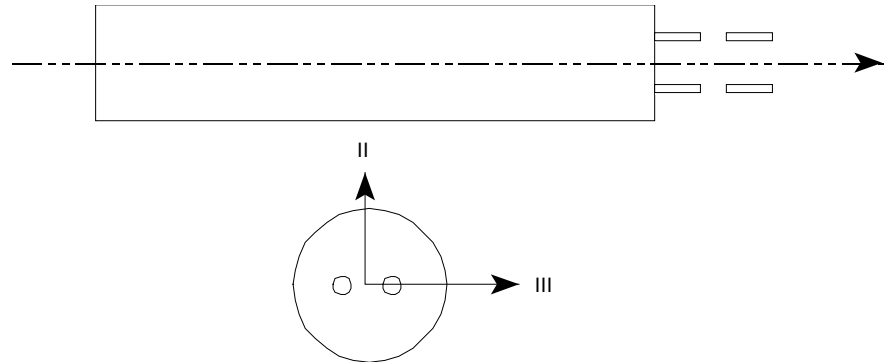


FIGURE 1. Axes orientations.

**4.5.10 Shock.** To determine if the squibs meet the requirements of 3.4.2.2, twelve units shall be subjected to three sawtooth shock pulses applied in both directions along the longitudinal axis of the squibs. Six pulses shall be applied in both directions along a lateral axis. Figure 2 describes the shock pulse to be used.

**4.5.11 Vibration.** Twelve units, as outlined in table I, shall be vibrated for 1 hour each along the mutually perpendicular axes shown in Figure 1 at -65, 70, and 160°F, for a total of 9 hours vibration time. Figure 3 describes the vibration test levels to be used for the vibration testing. Each squib shall meet the requirements of 3.4.2.3.

**4.5.12 Temperature, humidity, and altitude (TH&A) cycling.** Twelve units, as outlined in table I, shall be placed on screen trays or in wire baskets to expose all surfaces and allow air to circulate freely. Then subject the squibs to the 28-day TH&A cycling test of table IV. This schedule shall be followed for a total of 4 weeks (28 days) except that on the second and fourth weekends the soak time shall be from 1200 on Friday until 0800 on Monday at a temperature of 160°F and 95 percent relative humidity.

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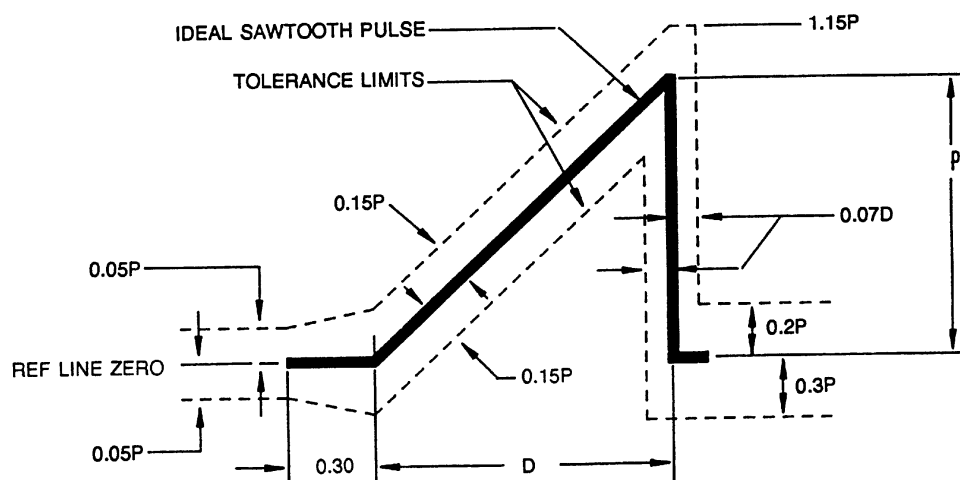


FIGURE 2. Sawtooth shock pulse where D = 6 milliseconds and P = 100 g.

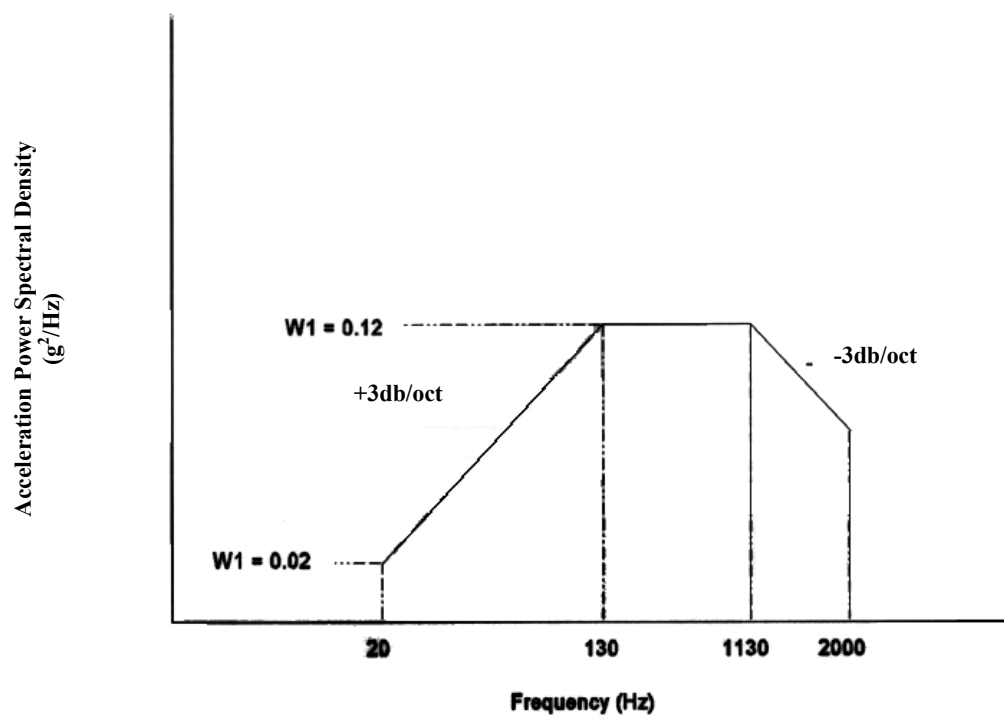


FIGURE 3. Vibration test levels.

Table IV. Temperature shock/humidity/altitude cycling schedule.

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|           |      |  |
|-----------|------|--|
| Monday    | 800  | Place test items in a chamber maintained at 70°F and 50 percent relative humidity (RH).  |
|           | 1200 | Raise chamber temperature to 160°F and the RH to 95 percent. The chamber temperature shall reach 160°F and 95 percent RH no later than 1300. |
|           | 1600 | Remove test items from the chamber and immediately place in a chamber maintained at -65°F and a pressure altitude of 50,000 feet (1.68 psi). |
| Tuesday   | 800  | Remove test items from the chamber and immediately place in a chamber maintained at 70°F and 50 percent RH.                                  |
|           | 1200 | Remove test items from the chamber and immediately place in a chamber maintained at -65°F and a pressure altitude of 50,000 feet (1.68 psi). |
|           | 1600 | Remove test items from the chamber and immediately place in a chamber maintained at 160°F and 90 percent RH.                                 |
| Wednesday | 800  | Reduce chamber temperature to 70°F and RH to 50 percent. The chamber temperature shall reach 70°F and 50 percent RH no later than 0900.      |
|           | 1200 | Raise chamber temperature to 160°F and RH to 95 percent. The chamber temperature shall reach 160°F and 95 percent RH no later than 1300.     |
|           | 1600 | Remove test items from the chamber and immediately place in a chamber maintained at -65°F and a pressure altitude of 50,000 feet (1.68 psi). |
| Thursday  | 800  | Remove test items from the chamber and immediately place in a chamber maintained at 70°F and 50 percent RH.                                  |
|           | 1200 | Remove test items from the chamber and immediately place in chamber maintained at -65°F and a pressure altitude of 50,000 feet (1.68 psi).   |
|           | 1600 | Remove test items from the chamber and immediately place in a chamber maintained at 160°F and 95 percent RH.                                 |
| Friday    | 800  | Reduce chamber temperature to 70°F and RH to 50 percent. The chamber temperature shall reach 70°F and 50 percent RH no later than 0900.      |
|           | 1200 | Raise chamber temperature to 160°F and RH to 95 percent. The chamber temperature shall reach 160°F and 95 percent RH no later than 1300.     |
|           | 1600 | Remove test items from the chamber and immediately place in a chamber maintained at -65°F and standard ambient pressure.                     |

**4.5.13 Ballistic tests.** Sample squibs shall be conditioned for a period not less than four hours nor more than 24 hours at the specified temperatures. The squibs shall be removed from the conditioning chamber and test fired within 5 minutes. If any squib is not fired within five minutes after removal, it shall be reconditioned at the specified temperature for an additional 4-hours then tested. The ballistic tests shall be performed using the test setup and fixture in accordance with Drawing 2518510. Instrumentation shall be provided to record the squib delay time and the piston velocity. The squibs shall meet the requirements specified in 3.4.3.

**4.5.13.1 Function.** Each squib shall meet the requirements of 3.4.3.1 when a firing current of  $4.5 \pm 0.10$  amperes is applied across the bridgewire circuit.

**4.5.13.2 Ignition delay.** The ignition delay shall be measured from application of the firing current to first movement of the test fixture piston. Each squib shall meet the requirements of 3.4.3.2.

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**4.5.13.3 Velocity.** Instrumentation shall be placed to measure the time increment at which the fixture piston transverses from one to seven inches beyond first movement ( $6.00 \pm 0.05$  inches of travel). The exact distance of piston travel, in equivalent feet, shall be divided by the nearest thousandth of a second measured time increment for piston velocity determination. Each squib shall meet the requirements of 3.4.3.3.

**4.5.13.4 Misfire.** A squib that does not fire under the conditions specified in 4.5.13 shall be considered defective, and the lot shall be considered unacceptable, unless the misfire is clearly attributable to faulty test equipment or procedure. Each squib shall meet the requirements of 3.4.3.4.

**4.5.13.5 Test failure.** If a test failure is attributable to an assignable cause, excluding the test squib, original test results should be discarded and that part of the test reconducted.

## 5. PACKAGING

**5.1 Packaging.** For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DOD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department of Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful but is not mandatory.)

**6.1 Intended use.** The SQ85 Electric Squib is used in the BQM-34 Aerial Target to sever the tail cone explosive bolt allowing the recovery parachute to deploy. As the squib is used in the BQM-34 Aerial Target only, it is military unique and has no commercial application.

**6.2 Acquisition requirements.** Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.2.1 and 2.2.2).
- c. Production lot sizes and test activity.
- d. Whether a first article sample is required and, if so, the test activity (see 3.1 and 4.2.).
- e. Directions for shipping radiographs of entire production lot along with the ballistic sample to the activity conducting the first article test.
- f. Packaging and marking if other than as specified (see 5.1 and 6.6).

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- g. That the safety precaution requirements are met (see 6.3).

**6.3 Safety precautions.** The safety precaution requirements of the "Contractor's Safety Manual for Ammunition and Explosives and related Dangerous Material" (DOD 4145.26M), are applicable and should be specified in the contract as required by the Federal Acquisition regulation (FAR) 23.3.

**6.4 First article.** When a first article inspection is required, the contracting officer should provide specific guidance to offerors whether the items should be a first article sample or a sample selected from the first production items (see 3.1), and the number of items to be tested as specified in 4.2. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examination, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

**6.5 Hazard notice.** The squib described herein and certain components are flammable, toxic, or explosive. The squib and components present hazards in manufacture, handling, storage, and shipment. The contractor should recognize these properties and take appropriate measures to guard and protect against fire, explosion, adverse environment, corrosive atmosphere, rough handling, and electrically induced incidents.

**6.6 Marking.**

**6.6.1 Special marking.** Marking of outer containers should be in accordance with 49 CFR 100-199.

**6.6.2 Normal marking.** Unless otherwise specified in the contract or order, the marking information of the inner and outer containers should be as specified below:

**Inner Container Marking.**

NSN/ DODIC: 1377-01-434-1416/ SQ85

Nomenclature: SQUIB, ELECTRIC

Part Number: 30003-855AS117

Quantity:

Lot number: (In accordance with MIL-STD-1168)

DOT Hazard Classification: 1.4B

MIL-DTL-82967A (OS)

**Outer Container Marking.**

NSN/ DODIC: 1377-01-434-1416/ SQ85

Nomenclature: SQUIB, ELECTRIC

Part Number: 30003-855AS117

Quantity:

Gross weight and cube:

Proper shipping name: DETONATORS FOR AMMUNITION/ UN 0365

Lot number: (In accordance with MIL-STD-1168)

Contract or purchase order number:

**" WARNING: 1.4B EXPLOSIVE DEVICE, HANDLE CAREFULLY, KEEP AWAY FROM FIRE "**

Additionally, the above-specified marking information should be applied to the containers in accordance with the applicable provisions of MIL-STD-129.

**6.7 Definition.**

**6.7.1 Primary components.** Primary components are all components in which a functional failure would result in a misfire or malfunction.

**6.8 Subject term (keyword) listing.**

Aerial Target  
BQM-34S  
Recovery parachute  
Tail Cone  
Explosive Bolt Severance

**6.9 Changes from previous issue.** Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes. The following ECP was incorporated in this revision; 025210K024.

Preparing activity:  
Navy – OS  
(Project number 1377-0172)

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

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## I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER  
MIL-DTL-82967A (OS)

2. DOCUMENT DATE (YYMMDD)  
08 August 2002

3. DOCUMENT TITLE  
SQUIB, ELECTRIC SQ85

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)  
(1) Commercial  
  
(2) DSN  
(If applicable)

7. DATE SUBMITTED  
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

Commander, Indian Head Division  
Naval Surface Warfare Center

b. TELEPHONE (Include Area Code)

(1) Commercial  
301-744-4700

(2) DSN  
354-4700

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Engineering Documentation Branch (Code 4230)  
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