SPECIFICATION
FOR
BATTERY, DRY (LECLANCHÉ), 135/67.5/1.5/-6 V,NO 1, NATO STOCK NO 6135-99-901-2229

(NATO TYPE DESIGNATION NBA 279)

This Supplement supersedes SUPPLEMENT NO 80 to DEF STAN 61 - 3 (PART 1), dated 20 August 1969

1. This Supplement is to be read in conjunction with the General Specification for primary batteries (Leclanché, mercury, and manganese alkaline types) contained in DEF STAN 61 - 3 (PART 1).

2. NOMINAL VOLTAGE

a. Cell.

1.5

b. Battery.

(1) HT 1 section: 67.5

(2) HT 2 section: 135 (including HT 1 section)

(3) LT section: 1.5

(4) GB section: 6

3. DIMENSIONS

Dimensions shall be in accordance with the requirements of the attached drawing.

4. MASS

Mass shall not exceed 8 pounds 8 ounces (3.86 kilograms).

5. MARKINGS

Marking shall be in accordance with the requirements of the General Specification contained in DEF STAN 61 - 3 (PART 1), clause 11. and the attached drawing.

6. CONSTRUCTION

a. Assembly.

(1) Two HT sections of 67.5 volts connected in series to give 135 volts, one LT section of 1.5 volts, and one GB section of 6 volts, shall be combined in a single insulating container.

(a) The two HT sections each normally being 45 layer-type cells connected in series.

6. a. (1) (b) The LT section normally being six cylindrical cells connected in parallel.

(c) The GB section normally being eight cylindrical cells connected in series - parallel.

(2) Inter-cell connections between cylindrical cells shall be soldered, using wire not thinner than 0.028 in (22 s.w.g.) (0.71 mm).

(3) Inter-stack connections for layer-type cells and cell-socket connections shall be soldered, using insulated stranded wire.

(4) The whole assembly shall be blocked securely to prevent internal movement.

(5) The hole in the outer container shall be concentric with the socket and shall be sealed in such a manner that the seal may be removed and replaced effectively to permit testing of the battery during storage.

(6) After sealing, the battery shall be dipped in micro-crystalline wax at a temperature of not less than 100°C, for not less than five seconds, in such a manner that the battery is covered completely with a smooth and continuous protective wax film.

b. Cell details.

(1) Size.

(a) HT 1: 54 mm (L) x 38 mm (W) x 8.30 mm (H).

(b) HT 2 (excluding HT 1):32 mm (L) x 21 mm (W) x 6 mm (H).

(c) LT: R18 (BS 397).

(d) GB: R18 (BS 397).

(2) Zinc thickness for cylindrical type.

Shall be not less than 0.014in (0.36 mm).

c. Terminations.

Special socket shall be in accordance with the requirements of EQD Drawing List No SD/A 199790.

7. STORAGE PERFORMANCE TESTS

a. Allocation of sample batteries.

(1) For Qualification Approval testing.

Shall be in accordance with the requirements of the General Specification contained in DEF STAN 61 - 3 (PART 1), clause 6.b.

7. a. (2) For Quality Assurance testing.

Number of sample batteries supplied shall be in accordance with the requirements of the General Specification contained in DEF STAN 61 - 3 (PART 1), clause 14.b. and shall be divided between the tests shown in the table below as follows:

10% Jungle with the balance divided equally between the other four types of storage.

b. Storage conditions and performance requirements.

TYPE OF STORAGE	GENERAL SPECIFICATION CLAUSE	STORAGE PERIOD (WEEKS)	MINIMUM DISCHARGE LIFE AFTER STORAGE (HOURS)
Temperate (Short term)	17.a.	4	42
Temperate (Long term)	17.a.	52	36
≠ Jungle	17.c.	8	39
ø Desert	17.b.	26	27
Temperate (Spare)	18.d.	-	-

Notes:

1. ≠ indicates insulation resistance after Jungle storage (General Specification DEF STAN 61 - 3 (PART 1), clause 19.) to be not less than 2 megohms.

2. ø indicates batteries stored singly.

c. Discharge test conditions.

(1) Resistance loads.

(a) -HT to HT 1: R1 3500 ohms.)
R2 2700 ohms.)

(b) -HT to HT 2: R1 2600 ohms.)
R2 100 000 ohms.)

(c) LT section: R1 3.5 ohms.)
R2 3.5 ohms.)

(d) GB section: R1 14 ohms.)
R2 6000 ohms.)

7. c. (2) Discharge cycle.

Two minutes discharge through, R1, followed by 18 minutes discharge through R2. This cycle shall be repeated continuously.

(3) On-load voltage end-points.

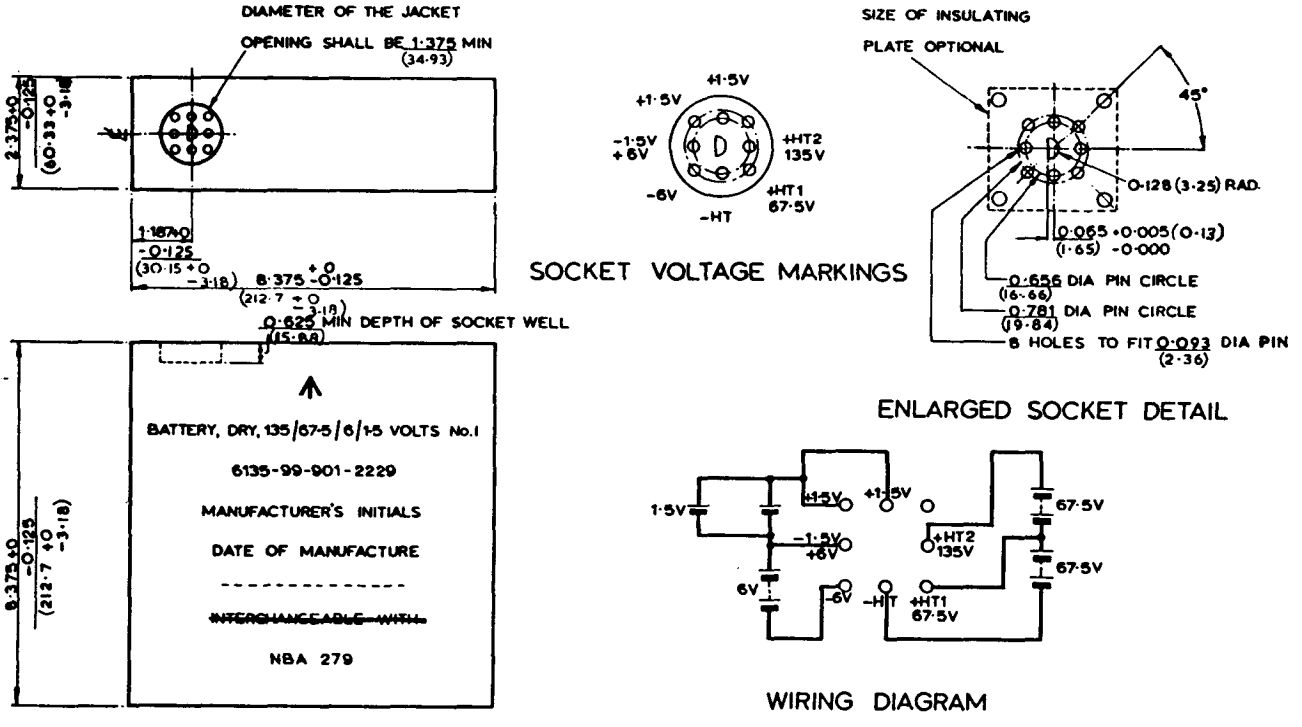
(a) HT 1 section: 50 volts.

(b) HT 2 section: 100 volts (including HT 1).

(c) LT section: 1.1 volts.

(d) GB section: 4.8 volts.

DRAWING 6135-99-901-2229



NOTES :-

1 ALL DIMENSIONS ARE IN INCHES WITH mm EQUIVALENTS AND SHALL INCLUDE THICKNESS OF MICRO-CRYSTALLINE WAX COATING.

2 UNLESS OTHERWISE SPECIFIED ALL TOLERANCES ARE :- DECIMALS $\pm\frac{0{\cdot}005}{(0{\cdot}127)}$ ANGLES ± ½°

3 TEST VOLTAGES MARKED AROUND THE SOCKET SHALL BE "n" x 1·5 VOLTS WHERE "n" IS THE NUMBER OF CELLS CONNECTED IN SERIES

4 SOCKET SHALL NOT BE RECESSED MORE THAN 3/32 INCH (2·38) BELOW THE SURFACE OF THE CONTAINER WHEN THE MATING PLUG IS INSERTED

5 FOR DETAILS OF SOCKET SEE E.Q.D. DRAWING LIST No. SD/A 198790

THIRD ANGLE PROJECTION

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Our Reference : D/DStan/11/2

Date : 9 November 1998

Removal of Product Qualification Approval

IMPORTANT ANNOUNCEMENT

1. This Standard contains a Product Qualification Approval (PQA) scheme. [i]MOD policy requires that all PQA schemes are removed from Defence Standards called up in contracts placed after 1st January 1998.

2. Users of this Standard are to contact the Project Manager (PM), Equipment Support Manager (ESM) or Technical Service Authority (TSA) named in the contract or order, to identify whether there is a continuing need for an approvals scheme.

3. [ii]Product Conformity Certification (PCC) is a risk based process that replaces PQA. Once a risk has been identified PCC can be included as a contract clause. In exceptional circumstances agreement can be sought from AD/Stan for PCC to be included in a Defence Standard.

4. At the next revision of this Standard the PQA scheme will be removed.

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[i] Defence Council Instruction (General) 197/97; Quality Temporary Memorandum 5/98; Chief of Defence Procurement Instruction CDPI/TECH/250 (draft)

[ii] PCC is certification that a product meets its specification. When PC is required by the contract, the contractor is responsible for obtaining the necessary PCC. Certification shall be provided from a NAMAS accredited laboratory when appropriate. PCC shall apply where a Risk Assessment has been identified by the PM; ESM or TSA.