

SPECIFICATION  
FOR  
BATTERY, DRY (LECLANCÉ), 162/3 V, No 1 NATO STOCK NO 6135-99-910-1159

This Supplement supersedes SUPPLEMENT NO 42 to  
DEF STAN 61 - 3 (PART 1), dated 19 March 1968

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 section: 162 with tapping at 12

(2) LT section: 3

3. DIMENSIONS

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

4. MASS

Mass shall not exceed 8 pounds 12 ounces (3.97 kilograms).

5. MARKINGS

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

6. CONSTRUCTION

a. Assembly.

(1) An HT section and an LT section of 162 and 3 volts respectively, combined in a single insulating container.

(a) The HT section normally being 110 layer-type cells connected in series.

(b) The LT section normally being 12 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).

6. a. (3) 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) Layer-type: 3/16 in (4.76mm) x 2.1/8 in (53.98mm) x 1.1/2 in (38.10 mm).

(b) Cylindrical type: R22 (BS 397).

(2) Zinc thickness for cylindrical type.

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

c. Terminations.

Special socket in accordance with the requirements of the attached drawing.

7. STORAGE AND 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.

(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.

7. 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
∅ Desert	17.b.	26	32
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. ∅ batteries stored singly.

c. Discharge test conditions.

(1) Resistance loads.

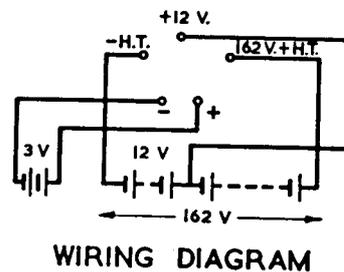
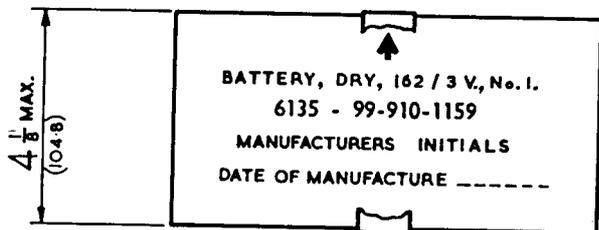
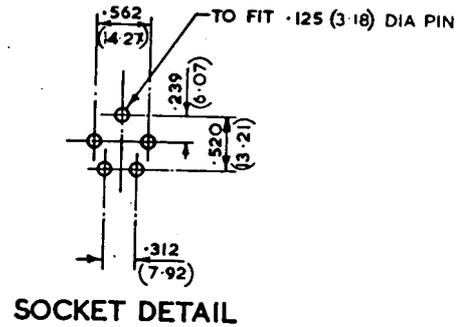
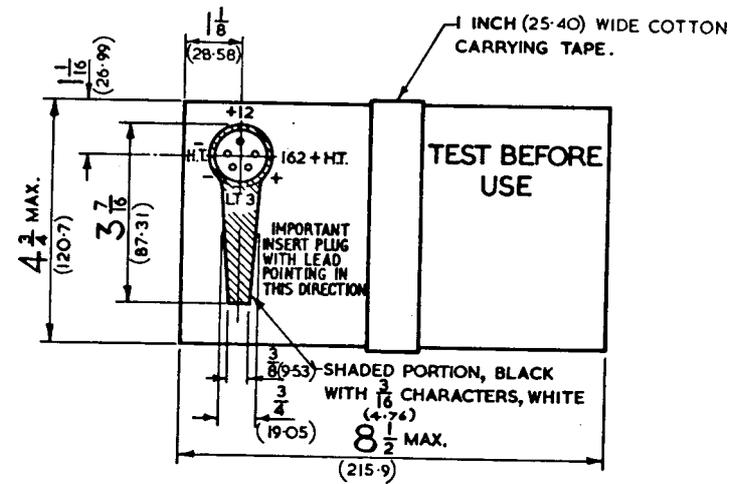
- (a) HT section: R1: 8 100 ohms.  
R2: 10 800 ohms.
- (b) LT section: R1: 6.5 ohms.  
R2: 10.0 ohms.

(2) Discharge cycle.

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

(3) On-load voltage end-points.

- (a) HT section: 108 volts.
- (b) LT section: 2.2 volts.



- 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:- FRACTIONS  $\pm \frac{1}{16}$  (1.59); DECIMALS  $\pm .005$  (0.13)
- 3 DIAMETER OF HOLE IN OUTER CONTAINER SHALL BE 1 INCH (25.40) MINIMUM  
 SOCKET SHALL NOT BE RECESSED MORE THAN  $\frac{3}{32}$  (2.38) BELOW SURFACE OF CONTAINER WHEN THE MATING PLUG IS INSERTED.
- 4 SOCKET SHALL MATE EFFICIENTLY WITH PLUG PINS OF LENGTH  $\frac{9}{16}$  (14.29)

THIRD ANGLE PROJECTION



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Your Reference :

Our Reference : D/DStan/11/2

Date : 9 November 1998

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## **Removal of Product Qualification Approval**

### **IMPORTANT ANNOUNCEMENT**

1. This Standard contains a Product Qualification Approval (PQA) scheme. <sup>i</sup>MOD policy requires that all PQA schemes are removed from Defence Standards called up in contracts placed after 1<sup>st</sup> 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. <sup>ii</sup>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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<sup>i</sup> Defence Council Instruction (General) 197/97; Quality Temporary Memorandum 5/98; Chief of Defence Procurement Instruction CDPI/TECH/250 (draft)

<sup>ii</sup> 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.