

3rd August 1973

SPECIFICATION
FOR
BATTERY, SECONDARY - PORTABLE, LEAD-ACID TYPE
6V, 170 Ah (FULLY DRY CHARGED) - NATO STOCK NO 6140-99-910-1545



This Supplement supersedes Supplement No 2, Issue 1, to DEF STAN 61 - 9 (PART 1), dated 5th November 1969

1. GENERAL

This Supplement is to be read in conjunction with the general specification for batteries, secondary, portable, lead-acid type contained in DEF STAN 61 - 9 (PART 1).

2. CONSTRUCTION

The construction is to be in accordance with the requirements of Drawing Book No 4534 (latest issue) obtainable from the Ministry of Defence, Electrical Quality Assurance Directorate (EQD), 'Aquila', Golf Road, Bromley, Kent.

3. CONTAINER AND LID MATERIALS (general specification, Annex A).

a. Impact strength (Annex A, clause 3.).

The value obtained from any sample is to be not less than 0.136 J.

b. Plastic yield (Annex A, clause 4.).

The value obtained from any sample is to be not greater than 5.0 mm.

c. Resistance to attack by acid (Annex A, clause 6.).

The change of mass and volume of samples tested is to be not greater than 1%.

4. MASS

The mass is not to exceed 50 kg filled and charged.

5. QUALIFICATION APPROVAL TESTING

Eight batteries are to be provided, two each being required for sub-groups I and II and four for sub-group III of the group C tests specified in clause 6. of this Supplement.

6. APPLICABLE TESTS

a. Qualification Approval and production inspection group A tests.

Tests to be applied to each battery:

TEST	GENERAL SPECIFICATION CLAUSE
Polarity of plates	20.a.
Plate separation	20.b.
Sealing	20.c.
Dryness	20.d.

b. Production inspection group B tests.

TESTS IN ORDER OF APPLICATION	GENERAL SPECIFICATION CLAUSE
Immediate discharge 10-hour rate	21.h.(2)
Mass	21.e.
Capacity discharge 10-hour rate	21.j.(2)
Capacity discharge 10-hour rate -40°C	21.j.(8)

c. Qualification Approval and production inspection group D tests.

At intervals of 2000 batteries produced, eight batteries are to be subjected to the full range of Qualification Approval tests (see clause 5.).

TESTS IN ORDER OF APPLICATION	GENERAL SPECIFICATION CLAUSE	SUB-GROUP		
Two years storage	21.q.			III
Tropical	21.o.		II	
Sealing	20.c.		II	
Dryness	20.d.		II	
Immediate discharge 10-hour rate	21.h.(2)	I	II	III
Mass	21.e.	I	II	III
Capacity discharge 10-hour rate	21.j.(2)	I	II	III
Electrolyte retention	21.j.	I	II	III
Capacity discharge five-hour rate	21.j.(3)	I	II	III
Capacity discharge one-hour rate	21.j.(4)	I	II	III
Capacity discharge 10-hour rate -40°C	21.j.(8)	I	II	III
Charge retention test A	21.k.(1)	I	II	III
Life test A	21.m.	I	II	III

Note: Tests on sub-groups I and II are to be commenced within 60 days from date of manufacture of the sample batteries.

7. ELECTROLYTE RETENTION (general specification, clause 21.f.)

Test A is to be applied with the battery on open circuit.

8. CAPACITY RATINGS

For the purpose of specified tests the following capacity ratings shall apply:

20-hour rate - 188 ampere-hours
10-hour rate - 170 ampere-hours
Five-hour rate - 150 ampere-hours
One-hour rate - 85 ampere-hours

9. LIFE TESTS A - MINIMUM LIFE

The number of life test cycles (general specification, clause 21.m.(13)) is to be not less than 195 cycles.



Procurement Executive, Ministry of Defence

Directorate of Standardization

Room 1138, Kentigern House, 65 Brown Street, GLASGOW, G2 8EX

Telephone: 0141-224 2595 (Direct Dialling)

Fax: 0141-224 2503

0141-248 7890 (Switchboard)

Internet e-mail address: t.leaver@dstan.mod.uk

Your Reference :

Our Reference : D/DStan/11/2

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Removal of Product Qualification Approval

IMPORTANT ANNOUNCEMENT

1. This Standard contains a Product Qualification Approval (PQA) scheme. ⁱMOD 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. ⁱⁱProduct 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.

T R Leaver
Head of Standards Programme Management
Tel: 0141 224 2595 FAX: 0141 224 2503

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.