



For the Attention of: Sandy Chadha

Supreme Imports Limited
4 Beacon Road
Ashburton Park
Asburton Road West, Trafford Park
Manchester
M17 1AF

With Compliments

DATE REPORT ISSUED 22/03/2011

PLEASE FIND ENCLOSED OUR REPORT REFERENCE ALC E : I33257 : 0211

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Bureau Veritas Consumer Products Services UK Ltd

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TECHNICAL REPORT

SUBMISSION INFORMATION

ALC. E : I33257 : 0211

DATE JOB BOOKED IN: 18/02/2011

DATE REPORT ISSUED: 22/03/2011

Sample Description: AA batteries, 7 types, high drain tests

Applicant: Supreme Imports Limited
4 Beacon Road
Ashburton Park
Asburton Road West, Trafford Park
Manchester
M17 1AF

Applicant Ref. / Order:

TEST INFORMATION

Evaluation To: High drain discharge tests.

Standards Employed: BS EN 60086-1:2001
BS EN 60086-2:2001

CONCLUSIONS:

All of the batteries exceeded the Minimum Average Duration (MAD) that was anticipated for the discharge tests. The JCB OXI and ASDA Longlife gave the best results at 210% of MAD and the Pairdeer the poorest at 181% of MAD.

The Supreme Lithium exceeded the results of all of the alkaline batteries however these have a different chemical composition and are included for comparison purposes only.

No leakage was recorded from any cell during testing.

Signature:

Paul Harris

AUTHORISED SIGNATORY

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This certificate should be read in conjunction with the attached report which has been prepared in accordance with and is subject to Bureau Veritas Consumer Products Services UK Ltd's standard Terms & Conditions.

The results and conclusions only apply to the sample(s) submitted and do not guarantee the bulk of the items from which it was obtained to be of equal quality.

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SUMMARY OF EXAMINATION

Introduction:

An examination was requested to ascertain compliance with the requirements as detailed on page one of this report. The following clauses were considered applicable and our findings were as follows:

BS EN 60086-1:2001

CLAUSE	DESCRIPTION	RESULT	*COMMENTS
4.2	PERFORMANCE		
4.2.1	DISCHARGE PERFORMANCE		See note 1

**See Annex II : Comments*

ANNEX I: SUBMISSION DESCRIPTION

Sample Description: AA batteries, 7 types, high drain tests

JCB Super Alkaline

JCB Digital OXI

Duracell Plus

Battery types Energizer Ultra

ASDA Longlife Alkaline

Pairdeer Ultra Digital

Supreme LiFeS2 Lithium



Figure 1

ANNEX II : ADDITIONAL COMMENTS

- 1 The 7 types of AA batteries were subjected to a high drain discharge test using a resistive load of 3.9 Ohms applied to each battery for 1 hour in 24 until the on load battery voltage dropped below the End Voltage of 0.8V. This is intended to simulate use in a high drain appliance such as motor driven toy.

The Minimum Average Duration expected under these test conditions is 4h

The samples tested achieved the following results:

JCB Super Alkaline	8.2 hours	205% of MAD
JCB Digital OXI	8.4 hours	210% of MAD
Duracell Plus	7.8 hours	195% of MAD
Energizer Ultra +	7.75 hours	194% of MAD
ASDA Longlife Alkaline	8.4hours	210% of MAD
Pairdeer Ultra Digital	7.25 hours	181% of MAD
Supreme LiFeS2 Lithium	9.5 hours	238% of MAD.

The lithium batteries would not normally be subjected to the same test regime but were included in this test for comparison purposes at the client's request.

- 2 The load tests on batteries are not based on the current but on the value of resistance used as a load.

For AA batteries a load of 10 Ohms would be used to simulate a personal music player or radio whereas a load of 3.9 Ohms would be used to simulate a motor driven toy which has approximately 2.5 times higher current drain and consequently would drain the batteries a lot quicker.

The expected Minimum Average Duration or AA Alkaline batteries with a 10 Ohm resistor is 11.5hours, with a 3.9 Ohm resistor the expected MAD is 4 Hours.