

Specification of Manganese Batteries

type : UM-4

Issued : 01. Apr. 1999

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1. Scope : This specification is applicable to the following Dry Batteries Supplied to SANYO Energy (Europe) Corporate GmbH from SANYO Electric Co., Ltd.
2. Type : UM-4
3. Nominal Voltage : 1.5V
4. Figure and Dimensions : See Fig. 1
5. Standard Weight : 8g
6. Terminals : + : Cap Terminal, - : Base Terminal
7. Quality Characteristics :
 - 7.1 Dimensions : Dimensions are shown in Fig. 1.
 - 7.2 Terminal : There shall be no rust or deformation that occurs troubles practically.
 - 7.3 Appearance : There shall be no rust, deformation or scratch that occurs troubles practically.
 - 7.4 Electrical Characteristics

(Table 1)

Item		Requirement		Test Conditions
Open-Circuit Voltage (V)		Initial	1.52 - 1.75	Temp. : 20 +/- 2 centigrade RH : 65 +/- 20%
		After 3 years	1.50 - 1.75	
Service Life (H)	Discharge at 15 ohm	Initial	Over 4.3	Temp. : 20 +/- 2 centigrade RH : 65 +/- 20% End Voltage : 0.85V Daily period : 10min
		After 3 years	Over 3.0	

8. Test

8.1 Storage and Test Conditions

(1) Storage Condition

Unless otherwise specified, storage condition shall be kept at 20 +/- 2 centigrade and at 65 +/- 20%RH.

(2) Test Condition

Unless otherwise specified, test shall be conducted at 20 +/- 15 centigrade and at 65 +/- 20%RH.

8.2 Instruments and Devices

(1) Voltmeters

The voltmeters shall be of Class 0.5 or better specified in JIS C1102 (Electrical Indicating Instruments) and shall have a internal resistance not less than 1,000 ohm/V. But voltmeters for service life test shall have a internal resistance not less than 1,000 ohm/V or not less than 10 times of load resistance, which ever is larger.

(2) Load Resistance

The load resistance shall include all resistances in external circuit, and its tolerance shall be +/-