

BS 397 : Part 2 : 1989
IEC 86-2 : 1987

UDC 621.352.132

BS 397 : Part 2 : 1989
IEC 86-2 : 1987

British Standard

Primary batteries

Part 2. Specification sheets

Piles électriques
Partie 2. Feuilles de spécifications

Primärbatterien
Teil 2. Anforderungen

National foreword

This Part of BS 397 is a revision of BS 397 : Part 2 : 1985 which it supersedes and which is withdrawn. It has been prepared under the direction of the Light Electrical Engineering Standards Policy Committee and is identical with IEC Publication 86 : 1987 ‘Primary batteries’ Part 2 ‘Specification sheets’, published by the International Electrotechnical Commission (IEC). It contains a Physical Specification Sheet and a System Specification Sheet for each individual battery and the sheets are filed according to battery designation.

This Part of this British Standard implements CENELEC Harmonization Document HD 211.2S8.
For the purposes of this British Standard, any references to IEC page numbers in the text should be ignored.
NOTE. For ease of reproduction the French text in the tables and specification sheets has been retained.

Cross-references

International standard	Corresponding British Standard
IEC 86-1 : 1987	BS 397 Primary batteries Part 1 : 1989 Specification for general requirements (Identical)

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Amendment No. 2
published and effective from 15 May 1995
to BS 397 : Part 2 : 1989

Primary batteries
Part 2. Specification sheets

Correction to Amendment No. 1

Instructions for the insertion of new and revised sheets

Under 'Specification sheets', in line 1 and line 3 delete '45F50' and substitute '45F40';
and in line 9 delete 'CS2320' and substitute 'CR2320'.

AMD 8471/May 1995

Amendment No. 1
published and effective from 15 May 1994
to BS 397 : Part 2 : 1989

Primary batteries
Part 2. Specification sheets

Instructions for the insertion of new and revised sheets

Preliminary pages

Title page and national foreword	Replace existing pages.
HD title page and foreword	Insert new page.
2	Replace existing page (page 1 unchanged on front).
3	Replace existing page (page 4 unchanged on back).

Specification sheets

Remove physical specification sheet 45F50.

Remove system specification sheets R62, R63, R64, R65, R66, R67, R68, R69 and 45F50.

Replace physical specification sheets 4R25X, 4R25-2, R62, R63, R64, R65, R66, R67, R68, R69 and R0772.

Replace system specification sheets LR03, R6C, R6P, R6S, LR6, MR9, R14C, R14P, R14S, LR14, LR20, 5AR40, LR41, MR41, SR41, MR42, NR42, SR42, LR43, MR43, SR43, LR44, MR44, NR44, SR44, MR48, SR48, LR54, MR54, SR54, LR56, CR0772, CR1220, CR1620, CR2016, CR2020, CR2025, CR2032, CS2320, CR2420, CR2425, CR2430, 6AS4 and 6AS6.

Insert new physical specification sheets 4R61, R11108 and R12600.

Insert new system specification sheets 4LR25X, 4LR25-2, SR62, TR62, SR63, TR63, SR64, TR64, LR65, SR65, TR65, LR66, SR66, TR66, LR67, SR67, TR67, LR68, SR68, TR68, LR69, SR69, TR69, CR11108, 2CR11108 and CR12600.

AMD 8094/May 1994

BS 397 : Part 2 : 1989

British Standard

Primary batteries

Part 2. Specification sheets

(Implementation of CENELEC HD 211.2 S9)

Piles électriques
Partie 2. Feuilles de spécifications

Primärbatterien
Teil 2. Anforderungen

National foreword

This Part of BS 397 is a revision of BS 397 : Part 2 : 1985 which it supersedes and which is withdrawn. It has been prepared under the direction of the Light Electrical Engineering Standards Policy Committee. This Part of BS 397 implements CENELEC Harmonization Document HD 211.2 S9, which was derived by the European Committee for Electrotechnical Standardization (CENELEC) from IEC Publication 86 : 1987 'Primary batteries' Part 2 'Specification sheets', including Amendment 1 and the corrigendum to Amendment 1, published by the International Electrotechnical Commission (IEC). It contains a Physical Specification Sheet and a System Specification Sheet for each individual battery and the sheets are filed according to battery designation.

On System Specification Sheet 2CR11108, the effect of the CENELEC common modification has been to change the end point voltage from 5 V to 2,5 V (see item c) below). The other changes made by the CENELEC common modifications were also made by the corrigendum to IEC Amendment 1 and have not been marked separately on the replacement pages.

The following errors in the March 1992 corrigendum have been identified by the British Technical Committee.

- a) The table in 3.2 of BS 397 : Part 1 : 1989 shows the nominal voltage for designation S, silver oxide batteries, as 1,55 V. The nominal voltage for battery SR 44 shown on the System Specification Sheet should therefore be 1,55 V.
- b) On System Specification Sheets CR0772, CR1220, CR1620, CR2016, CR2020, CR2025, CR2032, CR2320, CR2420, CR2425, CR2430, CR11108, CR12600, the end-point voltage of 2,5 V should be 2,0 V.
- c) On System Specification Sheet 2CR11108, the end-point voltage should be 4,0 V.

The foreword of HD 211.2 S9 makes reference to the 'date of withdrawal', dow, of the relevant national standard. In this case the relevant national standard is the unamended BS 397 : Part 2 : 1989 (HD 211.2 S8) which will be withdrawn on 1 May 1994. Certificates and marks will not be awarded after this date with regard to the unamended British Standard. However, such certificates and marks, already awarded, may continue to apply to production until 1 May 1999.

For the purposes of this British Standard, any references to IEC page numbers in the text should be ignored.

NOTE. For ease of reproduction the French text in the tables and specification sheets has been retained.

Cross-reference

International standard	Corresponding British Standard
IEC 86-1 : 1987	BS 397 Primary batteries Part 1 : 1989 Specification for general requirements (Identical)

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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Contents summary and specification sheet references

The table below gives a complete list of all the individual battery specification sheets forming part of the present edition (in the order in which they should be filed).

physical spec. = physical specification

system spec. = system specification

Designation and sheet reference		Date of issue	Designation and sheet reference		Date of issue
R03	physical spec.	July 1982	R25-4	system spec.	July 1982
R03	system spec.	December 1986	R40	physical spec.	August 1984
LR03	system spec.	September 1989	R40	system spec.	December 1980
R1	physical spec.	December 1980	5R40	physical spec.	July 1982
R1	system spec.	July 1982	5AR40	system spec.	September 1989
LR1	system spec.	July 1982	R41	physical spec.	December 1986
MR1	system spec.	December 1986	LR41	system spec.	September 1989
R6	physical spec.	December 1986	MR41	system spec.	September 1989
R6C	system spec.	September 1989	NR41	system spec.	December 1986
R6P	system spec.	September 1989	PR41	system spec.	August 1984
R6S	system spec.	September 1989	SR41	system spec.	September 1989
LR6	system spec.	September 1989	TR41	system spec.	December 1986
R9	physical spec.	December 1986	R42	physical spec.	August 1984
LR9	system spec.	August 1984	MR42	system spec.	September 1989
MR9	system spec.	September 1989	NR42	system spec.	September 1989
NR9	system spec.	July 1982	SR42	system spec.	September 1989
2R9	physical spec.	August 1984	TR42	system spec.	December 1986
2MR9	system spec.	December 1986	4R42	physical spec.	December 1986
2R10	physical spec.	July 1982	4NR42	system spec.	July 1982
2R10	system spec.	August 1984	R43	physical spec.	August 1984
3R12	physical spec.	July 1982	LR43	system spec.	September 1989
3R12	system spec.	December 1980	MR43	system spec.	September 1989
3LR12	system spec.	July 1982	PR43	system spec.	August 1984
R14	physical spec.	December 1986	SR43	system spec.	September 1989
R14C	system spec.	September 1989	TR43	system spec.	December 1986
R14P	system spec.	September 1989	R44	physical spec.	August 1984
R14S	system spec.	September 1989	LR44	system spec.	September 1989
LR14	system spec.	September 1989	MR44	system spec.	September 1989
R20	physical spec.	December 1986	NR44	system spec.	September 1989
R20C	system spec.	December 1986	PR44	system spec.	August 1984
R20P	system spec.	December 1986	SR44	system spec.	September 1989
R20S	system spec.	December 1986	TR44	system spec.	December 1986
LR20	system spec.	September 1989	4R44	physical spec.	December 1986
3R20X	physical spec.	July 1982	4LR44	system spec.	December 1986
3R20X	system spec.	October 1977	4SR44	system spec.	December 1986
3R25	physical spec.	July 1982	R48	physical spec.	December 1986
3R25	system spec.	July 1982	MR48	system spec.	September 1989
4R25X	physical spec.	September 1989	NR48	system spec.	December 1986
4R25X	system spec.	August 1984	PR48	system spec.	August 1984
4LR25X	system spec.	September 1989	SR48	system spec.	September 1989
4R25Y	physical spec.	July 1982	TR48	system spec.	December 1986
4R25Y	system spec.	August 1984	R50	physical spec.	December 1986
4R25-2	physical spec.	September 1989	MR50	system spec.	August 1984
4R25-2	system spec.	August 1984	NR50	system spec.	August 1984
4LR25-2	system spec.	September 1989			
R25-4	physical spec.	July 1982			

Designation and sheet reference		Date of issue	Designation and sheet reference		Date of issue
R52	physical spec.	December 1986	R69	physical spec.	September 1989
MR52	system spec.	August 1984	LR69	system spec.	September 1989
NR52	system spec.	August 1984	SR69	system spec.	September 1989
R53	physical spec.	December 1986	TR69	system spec.	September 1989
LR53	system spec.	July 1982	R0772	physical spec.	September 1989
R54	physical spec.	December 1986	CR0772	system spec.	September 1989
LR54	system spec.	September 1989	R1220	physical spec.	December 1986
MR54	system spec.	September 1989	CR1220	system spec.	September 1989
SR54	system spec.	September 1989	R1620	physical spec.	December 1986
TR54	system spec.	December 1986	CR1620	system spec.	September 1989
R55	physical spec.	August 1984	R2016	physical spec.	December 1986
LR55	system spec.	August 1984	CR2016	system spec.	September 1989
SR55	system spec.	December 1986	R2020	physical spec.	December 1986
TR55	system spec.	December 1986	CR2020	system spec.	September 1989
R56	physical spec.	August 1984	R2025	physical spec.	December 1986
LR56	system spec.	September 1989	CR2025	system spec.	September 1989
SR56	system spec.	December 1980	R2032	physical spec.	December 1986
R57	physical spec.	August 1984	CR2032	system spec.	September 1989
SR57	system spec.	December 1980	R2320	physical spec.	December 1986
TR57	system spec.	December 1986	CR2320	system spec.	September 1989
R58	physical spec.	August 1984	R2420	physical spec.	December 1986
SR58	system spec.	December 1986	CR2420	system spec.	September 1989
TR58	system spec.	December 1986	R2425	physical spec.	December 1986
R59	physical spec.	August 1984	CR2425	system spec.	September 1989
SR59	system spec.	July 1982	R2430	physical spec.	December 1986
TR59	system spec.	December 1986	CR2430	system spec.	September 1989
R60	physical spec.	August 1984	R11108	physical spec.	September 1989
SR60	system spec.	December 1986	CR11108	system spec.	September 1989
TR60	system spec.	December 1986	2CR11108	system spec.	September 1989
4R61	physical spec.	September 1989	R12600	physical spec.	September 1989
6R61	physical spec.	December 1986	CR12600	system spec.	September 1989
6LR61	system spec.	July 1982	S4	physical spec.	July 1982
R62	physical spec.	September 1989	S4	system spec.	July 1982
SR62	system spec.	September 1989	6S4	physical spec.	December 1986
TR62	system spec.	September 1989	6AS4	system spec.	September 1989
R63	physical spec.	September 1989	6S6	physical spec.	December 1986
SR63	system spec.	September 1989	6AS6	system spec.	September 1989
TR63	system spec.	September 1989	10F15	physical spec.	July 1982
R64	physical spec.	September 1989	10F15	system spec.	July 1982
SR64	system spec.	September 1989	15F15	physical spec.	July 1982
TR64	system spec.	September 1989	15F15	system spec.	July 1982
R65	physical spec.	September 1989	4F16	physical spec.	July 1982
LR65	system spec.	September 1989	4F16	system spec.	July 1982
SR65	system spec.	September 1989	10F20	physical spec.	July 1982
TR65	system spec.	September 1989	10F20	system spec.	July 1982
R66	physical spec.	September 1989	15F20	physical spec.	July 1982
LR66	system spec.	September 1989	15F20	system spec.	July 1982
SR66	system spec.	September 1989	20F20	physical spec.	July 1982
TR66	system spec.	September 1989	20F20	system spec.	July 1982
R67	physical spec.	September 1989	6F22	system spec.	August 1984
LR67	system spec.	September 1989	6F24	physical spec.	July 1982
SR67	system spec.	September 1989	6F24	system spec.	July 1982
TR67	system spec.	September 1989	6F50-2	physical spec.	July 1982
R68	physical spec.	September 1989	6F50-2	system spec.	July 1982
LR68	system spec.	September 1989	6F100	physical spec.	July 1982
SR68	system spec.	September 1989	6F100	system spec.	August 1984
TR68	system spec.	September 1989			

PRIMARY BATTERIES

Part 2: Specification sheets

GENERAL

1. Battery specification sheets

Each battery specification consists of two sheets:

1.1 *Physical specification sheet*

The physical specification sheet gives the dimensional and terminal arrangement details together with any other physical requirements. It also lists the electrochemical systems and performance variants of batteries which are specified having these physical characteristics.

1.2 *System specification sheet*

The system specification sheet gives the voltage, discharge tests, performance requirements of each particular electrochemical system or performance variant.

2. Specification sheet reference code

The reference code used for the specification sheet consists of two parts:

A reference to this specification, viz 86-2-IEC followed by the battery designation.

3. Date of issue

In addition to the above code, each sheet is marked with its date of issue.

4. Drawings

Although the drawings given in the physical specification sheets are presented to scale, estimation of dimensions other than those specified should not be attempted.

5. Order of specification sheets

The order of specification sheets is given in the table "Contents summary and specification sheet references" on pages 9 and 11. This table considers basically the order of cell dimensions given in IEC Publication 86-1, Tables I, Ia, II and III. If there are electrochemical variants of the same cell dimension, the sub-order of their specification sheets is given by the sequence of system letters of IEC Publication 86-1, Sub-clause 3.2 and in the case of the same electrochemical systems by the letters C, P and S (after the cell dimension code) indicating different electrical performance characteristics.

6. References

Unless otherwise stated, all the references given in this standard refer to IEC Publication 86-1, sixth edition, issued in 1987.

UDC 621.352 : 620.1

Descriptors: Primary batteries, specification sheets, dimensions, terminals, discharge tests

English version

Primary batteries Part 2 : Specification sheets

(IEC 86-2 : 1987 + A1 : 1989 + corrigendum 1992, modified)

Piles électriques

Deuxième partie : Feuilles de spécifications

(CEI 86-2 : 1987 + A1 : 1989 + corrigendum
1992, modifiée)

Primärbatterien

Teil 2 : Spezifikationsblätter

(IEC 86-2 : 1987 + A1 : 1989 + Corrigendum
1992, modifiziert)

This Harmonization Document was approved by CENELEC on 1993-07-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 86-2 : 1987 and its amendment 1 : 1989 (with corrigendum March 1992) could be accepted without textual changes, has shown that some common modifications were necessary for the acceptance as Harmonization Document.

The reference document, together with the common modifications prepared by Reporting Secretariat SR 35, was submitted to the CENELEC members for formal vote.

The text of the draft was approved by CENELEC as HD 211.2 S9 on 6 July 1993.

The following dates were fixed:

- latest date of announcement
of the HD at national level (doa) 1993-12-01
- latest date of publication of
a harmonized national
standard (dop) 1994-05-01
- latest date of withdrawal of
conflicting national standards (dow) 1994-05-01

I E C C E I	Pile LR03				Battery LR03		SPECIFICATION DU COUPLE	
	Tension nominale 1,5 V, Nominal voltage 1.5 V						SYSTEM SPECIFICATION	
							86-2-IEC-LR03	
Décharges					Discharges			
Conditions			Durée minimale Minimum duration		Applications			
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage				
3,9	5 min	0,9			Eclairage portatif Portable lighting			
300	12 h	0,9	156 h	120 h	Essai de capacité Capacity test			
3,6	1)	0,9			Essai d'impulsions Pulse test			
1) 15 s commençant à des intervalles d'une minute pendant 24 h par jour. 15 s at intervals of one minute for 24 h per day.								
Pour plus de détails sur cette pile, voir la feuille de spécification physique R03. For the physical details of this battery see physical specification sheet R03.								
Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.								
86-2-IEC-LR03			Publication 86-2 de la CEI - Septembre 1988 IEC Publication 86-2 - September 1989					

I E C C E I	Pile R6C (grande capacité)		Battery R6C (high capacity)		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V				SYSTEM SPECIFICATION
					86-2-IEC-R6C
Essais de conformité - <i>Conformance tests</i>					
Conditions			Durées moyennes minimales 1) <i>Minimum average durations 1)</i>		
Résistance <i>Resistance</i> (Ω)	Cycle journalier <i>Daily period</i>	Tension d'arrêt <i>End point</i> (V)	Initiale <i>Initial</i>	Après 12 mois de magasinage <i>After 12 months storage</i>	
300	12 h	0,9	216 h	173 h	
Essais d'application - <i>Application tests</i>					
Conditions					
Résistance <i>Resistance</i> (Ω)	Cycle journalier <i>Daily period</i>	Tension d'arrêt <i>End point</i> (V)	Applications		
75	4 h	0,9	Postes à transistors <i>Transistor radios</i>		
3,9	5 min	0,9	Eclairage portatif <i>Portable lighting</i>		
300	12 h	0,9	Appareils de correction auditive <i>Hearing aids</i>		
6,8 k	24 h	1,3	Pendules Q.S.M. * <i>Clocks Q.S.M. *</i>		
3,3 k	24 h	1,3	2)		
15	30 min	0,9	Calculatrices de poche <i>Pocket calculators</i>		
3,9	5 min	0,8	Rasoirs et brosses à dents <i>Razors and tooth brushes</i>		
1) Conditions normales. 1) <i>Standard conditions.</i> 2) Essai d'application accéléré pour pendules (Q.S.M.). <i>Accelerated application test for clocks (Q.S.M.).</i> Pour plus de détails sur cette pile, voir la feuille de spécification physique R6. <i>For the physical details of this battery see physical specification sheet R6.</i> Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>					
86-2-IEC-R6C			Publication 86-2 de la CEI- Septembre 1989 <i>IEC Publication 86-2- September 1989</i>		

I E C C E I	Pile R6P (forte puissance)		Battery R6P (high power)		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V				SYSTEM SPECIFICATION
					86-2-IEC-R6P
Essais de conformité - Conformance tests					
Conditions				Durées moyennes minimales 1) Minimum average durations 1)	
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage	
300	12 h	0,9	216 h	173 h	
10	1 h	0,9	4 h	3 h	
Essais d'application - Application tests					
Conditions					
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Applications		
75	4 h	0,9	Postes à transistors Transistor radios		
3,9	5 min	0,9	Eclairage portatif Portable lighting		
300	12 h	0,9	Appareils de correction auditive Hearing aids		
6,8 k	24 h	1,3	Pendules Q.S.M.* Clocks Q.S.M. *		
3,3 k	24 h	1,3	2)		
15	30 min	0,9	Calculatrices de poche Pocket calculators		
10	1 h	0,9	Magnétophones Tape recorders		
3,9	5 min	0,8	Rasoirs et brosses à dents Razors and tooth brushes		
3,9	5 min	1,0	Caméras cinématographiques Cine cameras		
1) Conditions normales. 1) Standard conditions. 2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.). Pour plus de détails sur cette pile, voir la feuille de spécification physique R6. For the physical details of this battery see physical specification sheet R6. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.					
86-2-IEC-R6P		Publication 86-2 de la CEI - September 1989 IEC Publication 86-2 September 1989			

I E C C E I	Pile R6S (normale)		Battery R6S (standard)		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V				SYSTEM SPECIFICATION
					86-2-IEC-R6S
Essais de conformité - Conformance tests					
Conditions				Durées moyennes minimales 1) Minimum average durations 1)	
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage	
300	12 h	0,9	168 h	134 h	
Essais d'application - Application tests					
Conditions					
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Applications		
75	4 h	0,9	Postes à transistors Transistor radios		
3,9	5 min	0,9	Eclairage portatif Portable lighting		
300	12 h	0,9	Appareils de correction auditive Hearing aids		
6,8 k	24 h	1,3	Pendules Q.S.M. * Clocks Q.S.M. *		
3,3 k	24 h	1,3	2)		
3,9	5 min	0,8	Rasoirs et brosses à dents Razors and tooth-brushes		
1) Conditions normales. Standard conditions. 2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.). Pour plus de détails sur cette pile, voir la feuille de spécification physique R6. For the physical details of this battery see physical specification sheet R6. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.					
86-2-IEC-R6S		Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2 September 1989			

I E C C E I	Pile LR6				Battery LR6		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V						SYSTEM SPECIFICATION
							86-2-IEC-LR6
Décharges				Discharges			
Conditions			Durées moyennes minimales 1) Minimum average durations 1)		Application		
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage			
3,9	5 min	0,9			Eclairage portatif Portable lighting		
75	4 h	0,9	88 h	79 h	Postes à transistors Transistor radios		
300	12 h	0,9	372 h	335 h	Appareils de correction auditive Hearing aids		
15	30 min	0,9			Calculatrices de poche Pocket calculators		
10	1 h	0,9			Magnétophones Tape recorders		
3,9	5 min	0,8			Rasoirs et brosses à dents Razors and tooth brushes		
3,9	5 min	1,0			Caméras cinématographiques Cine cameras		
6,8 k	24 h	1,3			Pendules (Q.S.M.)* Clocks (Q.S.M.) *		
3,3 k	24 h	1,3			2)		
1,8	3)	0,9			Essai d'impulsions Pulse test		
1) Conditions normales. 1) Standard conditions. 2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.). 3) 15 s commençant à des intervalles d'une minute pendant 24 h par jour. 15 s at intervals of one minute for 24 h per day. Pour plus de détails sur cette pile, voir la feuille de spécification physique R6. For the physical details of this battery see physical specification sheet R6. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.							
86-2-IEC-LR6		Publication 86-2 de la CEI - Septembre 1989 IEC Publication 86-2 - September 1989					

I E C C E I	Pile MR9		Battery MR9		SPECIFICATION DU COUPLE
	Tension nominale 1,35 V, Nominal voltage 1.35 V				SYSTEM SPECIFICATION
					86-2-IEC-MR9
Décharges			Discharges		
Conditions				Applications	
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)			
390	24 h	0,9		Essai de capacité Capacity test	
Pour plus de détails sur cette pile, voir la feuille de spécification physique R9. <i>For the physical details of this battery see physical specification sheet R9.</i> Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>					
86-2-IEC-MR9		Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2 September 1989			

I E C C E I	Pile R14C (grande capacité)			Battery R14C (high capacity)		SPECIFICATION DU COUPLE	
	Tension nominale 1,5 V, Nominal voltage 1.5 V					SYSTEM SPECIFICATION	
						86-2-IEC-R14C	
Essais de conformité - Conformance tests							
Conditions					Durées moyennes minimales 1) Minimum average durations 1)		
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage			
75	4 h	0,9	148 h	118 h			
Essais d'application - Application tests							
Conditions							
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Applications				
39	4 h	0,9	Postes à transistors Transistor radios				
3,9	10 min	0,9	Eclairage portatif Portable lighting				
6,8 k	24 h	1,3	Pendules (Q.S.M.) Clocks (Q.S.M.)				
1,5 k	24 h	1,3	2)				
1) Conditions normales. 1) Standard conditions. 2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.). Pour plus de détails sur cette pile, voir la feuille de spécification physique R14. For the physical details of this battery see physical specification sheet R14. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.							
86-2-IEC-R14C			Publication 86-2 de la CEI - September 1989 IEC Publication 86-2 - September 1989				

I E C C E I	Pile R14P (forte puissance)			Battery R14P (high power)		SPECIFICATION DU COUPLE	
	Tension nominale 1,5 V, Nominal voltage 1.5 V					SYSTEM SPECIFICATION	
						86-2-IEC-R14P	
Essais de conformité - Conformance tests							
Conditions					Durées moyennes minimales 1) Minimum average durations 1)		
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage			
75	4 h	0,9	148 h	118 h			
6,8	1 h	1,0	8 h	6 h			
Essais d'application - Application tests							
Conditions							
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Applications				
39	4 h	0,9	Postes à transistors Transistor radios				
3,9	10 min	0,9	Eclairage portatif Portable lighting				
6,8 k	24 h	1,3	Pendules (Q.S.M.) Clocks (Q.S.M.)				
1,5 k	24 h	1,3	2)				
6,8	1 h	1,0	Magnétophones Tape recorders				
3,9	1 h	0,8	Jouets Toys				
1) Conditions normales. 1) Standard conditions. 2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.). Pour plus de détails sur cette pile, voir la feuille de spécification physique R14. For the physical details of this battery see physical specification sheet R14. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.							
86-2-IEC-R14P		Publication 86-2 de la CEI - Septembre 1989 IEC Publication 86-2 - September 1989					

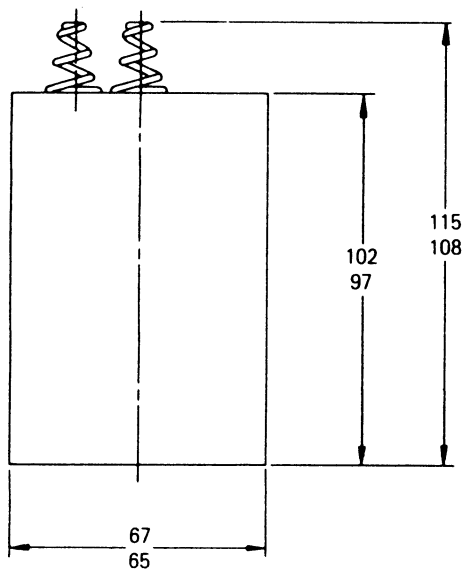
I E C C E I	Pile R14S (normale)		Battery R14S (standard)		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V				SYSTEM SPECIFICATION
					86-2-IEC-R14S
Essais de conformité - Conformance tests					
Conditions				Durées moyennes minimales 1) Minimum average durations 1)	
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage	
75	4 h	0,9	112 h	90 h	
Essais d'application - Application tests					
Conditions					
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Applications		
39	4 h	0,9	Postes à transistors Transistor radios		
3,9	10 min	0,9	Eclairage portatif Portable lighting		
6,8 k	24 h	1,3	Pendules (Q.S.M.) Clocks (Q.S.M.)		
1,5 k	24 h	1,3	2)		
1) Conditions normales. 1) Standard conditions.					
2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.).					
Pour plus de détails sur cette pile, voir la feuille de spécification physique R14.					
For the physical details of this battery see physical specification sheet R14.					
Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.					
86-2-IEC-R14S		Publication 86-2 de la CEI - September 1989 IEC Publication 86-2 - September 1989			

I E C C E I	Pile LR14				Battery LR14		SPECIFICATION DU COUPLE	
	Tension nominale 1,5 V, Nominal voltage 1,5 V						SYSTEM SPECIFICATION	
							86-2-IEC-LR14	
Décharges Discharges								
Conditions			Durées moyennes minimales 1) Minimum average durations 1)		Application			
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage				
3,9	10 min.	0,9			Eclairage portatif Portable lighting			
39	4 h	0,9			Postes à transistors Transistor radios			
6,8	1 h	1,0	17 h	15 h	Magnétophones Tape recorders			
3,9	1 h	0,8			Jouets Toys			
6,8 k	24 h	1,3			Pendules (Q.S.M.)* Clocks (Q.S.M.) *			
1,5 k	24 h	1,3			2)			
1) Conditions normales. 1) Standard conditions.								
2) Essai d'application accéléré pour pendules (Q.S.M.). Accelerated application test for clocks (Q.S.M.).								
Pour plus de détails sur cette pile, voir la feuille de spécification physique R14. For the physical details of this battery see physical specification sheet R14.								
Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.								
86-2-IEC-LR14			Publication 86-2 de la CEI - Septembre 1989 IEC Publication 86-2 / September 1989					

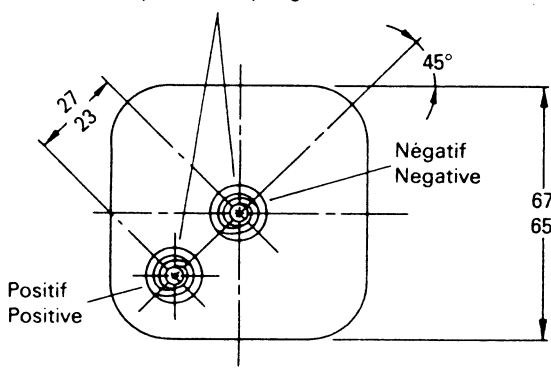
I E C C E I	Pile LR20				Battery LR20		SPECIFICATION DU COUPLE	
	Tension nominale 1,55 V, Nominal voltage 1,55 V						SYSTEM SPECIFICATION	
							86-2-IEC-LR20	
Décharges Discharges								
Conditions			Durées moyennes minimales 1) Minimum average durations 1)		Application			
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage				
3,9	30	0,9			Eclairage portatif Portable lighting			
2,2	2)	0,9			Eclairage portatif Portable lighting			
39	4 h	0,9	300 h	270 h	Postes à transistors Transistor radios			
3,9	1 h	1,0	18 h	16 h	Magnétophones Tape recorders			
2,2	1 h	0,8			Jouets Toys			
1) Conditions normales. 1) Standard conditions. 2) 4 min commençant à des intervalles horaires pendant 8 h par jour. 4 min beginning at hourly intervals for 8 h per day. Pour plus de détails sur cette pile, voir la feuille de spécification physique R20. <i>For the physical details of this battery see physical specification sheet R20.</i> Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>								
86-2-IEC-LR20			Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2- September 1989					

I E C C E I	Pile 4R25X	Battery 4R25X	SPECIFICATION PHYSIQUE
			PHYSICAL SPECIFICATION
			86-2-IEC-4R25X

Dimensions (en millimètres)



Ressorts en spirale conique
Conical spiral wire spring terminals



Positif
Positive

Négatif
Negative

Dimensions (in millimetres)

Organes de connexion
Terminals

Ressorts en spirale ayant au minimum 3 spires complètes, compressibles à moins de 3 mm de la surface plane du bac.
Spiral springs having at least 3 complete windings compressible to within 3 mm of the flat surface of the box.

Echelle, 1:2
Scale, 1:2

La pile possède des coins coupés ou arrondis; elle doit passer librement dans un gabarit ayant un diamètre de 82,6 mm.
This battery has rounded or bevelled corners and must pass freely through a gauge having a diameter of 82.6 mm.

Les piles correspondant à cette
feuille de spécification physique sont:
Batteries complying with this specification are:

4R25X, 4LR25X

Pour information générale, voir Publication 86-1 de la CEI.
For general information, see IEC Publication 86-1.

86-2-IEC-4R25X

Publication 86-2 de la CEI- Septembre 1989
IEC Publication 86-2- September 1989

I E C C E I	Pile 4LR25X				Battery 4LR25X		SPECIFICATION DU COUPLE
	Tension nominale 6,0 V, Nominal voltage 6.0 V						SYSTEM SPECIFICATION
							86-2-IEC-4LR25X
Décharges Discharges							
Conditions			Durées moyennes minimales 1) Minimum average durations 1)		Application		
Résistance Resistance (Ω)	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage			
8,2	30 min	3,6			Eclairage portatif Portable lighting		
1) Conditions normales. 1) Standard conditions.							
Pour plus de détails sur cette pile, voir la feuille de spécification physique 4R25. <i>For the physical details of this battery see physical specification sheet 4R25.</i> Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>							
86-2-IEC-4LR25X			Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2- September 1989				

I E C C E I	Pile 4R25-2 Battery 4R25-2	SPECIFICATION PHYSIQUE
		PHYSICAL SPECIFICATION
		86-2-IEC-4R25-2

Dimensions (en millimètres)

Dimensions (in millimetres)

Les piles correspondant à cette
feuille de spécification physique sont:
Batteries complying with this specification are:

4R25-2, 4LR25-2

Pour information générale, voir Publication 86-1 de la CEI.
For general information, see IEC Publication 86-1.

86-2-IEC-4R25-2

Publication 86-2 de la CEI- Septembre 1989
IEC Publication 86-2- September 1989

I E C C E I	Pile 4LR25-2				Battery 4LR25-2		SPECIFICATION DU COUPLE	
	Tension nominale 6,0 V, Nominal voltage 6.0 V						SYSTEM SPECIFICATION	
							86-2-IEC-4LR25-2	
Décharges								Discharges
Conditions			Durées moyennes minimales 1) Minimum average durations 1)			Application		
Résistance Resistance	Cycle journalier Daily period	Tension d'arrêt End point	Initiale Initial	Après 12 mois de magasinage After 12 months storage				
(Ω)		(V)						
8,2	30 min	3,6			Eclairage portatif Portable lighting			
1) Conditions normales. 1) Standard conditions.								
Pour plus de détails sur cette pile, voir la feuille de spécification physique 4R25-2. For the physical details of this battery see physical specification sheet 4R25-2. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.								
86-2-IEC-4LR25-2			Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2- September 1989					

I E C C E I	Pile 5AR40				Battery 5AR40		SPECIFICATION DU COUPLE
	Tension nominale 7,0 V, Nominal voltage 7.0 V						SYSTEM SPECIFICATION
							86-2-IEC-5AR40
Décharges							Discharges
Conditions			Durée minimale Minimum duration		Applications		
Résistance Resistance	Cycle journalier Daily period	Tension d'arrêt End point (V)	Initiale Initial	Après 12 mois de magasinage After 12 months storage			
(Ω)							
240	24 h	4,5	120 jours 120 days	96 jours 96 days	Appareils de clôture électrique Electric fence controllers		
L'attention des constructeurs d'appareils est attirée sur l'importance d'assurer que l'accès de l'air n'est pas empêché pour les piles du système "A". <i>Equipment designers' attention is drawn to the importance of ensuring that air access is not impeded for "A" system batteries.</i>							
Pour plus de détails sur cette pile, voir la feuille de spécification physique 5R40. <i>For the physical details of this battery see physical specification sheet 5R40.</i>							
Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>							
86-2-IEC-5AR40			Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2 September 1989				

I E C C E I	Pile LR41		Battery LR41		SPECIFICATION DU COUPLE
	Tension nominale 1,5 V, Nominal voltage 1.5 V				SYSTEM SPECIFICATION
					86-2-IEC-LR41
Décharges			Discharges		
Conditions				Applications	
Résistance Resistance (kΩ)	Cycle journalier Daily period	Tension d'arrêt End point (V)			
22	24 h	1,2		Essai de capacité Capacity test	
Pour plus de détails sur cette pile, voir la feuille de spécification physique R41. <i>For the physical details of this battery see physical specification sheet R41.</i> Pour information générale, voir Publication 86-1 de la CEI. <i>For general information, see IEC Publication 86-1.</i>					
86-2-IEC-LR41		Publication 86-2 de la CEI - Septembre 1989 IEC Publication 86-2 - September 1989			

I E C C E I	Pile MR41			Battery MR41			SPECIFICATION DU COUPLE
	Tension nominale 1,35 V, Nominal voltage 1.35 V						SYSTEM SPECIFICATION
							86-2-IEC-MR41
Décharges							Discharges
Conditions				Applications			
Résistance Resistance (kΩ)	Cycle journalier Daily period	Tension d'arrêt End point (V)					
470	24 h	1,2					
22	24 h	1,2					
68	24 h	1,2					
NOTE: Pour les essais d'acceptation, voir le paragraphe 8.5 de la Publication 86-1 de la CEI. For acceptance tests, see Sub-clause 8.5 of IEC Publication 86-1. Pour plus de détails sur cette pile, voir la feuille de spécification physique R41. For the physical details of this battery see physical specification sheet R41. Pour information générale, voir Publication 86-1 de la CEI. For general information, see IEC Publication 86-1.							
86-2-IEC-MR41			Publication 86-2 de la CEI- Septembre 1989 IEC Publication 86-2- September 1989				

