

Registration Department

Our Ref: IS16046/Policy

09 Feb 2016

Subject: Guidelines for Implementation of Revised IS 16046:2015/IEC 62133: 2012 superseding IS 16046:2012/IEC 62133: 2002 - *Secondary cells and batteries containing alkaline or other non-acid electrolytes.*

1. IS 16046:2012/IEC 62133: 2002 has been revised as IS 16046:2015/IEC 62133: 2012 '*Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications*'.
2. As per Gazette notification dated 17 Sept 2015, IS 16046:2015 / IEC 62133: 2012 was established on 17 Sept 2015. The concurrent running of IS 16046:2012/IEC 62133: 2002 and IS 16046:2015 / IEC 62133: 2012 is permitted till 16 Sept 2016. Accordingly IS 16046:2012/IEC 62133: 2002 shall stand cancelled after 16 Sept 2016.
3. The revised edition IS 16046:2015/IEC 62133: 2012 includes the following significant technical changes with respect to the previous edition IS 16046:2012/IEC 62133: 2002:
 - update of assembly of cells into batteries (5.6.1)
 - addition of design recommendations for lithium system only (5.6.2)
 - separation of nickel systems and lithium systems (Clause 6)
 - addition of specific requirements and tests for lithium system (Clause 8)
 - addition of charging of secondary lithium-ion cells for safe use (Annex A).
 - Country specific test - Design evaluation - Forced internal short circuit (cells) (Clause 8.3.9) applies to Korea, Japan, Switzerland and France.
4. The major changes where variations in test methods/procedures are effected are given at **Annex - 1**.
5. Considering the above changes, the following additional/modified tests are to be conducted for changeover for the existing registered manufacturers:

(a) **For Nickel systems:**

Clause No:	Requirement
5.2	Insulation and wiring
5.4	Temperature/voltage/current management
5.6, 5.6.1	Assembly of cells into batteries, General
7.3.3	Free fall
7.3.4	Mechanical shock (crash hazard)
9	Information for safety

(b) **For Lithium systems:**

Clause No:	Requirement
5.2	Insulation and wiring
5.4	Temperature/voltage/current management
5.6, 5.6.1	Assembly of cells into batteries, General
5.6.2	Design recommendation
8.3.1	External short circuit (cell)
8.3.2	External short circuit (battery)
8.3.3	Free fall
8.3.4	Thermal abuse (cells)
8.3.5	Crush (cells)
8.3.6	Over-charging of battery
8.3.8	Transport tests
9	Information for safety

6. Procedure for Change over

- a) Applications/Inclusions can now be submitted as per the new version.
- b) Applications/Inclusions can also be submitted as per the old version. However, in such cases **hardcopy of the application/inclusion shall be submitted in BIS on or before 16 August 2016** (one month prior to the date of cancellation of old version). Even if the test report has been issued by the Laboratory prior to 16 August 2016, such cases shall not be accepted if the hardcopy of the application/inclusion is received after 16 August 2016.
- c) After 16 August 2016 Applications/Inclusions as per the new version only will be accepted.
- d) Applications/inclusions already submitted in BIS will be processed as per old version.

- e) All Applicants whose Applications are as per old version shall give an undertaking (Format at **Annex 2**) that they shall switchover to the new version before 16 Sept 2016.
- f) For Applications/Inclusions submitted as per the old version, if the manufacturer fails to get Registration before 16 Sept 2016, such application(s)/inclusion(s) shall be processed for closure/rejection as per norms.
- g) All existing Registered manufacturers shall also switchover to the new version on or before 16 Sept 2016. No Registered manufacturer shall be under operation as per the old version after 16 Sept 2016. In case any manufacturer fails to switch over to the revised version before 16 Sept 2016, his Registration shall be deemed to have been cancelled from the date of withdrawal of the old Indian Standard i.e after 16 Sept 2016.
- h) Registered manufacturers shall also submit an undertaking (Format at **Annex 3**) that all models of the product (base and series models) conforms to IS 16046:2015/IEC 62133: 2012 and only those products found conforming to the revised standard shall be marked with the Standard Mark/ the words 'Self Declaration-Conforming to IS 16046:2015/IEC 62133: 2012' along with Registration number and products as per old version of Standard shall not be marked.
- i) All the cases for changeover shall be processed based on amendment test report (for all the base models included in the Scope of Registration) from any BIS approved lab indicating conformity to the additional/modified requirements mentioned at **Annex -1**.
- j) The cases for change over to revised standard shall be processed by BIS based on the following :
 - i. Amendment test report (for all the base models included in the Scope of Registration) from any BIS approved lab indicating conformity to the additional/modified requirements mentioned at **Annex -1**
 - ii. Necessary Undertaking as mentioned above.
 - iii. Letter regarding changeover to the revised standard shall be issued by BIS indicating the Product and Model Numbers found conforming to the revised standard.
 - iv. In case the Registered manufacturer fails to take appropriate actions for changeover, such cases shall be processed for cancellation as per norms.

7. All Registered manufacturers and Applicants shall take timely actions for changeover as per the above guidelines.

**Changes where variations in test methods/procedures are effected
in IS 16046:2015/IEC 62133: 2012**

Cl. no: of IS 16046:2012	Cl. no: of IS 16046:2015	Changes	Whether retesting required or not
2.1	5.2	Measurement of insulation resistance to be done 60 s after applying the voltage	Yes – as the specific time period for application of voltage is mentioned.
2.3	5.4	Specific instructions on design.	Yes – as additional instructions are specified.
2.5	5.6, 5.6.1	Update of assembly of cells into batteries	Yes – as additional instructions are specified.
---	5.6.2	Design recommendation included for lithium systems	Yes – as new requirements specified.
3	6	For type test conditions, limit of 6 months specified for cells/ batteries instead of 3 months.	No – as the tests carried out with cells/batteries that are “not more than 3 months old” will satisfy the condition of “not more than 6 months old”, the type tests need not be repeated, except for the type tests which are to be repeated as given in the subsequent clauses.
4.2.4	7.2.4	Storing of cells and batteries for a rest period of at least 24h instead of 7 days prior to checking.	No – as the tests carried out after a storage period of 7 days will satisfy the condition of “rest period of at least 7 days prior to checking”, the test need not be repeated.

4.3.2	7.3.2	Short circuiting with a total external resistance of 80 mΩ ± 20 mΩ instead of total external resistance of less than 100 mΩ.	No - The samples previously tested with a total external resistance of less than 100 mΩ will satisfy the new test conditions for resistance upto 60 mΩ. For those samples previously tested with a resistance of less than 60 mΩ, the test conditions were more stringent in view of high short circuit current.
4.3.3	7.3.3	Rest period of minimum 1 hr specified before performing visual inspection.	Yes - As the rest period was not specified earlier and the new condition introduces severity.
4.3.4	7.3.4	Rest period of minimum 1 hr specified before performing visual inspection.	Yes - As the rest period was not specified earlier and the new condition introduces severity.
---	8.1.2	Revised charging procedure specified for battery with Lithium systems for tests as per clauses 8.3.1, 8.3.2, 8.3.4, 8.3.5 and 8.3.9.	Yes - As the charging procedure is revised. (However, clause 8.3.9 is a country specific test which is only applicable to France, Japan, Korea and Switzerland and is not required on polymer cells and hence can be excluded.
4.2.1	8.2.1	For battery with Lithium systems 7 days charging instead of 28 days	No - As the reduction in charging time does not introduce any severity.
4.3.2	8.3.1	Revised charging procedure	Yes
4.3.2	8.3.2	Revised charging procedure and Short circuiting with a total external	Yes

		resistance of 80 mΩ ± 20 mΩ instead of 100 mΩ.	
4.3.3	8.3.3	Rest period of minimum 1 hr specified before performing visual inspection.	Yes – As the rest period was not specified earlier and the new condition introduces severity.
4.3.5	8.3.4	Revised charging procedure and time of exposure to higher temperature for larger cells changed to 30 min from 10 min.	Yes
4.3.6	8.3.5	Revised charging procedure and additional criteria of “10% of deformation occurred compared to initial dimension” specified.	Yes
4.3.9	8.3.6	Procedure for discharging and charging revised.	Yes
---	8.3.8	Transport test included for battery with Lithium systems.	Yes – as it is a new test
--	8.3.9	Country specific test for cells except polymer cells and which is only applicable to France, Japan, Korea and Switzerland specified.	No – as it country specific test and is not applicable in India
5	9	Additional safety specific information included.	Yes
----	New normative Annex A	Manufacturer to observe the requirements of charging of secondary lithium-ion cells for safe use.	No

UNDERTAKING (for Applicants)

1. Name and Address of Manufacturer:

2. BIS Application No (CRS No) and Brand Name:

3. We, having applied for BIS Registration, are aware that the Application for Grant of Registration is submitted as per old version of IS 16046:2012/IEC 62133: 2002. We are also aware that this Standard has been revised as IS 16046:2015/IEC 62133: 2012 and that the old version of the Standard shall stand cancelled after 16 Sept 2016.

4. We shall take timely actions to ensure for changeover to the new version before 16 Sept 2016.

5. We also undertake that only those models conforming to IS 16046:2015/IEC 62133: 2012 shall be marked with Standard Mark / the words 'Self Declaration-Conforming to IS 16046:2015/IEC 62133: 2012 after receiving intimation from BIS on changeover to the Revised Standard. We also undertake that after 16 September 2016, models as per old version of the Standard shall not be marked with Standard Mark / Self Declaration Compliance statement.

6. We also understand that in case changeover to the revised Standard is not completed before 16 Sept 2016, the Registration granted to us shall be liable to be cancelled by BIS.

Signature of CEO/Authorised Representative

Name:

Designation:

Counter Signature of Authorized Indian Representative:
(for Foreign Manufacturers)

Name:

UNDERTAKING (for Registered Manufacturers)

1. Name and Address of Manufacturer:

2. CRS No

3. BIS Registration No and Brand Name:

4. We, holding the above BIS Registration, are aware that IS 16046:2015 / IEC 62133: 2012 has been revised as IS 16046:2015 / IEC 62133: 2012 and that the old version of the Standard shall stand cancelled after 16 Sept 2016.

5. We also undertake that only those models conforming to IS 16046:2015/ IEC 62133: 2012 shall be marked with Standard Mark / the words 'Self Declaration-Conforming to IS 16046:2015/IEC 62133: 2012 after receiving intimation from BIS on changeover to the Revised Standard. We also undertake that after 16 September 2016, models as per old version of the Standard shall not be marked with Standard Mark / Self Declaration Compliance statement.

Signature of CEO/Authorised Representative

Name:

Designation:

Counter Signature of Authorized Indian Representative:
(for Foreign Manufacturers)

Name: