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## Certification

C170101P-9

|                                                                   |                                        |                                                      |                                        |
|-------------------------------------------------------------------|----------------------------------------|------------------------------------------------------|----------------------------------------|
| model name : CR2032H                                              |                                        |                                                      |                                        |
| <input checked="" type="checkbox"/> Lithium metal cell or battery |                                        | <input type="checkbox"/> Lithium-ion cell or battery |                                        |
| Lithium content                                                   |                                        | Watt-hour rating                                     |                                        |
| <input checked="" type="checkbox"/> cell                          | <input type="checkbox"/> battery(pack) | <input type="checkbox"/> cell                        | <input type="checkbox"/> battery(pack) |
| <input checked="" type="checkbox"/> $\leq 0.3g$                   | <input type="checkbox"/> $\leq 0.3g$   | <input type="checkbox"/> $\leq 2.7Wh$                | <input type="checkbox"/> $\leq 2.7Wh$  |
| <input type="checkbox"/> $\leq 1g$                                | <input type="checkbox"/> $\leq 2g$     | <input type="checkbox"/> $\leq 20Wh$                 | <input type="checkbox"/> $\leq 100Wh$  |
| <input type="checkbox"/> $> 1g$                                   | <input type="checkbox"/> $> 2g$        | <input type="checkbox"/> $> 20Wh$                    | <input type="checkbox"/> $> 100Wh$     |
|                                                                   |                                        | Nominal Voltage                                      | V                                      |
|                                                                   |                                        | Rated Capacity                                       | mAh                                    |

### Transport tests and results

| Test number | Designation            | Results        | Remarks                       |
|-------------|------------------------|----------------|-------------------------------|
| T-1         | Altitude               | Accepted       |                               |
| T-2         | Thermal cycling        | Accepted       |                               |
| T-3         | Vibration              | Accepted       |                               |
| T-4         | Shock                  | Accepted       |                               |
| T-5         | External short circuit | Accepted       |                               |
| T-6         | Crush                  | Accepted       |                               |
| T-7         | Overcharge             | Not applicable | for rechargeable battery only |
| T-8         | Forced Discharge       | Accepted       |                               |

We certify that above results are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods(5th revised edition Amendment2), Part III, sub-section 38.3

Name / Title of Signatory

Takashi Kimura / Deputy General Manager, Design Dept.

Signature

*T. Kimura*



January 1, 2017

Test

**T.1: Altitude simulation****Test procedure**

Test cells shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature ( $20 \pm 5$  °C).

**Criteria**

There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.

The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. (Undischarged status only)

\*1: Voltage change[%]= $V_2/V_1 \times 100$

\*2: Mass loss[%]=( $M_1-M_2$ )/ $M_1 \times 100$

Status

**Undischarged**

Number of test specimen: 10

**Test result**

| No.        |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
|------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Initial    | Voltage( $V_1$ ) [V]             | 3.284 | 3.290 | 3.291 | 3.295 | 3.286 | 3.289 | 3.292 | 3.277 | 3.291 | 3.288 |
|            | Mass( $M_1$ ) [g]                | 3.018 | 3.020 | 3.022 | 3.038 | 3.017 | 3.004 | 3.027 | 3.012 | 3.002 | 2.978 |
| After Test | Voltage( $V_2$ ) [V]             | 3.284 | 3.290 | 3.291 | 3.295 | 3.286 | 3.290 | 3.293 | 3.277 | 3.291 | 3.289 |
|            | Voltage change <sup>*1</sup> [%] | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
|            | Mass( $M_2$ ) [g]                | 3.018 | 3.020 | 3.022 | 3.038 | 3.017 | 3.003 | 3.026 | 3.012 | 3.002 | 2.978 |
|            | Mass loss <sup>*2</sup> [%]      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
|            | Leakage                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Venting                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Disassembly                      | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Rupture                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Fire                             | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |

Status

**Fully discharged**

Number of test specimen: 10

**Test result**

| No.        |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
|------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Initial    | Voltage( $V_1$ ) [V]             | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|            | Mass( $M_1$ ) [g]                | 3.027 | 3.013 | 3.009 | 3.005 | 3.043 | 3.027 | 3.015 | 3.013 | 3.027 | 2.992 |
| After Test | Voltage( $V_2$ ) [V]             | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|            | Voltage change <sup>*1</sup> [%] | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
|            | Mass( $M_2$ ) [g]                | 3.027 | 3.013 | 3.009 | 3.005 | 3.043 | 3.027 | 3.015 | 3.013 | 3.027 | 2.992 |
|            | Mass loss <sup>*2</sup> [%]      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
|            | Leakage                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Venting                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Disassembly                      | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Rupture                          | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
|            | Fire                             | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |



| Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>T.2: Thermal test</b>         |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| <b>Test procedure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>Test cells are to be stored for at least six hours at a test temperature equal to <math>75 \pm 2^\circ\text{C}</math>, followed by storage for at least six hours at a test temperature equal to <math>-40 \pm 2^\circ\text{C}</math>. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated 10 times, after which all test cells are to be stored for 24 hours at ambient</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire. The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. (Undischarged status only)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>*1: Voltage change[%] = <math>V_2/V_1 \times 100</math></p> <p>*2: Mass loss[%] = <math>(M_1 - M_2)/M_1 \times 100</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Undischarged                     |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;"></th> <th style="width: 5%;">1</th> <th style="width: 5%;">2</th> <th style="width: 5%;">3</th> <th style="width: 5%;">4</th> <th style="width: 5%;">5</th> <th style="width: 5%;">6</th> <th style="width: 5%;">7</th> <th style="width: 5%;">8</th> <th style="width: 5%;">9</th> <th style="width: 5%;">10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Initial</td> <td>Voltage(<math>V_1</math>) [V]</td> <td>3.284</td> <td>3.290</td> <td>3.291</td> <td>3.295</td> <td>3.286</td> <td>3.290</td> <td>3.293</td> <td>3.277</td> <td>3.291</td> <td>3.289</td> </tr> <tr> <td>Mass(<math>M_1</math>) [g]</td> <td>3.018</td> <td>3.020</td> <td>3.022</td> <td>3.038</td> <td>3.017</td> <td>3.003</td> <td>3.026</td> <td>3.012</td> <td>3.002</td> <td>2.978</td> </tr> <tr> <td rowspan="9">After Test</td> <td>Voltage(<math>V_2</math>) [V]</td> <td>3.280</td> <td>3.284</td> <td>3.285</td> <td>3.285</td> <td>3.281</td> <td>3.283</td> <td>3.286</td> <td>3.276</td> <td>3.286</td> <td>3.284</td> </tr> <tr> <td>Voltage change<sup>*1</sup> [%]</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>Mass(<math>M_2</math>) [g]</td> <td>3.018</td> <td>3.020</td> <td>3.022</td> <td>3.037</td> <td>3.017</td> <td>3.002</td> <td>3.026</td> <td>3.012</td> <td>3.001</td> <td>2.978</td> </tr> <tr> <td>Mass loss<sup>*2</sup> [%]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Leakage</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Venting</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </tbody> </table> |                                  |       |       |       |       |       |       |       |                             |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage( $V_1$ ) [V] | 3.284 | 3.290 | 3.291 | 3.295 | 3.286 | 3.290 | 3.293 | 3.277 | 3.291 | 3.289 | Mass( $M_1$ ) [g] | 3.018 | 3.020 | 3.022 | 3.038 | 3.017 | 3.003 | 3.026 | 3.012 | 3.002 | 2.978 | After Test | Voltage( $V_2$ ) [V] | 3.280 | 3.284 | 3.285 | 3.285 | 3.281 | 3.283 | 3.286 | 3.276 | 3.286 | 3.284 | Voltage change <sup>*1</sup> [%] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | Mass( $M_2$ ) [g] | 3.018 | 3.020 | 3.022 | 3.037 | 3.017 | 3.002 | 3.026 | 3.012 | 3.001 | 2.978 | Mass loss <sup>*2</sup> [%] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Leakage | No | No | No | No | No | No | No | No | No | No | Venting | No | No | No | No | No | No | No | No | No | No | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Voltage( $V_1$ ) [V]             | 3.284 | 3.290 | 3.291 | 3.295 | 3.286 | 3.290 | 3.293 | 3.277                       | 3.291 | 3.289 |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mass( $M_1$ ) [g]                | 3.018 | 3.020 | 3.022 | 3.038 | 3.017 | 3.003 | 3.026 | 3.012                       | 3.002 | 2.978 |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage( $V_2$ ) [V]             | 3.280 | 3.284 | 3.285 | 3.285 | 3.281 | 3.283 | 3.286 | 3.276                       | 3.286 | 3.284 |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Voltage change <sup>*1</sup> [%] | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100                         | 100   | 100   |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mass( $M_2$ ) [g]                | 3.018 | 3.020 | 3.022 | 3.037 | 3.017 | 3.002 | 3.026 | 3.012                       | 3.001 | 2.978 |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mass loss <sup>*2</sup> [%]      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                           | 0     | 0     |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Leakage                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Venting                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disassembly                      | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Rupture                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Fire                             | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Fully discharged                 |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;"></th> <th style="width: 5%;">1</th> <th style="width: 5%;">2</th> <th style="width: 5%;">3</th> <th style="width: 5%;">4</th> <th style="width: 5%;">5</th> <th style="width: 5%;">6</th> <th style="width: 5%;">7</th> <th style="width: 5%;">8</th> <th style="width: 5%;">9</th> <th style="width: 5%;">10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Initial</td> <td>Voltage(<math>V_1</math>) [V]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Mass(<math>M_1</math>) [g]</td> <td>3.027</td> <td>3.013</td> <td>3.009</td> <td>3.005</td> <td>3.043</td> <td>3.027</td> <td>3.015</td> <td>3.013</td> <td>3.027</td> <td>2.992</td> </tr> <tr> <td rowspan="9">After Test</td> <td>Voltage(<math>V_2</math>) [V]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Voltage change<sup>*1</sup> [%]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Mass(<math>M_2</math>) [g]</td> <td>3.027</td> <td>3.013</td> <td>3.008</td> <td>3.005</td> <td>3.042</td> <td>3.027</td> <td>3.015</td> <td>3.013</td> <td>3.027</td> <td>2.992</td> </tr> <tr> <td>Mass loss<sup>*2</sup> [%]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Leakage</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Venting</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </tbody> </table>                                                                                                     |                                  |       |       |       |       |       |       |       |                             |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage( $V_1$ ) [V] | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | Mass( $M_1$ ) [g] | 3.027 | 3.013 | 3.009 | 3.005 | 3.043 | 3.027 | 3.015 | 3.013 | 3.027 | 2.992 | After Test | Voltage( $V_2$ ) [V] | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | Voltage change <sup>*1</sup> [%] | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | Mass( $M_2$ ) [g] | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013 | 3.027 | 2.992 | Mass loss <sup>*2</sup> [%] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Leakage | No | No | No | No | No | No | No | No | No | No | Venting | No | No | No | No | No | No | No | No | No | No | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Voltage( $V_1$ ) [V]             | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mass( $M_1$ ) [g]                | 3.027 | 3.013 | 3.009 | 3.005 | 3.043 | 3.027 | 3.015 | 3.013                       | 3.027 | 2.992 |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage( $V_2$ ) [V]             | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Voltage change <sup>*1</sup> [%] | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                      |       |       |       |       |       |       |       |       |       |       |                   |       |       |       |       |       |       |       |       |       |       |            |                      |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                   |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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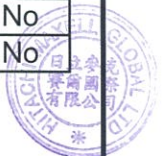
| Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>T.3: Vibration</b>            |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| <b>Test procedure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>Cells are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face.</p> <p>The logarithmic frequency sweep is as follows: from 7 Hz a peak acceleration of 1 g<sub>n</sub> is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8 g<sub>n</sub> occurs (approximately 50 Hz). A peak acceleration of 8 g<sub>n</sub> is then maintained until the frequency is increased to 200 Hz.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.</p> <p>The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. (Undischarged status only)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <p>*1: Voltage change[%]=<math>V_2/V_1 \times 100</math></p> <p>*2: Mass loss[%]=<math>(M_1-M_2)/M_1 \times 100</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Undischarged                     |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;"></th> <th style="width: 5%;">1</th> <th style="width: 5%;">2</th> <th style="width: 5%;">3</th> <th style="width: 5%;">4</th> <th style="width: 5%;">5</th> <th style="width: 5%;">6</th> <th style="width: 5%;">7</th> <th style="width: 5%;">8</th> <th style="width: 5%;">9</th> <th style="width: 5%;">10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Initial</td> <td>Voltage(V<sub>1</sub>) [V]</td> <td>3.280</td> <td>3.284</td> <td>3.285</td> <td>3.285</td> <td>3.281</td> <td>3.283</td> <td>3.286</td> <td>3.276</td> <td>3.286</td> <td>3.284</td> </tr> <tr> <td>Mass(M<sub>1</sub>) [g]</td> <td>3.018</td> <td>3.020</td> <td>3.022</td> <td>3.037</td> <td>3.017</td> <td>3.002</td> <td>3.026</td> <td>3.012</td> <td>3.001</td> <td>2.978</td> </tr> <tr> <td rowspan="9">After Test</td> <td>Voltage(V<sub>2</sub>) [V]</td> <td>3.297</td> <td>3.299</td> <td>3.299</td> <td>3.303</td> <td>3.301</td> <td>3.301</td> <td>3.304</td> <td>3.291</td> <td>3.302</td> <td>3.302</td> </tr> <tr> <td>Voltage change<sup>*1</sup> [%]</td> <td>101</td> <td>100</td> <td>100</td> <td>101</td> <td>101</td> <td>101</td> <td>101</td> <td>100</td> <td>100</td> <td>101</td> </tr> <tr> <td>Mass(M<sub>2</sub>) [g]</td> <td>3.018</td> <td>3.020</td> <td>3.021</td> <td>3.037</td> <td>3.016</td> <td>3.003</td> <td>3.026</td> <td>3.012</td> <td>3.001</td> <td>2.978</td> </tr> <tr> <td>Mass loss<sup>*2</sup> [%]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Leakage</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Venting</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </tbody> </table> |                                  |       |       |       |       |       |       |       |                             |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage(V <sub>1</sub> ) [V] | 3.280 | 3.284 | 3.285 | 3.285 | 3.281 | 3.283 | 3.286 | 3.276 | 3.286 | 3.284 | Mass(M <sub>1</sub> ) [g] | 3.018 | 3.020 | 3.022 | 3.037 | 3.017 | 3.002 | 3.026 | 3.012 | 3.001 | 2.978 | After Test | Voltage(V <sub>2</sub> ) [V] | 3.297 | 3.299 | 3.299 | 3.303 | 3.301 | 3.301 | 3.304 | 3.291 | 3.302 | 3.302 | Voltage change <sup>*1</sup> [%] | 101 | 100 | 100 | 101 | 101 | 101 | 101 | 100 | 100 | 101 | Mass(M <sub>2</sub> ) [g] | 3.018 | 3.020 | 3.021 | 3.037 | 3.016 | 3.003 | 3.026 | 3.012 | 3.001 | 2.978 | Mass loss <sup>*2</sup> [%] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Leakage | No | No | No | No | No | No | No | No | No | No | Venting | No | No | No | No | No | No | No | No | No | No | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Voltage(V <sub>1</sub> ) [V]     | 3.280 | 3.284 | 3.285 | 3.285 | 3.281 | 3.283 | 3.286 | 3.276                       | 3.286 | 3.284 |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mass(M <sub>1</sub> ) [g]        | 3.018 | 3.020 | 3.022 | 3.037 | 3.017 | 3.002 | 3.026 | 3.012                       | 3.001 | 2.978 |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Voltage(V <sub>2</sub> ) [V]     | 3.297 | 3.299 | 3.299 | 3.303 | 3.301 | 3.301 | 3.304 | 3.291                       | 3.302 | 3.302 |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Voltage change <sup>*1</sup> [%] | 101   | 100   | 100   | 101   | 101   | 101   | 101   | 100                         | 100   | 101   |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mass(M <sub>2</sub> ) [g]        | 3.018 | 3.020 | 3.021 | 3.037 | 3.016 | 3.003 | 3.026 | 3.012                       | 3.001 | 2.978 |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fully discharged                 |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |       |       |       |       |       |       |       |                             |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;"></th> <th style="width: 5%;">1</th> <th style="width: 5%;">2</th> <th style="width: 5%;">3</th> <th style="width: 5%;">4</th> <th style="width: 5%;">5</th> <th style="width: 5%;">6</th> <th style="width: 5%;">7</th> <th style="width: 5%;">8</th> <th style="width: 5%;">9</th> <th style="width: 5%;">10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Initial</td> <td>Voltage(V<sub>1</sub>) [V]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Mass(M<sub>1</sub>) [g]</td> <td>3.027</td> <td>3.013</td> <td>3.008</td> <td>3.005</td> <td>3.042</td> <td>3.027</td> <td>3.015</td> <td>3.013</td> <td>3.027</td> <td>2.992</td> </tr> <tr> <td rowspan="9">After Test</td> <td>Voltage(V<sub>2</sub>) [V]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Voltage change<sup>*1</sup> [%]</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Mass(M<sub>2</sub>) [g]</td> <td>3.027</td> <td>3.013</td> <td>3.008</td> <td>3.005</td> <td>3.042</td> <td>3.027</td> <td>3.015</td> <td>3.013</td> <td>3.026</td> <td>2.991</td> </tr> <tr> <td>Mass loss<sup>*2</sup> [%]</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Leakage</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Venting</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </tbody> </table>                                                                                                     |                                  |       |       |       |       |       |       |       |                             |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage(V <sub>1</sub> ) [V] | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | Mass(M <sub>1</sub> ) [g] | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013 | 3.027 | 2.992 | After Test | Voltage(V <sub>2</sub> ) [V] | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | Voltage change <sup>*1</sup> [%] | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | Mass(M <sub>2</sub> ) [g] | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013 | 3.026 | 2.991 | Mass loss <sup>*2</sup> [%] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Leakage | No | No | No | No | No | No | No | No | No | No | Venting | No | No | No | No | No | No | No | No | No | No | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Voltage(V <sub>1</sub> ) [V]     | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Voltage(V <sub>2</sub> ) [V]     | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Voltage change <sup>*1</sup> [%] | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Leakage                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Venting                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Rupture                          | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Fire                             | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |                              |       |       |       |       |       |       |       |       |       |       |                           |       |       |       |       |       |       |       |       |       |       |            |                              |       |       |       |       |       |       |       |       |       |       |                                  |     |     |     |     |     |     |     |     |     |     |                           |       |       |       |       |       |       |       |       |       |       |                             |   |   |   |   |   |   |   |   |   |   |         |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |       |       |       |       |       |       |       |                             |       |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|
| <b>Test</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>T.4: Shock</b>               |       |       |       |       |       |       |       |                             |       |       |
| <b>Test procedure</b><br>Test cells shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery. Each cell shall be subjected to a half-sine shock of peak acceleration of 150 g <sub>n</sub> and pulse duration of 6 milliseconds. Each cell shall be subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell for a total of 18 shocks. |                                 |       |       |       |       |       |       |       |                             |       |       |
| <b>Criteria</b><br>There is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire.<br>The open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. (Undischarged status only)                                                                                                                                                                                                                                                  |                                 |       |       |       |       |       |       |       |                             |       |       |
| *1: Voltage change[%]= $V_2/V_1 \times 100$<br>*2: Mass loss[%]= $(M_1-M_2)/M_1 \times 100$                                                                                                                                                                                                                                                                                                                                                                                                                                |                                 |       |       |       |       |       |       |       |                             |       |       |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Undischarged                    |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |       |       |       |       |       |       |       |                             |       |       |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Voltage(V <sub>1</sub> ) [V]    | 3.297 | 3.299 | 3.299 | 3.303 | 3.301 | 3.301 | 3.304 | 3.291                       | 3.302 | 3.302 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass(M <sub>1</sub> ) [g]       | 3.018 | 3.020 | 3.021 | 3.037 | 3.016 | 3.003 | 3.026 | 3.012                       | 3.001 | 2.978 |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Voltage(V <sub>2</sub> ) [V]    | 3.301 | 3.304 | 3.301 | 3.304 | 3.305 | 3.303 | 3.309 | 3.294                       | 3.306 | 3.307 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Voltage change <sup>1</sup> [%] | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100                         | 100   | 100   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass(M <sub>2</sub> ) [g]       | 3.018 | 3.019 | 3.021 | 3.037 | 3.016 | 3.003 | 3.025 | 3.012                       | 3.001 | 2.977 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass loss <sup>2</sup> [%]      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                           | 0     | 0     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Leakage                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Venting                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Disassembly                     | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rupture                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
| Fire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No                              | No    | No    | No    | No    | No    | No    | No    | No                          | No    |       |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |       |       |       |       |       |       |       |                             |       |       |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Fully discharged                |       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |
| <b>Test result</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |       |       |       |       |       |       |       |                             |       |       |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8                           | 9     | 10    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Voltage(V <sub>1</sub> ) [V]    | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass(M <sub>1</sub> ) [g]       | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013                       | 3.026 | 2.991 |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Voltage(V <sub>2</sub> ) [V]    | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Voltage change <sup>1</sup> [%] | -     | -     | -     | -     | -     | -     | -     | -                           | -     | -     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass(M <sub>2</sub> ) [g]       | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013                       | 3.027 | 2.991 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mass loss <sup>2</sup> [%]      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                           | 0     | 0     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Leakage                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Venting                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Disassembly                     | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rupture                         | No    | No    | No    | No    | No    | No    | No    | No                          | No    | No    |
| Fire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No                              | No    | No    | No    | No    | No    | No    | No    | No                          | No    |       |



| Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>T.5: External short circuit</b> |       |       |       |       |       |       |                             |       |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-----|--|---|---|---|---|---|---|---|---|---|----|---------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-----------------------|------|------|------|------|------|------|------|------|------|------|------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|----|----|----|----|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|
| <b>Test procedure</b><br><p>The cell to be tested shall be temperature stabilized so that its external case temperature reaches <math>55 \pm 2</math> °C and then the cell shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at <math>55 \pm 2</math> °C. This short circuit condition is continued for at least one hour after the cell external case temperature has returned to <math>55 \pm 2</math> °C. The cell must be observed for a further six hours for the test to be concluded.</p> <p><b>Criteria</b><br/> Cells' external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire within six hours of this test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    |       |       |       |       |       |       |                             |       |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Undischarged                       |       |       |       |       |       |       | Number of test specimen: 10 |       |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>No.</th> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> <tr> <td rowspan="2">Initial</td> <td>Voltage [V]</td> <td>3.301</td> <td>3.304</td> <td>3.301</td> <td>3.304</td> <td>3.305</td> <td>3.303</td> <td>3.309</td> <td>3.294</td> <td>3.306</td> <td>3.307</td> </tr> <tr> <td>Mass [g]</td> <td>3.018</td> <td>3.019</td> <td>3.021</td> <td>3.037</td> <td>3.016</td> <td>3.003</td> <td>3.025</td> <td>3.012</td> <td>3.001</td> <td>2.977</td> </tr> <tr> <td></td> <td>Max. Temperature [°C]</td> <td>60.0</td> <td>60.6</td> <td>60.1</td> <td>60.5</td> <td>60.2</td> <td>60.0</td> <td>59.1</td> <td>60.1</td> <td>60.0</td> <td>60.0</td> </tr> <tr> <td rowspan="5">After Test</td> <td>Leakage</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Venting</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </table> |                                    |       |       |       |       |       |       |                             |       |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage [V] | 3.301 | 3.304 | 3.301 | 3.304 | 3.305 | 3.303 | 3.309 | 3.294 | 3.306 | 3.307 | Mass [g] | 3.018 | 3.019 | 3.021 | 3.037 | 3.016 | 3.003 | 3.025 | 3.012 | 3.001 | 2.977 |  | Max. Temperature [°C] | 60.0 | 60.6 | 60.1 | 60.5 | 60.2 | 60.0 | 59.1 | 60.1 | 60.0 | 60.0 | After Test | Leakage | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Venting | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    | 1     | 2     | 3     | 4     | 5     | 6     | 7                           | 8     | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Voltage [V]                        | 3.301 | 3.304 | 3.301 | 3.304 | 3.305 | 3.303 | 3.309                       | 3.294 | 3.306 | 3.307 |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mass [g]                           | 3.018 | 3.019 | 3.021 | 3.037 | 3.016 | 3.003 | 3.025                       | 3.012 | 3.001 | 2.977 |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Max. Temperature [°C]              | 60.0  | 60.6  | 60.1  | 60.5  | 60.2  | 60.0  | 59.1                        | 60.1  | 60.0  | 60.0  |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Leakage                            | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A                         | N/A   | N/A   | N/A   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Venting                            | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A                         | N/A   | N/A   | N/A   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Disassembly                        | No    | No    | No    | No    | No    | No    | No                          | No    | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Rupture                            | No    | No    | No    | No    | No    | No    | No                          | No    | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Fire                               | No    | No    | No    | No    | No    | No    | No                          | No    | No    | No    |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Fully discharged                   |       |       |       |       |       |       | Number of test specimen: 10 |       |       |       |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| <b>Test result</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>No.</th> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> <tr> <td rowspan="2">Initial</td> <td>Voltage [V]</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> </tr> <tr> <td>Mass [g]</td> <td>3.027</td> <td>3.013</td> <td>3.008</td> <td>3.005</td> <td>3.042</td> <td>3.027</td> <td>3.015</td> <td>3.013</td> <td>3.027</td> <td>2.991</td> </tr> <tr> <td></td> <td>Max. Temperature [°C]</td> <td>55.2</td> <td>55.2</td> <td>55.0</td> <td>55.0</td> <td>55.1</td> <td>55.0</td> <td>55.2</td> <td>55.5</td> <td>55.8</td> <td>55.9</td> </tr> <tr> <td rowspan="5">After Test</td> <td>Leakage</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Venting</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Disassembly</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Rupture</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Fire</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> </table>                                         |                                    |       |       |       |       |       |       |                             |       |       |       | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage [V] | –     | –     | –     | –     | –     | –     | –     | –     | –     | –     | Mass [g] | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015 | 3.013 | 3.027 | 2.991 |  | Max. Temperature [°C] | 55.2 | 55.2 | 55.0 | 55.0 | 55.1 | 55.0 | 55.2 | 55.5 | 55.8 | 55.9 | After Test | Leakage | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Venting | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Disassembly | No | No | No | No | No | No | No | No | No | No | Rupture | No | No | No | No | No | No | No | No | No | No | Fire | No | No | No | No | No | No | No | No | No | No |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    | 1     | 2     | 3     | 4     | 5     | 6     | 7                           | 8     | 9     | 10    |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Voltage [V]                        | –     | –     | –     | –     | –     | –     | –                           | –     | –     | –     |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mass [g]                           | 3.027 | 3.013 | 3.008 | 3.005 | 3.042 | 3.027 | 3.015                       | 3.013 | 3.027 | 2.991 |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Leakage                            | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A                         | N/A   | N/A   | N/A   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |       |       |       |       |       |  |                       |      |      |      |      |      |      |      |      |      |      |            |         |     |     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |     |     |     |             |    |    |    |    |    |    |    |    |    |    |         |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |
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| Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>T.6: Impact</b>    |       |       |       |       |                            |   |   |   |   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| <b>Test procedure</b><br><p>The test sample cell is to be placed on a flat surface. A 15.8 mm diameter bar is to be placed across the centre of the sample. A 9.1 kg mass is to be dropped from a height of <math>61 \pm 2.5</math> cm onto the sample.</p> <p>A cylindrical or prismatic cell is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm diameter curved surface lying across the centre of the test sample. A prismatic cell is also to be rotated 90 degrees around its longitudinal axis so that both the wide and narrow sides will be subjected to the impact. Each sample is to be subjected to only a single impact. Separate samples are to be</p> <p><b>Criteria</b><br/> Cells' external temperature does not exceed 170 °C and there is no disassembly and no fire within six hours of this test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |       |       |       |       |                            |   |   |   |   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Undischarged          |       |       |       |       | Number of test specimen: 5 |   |   |   |   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| <b>Test result</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 10%;">No.</td> <td></td> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td rowspan="2">Initial</td> <td>Voltage [V]</td> <td>3.284</td><td>3.278</td><td>3.282</td><td>3.293</td><td>3.290</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Mass [g]</td> <td>3.015</td><td>3.013</td><td>3.018</td><td>3.022</td><td>3.008</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td></td> <td>Max. Temperature [°C]</td> <td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td rowspan="5">After Test</td> <td>Leakage</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Venting</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Disassembly</td> <td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Rupture</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Fire</td> <td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> </table> |                       |       |       |       |       |                            |   |   |   |   | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage [V] | 3.284 | 3.278 | 3.282 | 3.293 | 3.290 | — | — | — | — | — | Mass [g] | 3.015 | 3.013 | 3.018 | 3.022 | 3.008 | — | — | — | — | — |  | Max. Temperature [°C] | 90°C> | 90°C> | 90°C> | 90°C> | 90°C> | — | — | — | — | — | After Test | Leakage | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Venting | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Disassembly | No | No | No | No | No | — | — | — | — | — | Rupture | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Fire | No | No | No | No | No | — | — | — | — | — |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       | 1     | 2     | 3     | 4     | 5                          | 6 | 7 | 8 | 9 | 10  |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage [V]           | 3.284 | 3.278 | 3.282 | 3.293 | 3.290                      | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
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| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Leakage               | N/A   | N/A   | N/A   | N/A   | N/A                        | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rupture               | N/A   | N/A   | N/A   | N/A   | N/A                        | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
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| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Fully discharged      |       |       |       |       | Number of test specimen: 5 |   |   |   |   |     |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| <b>Test result</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 10%;">No.</td> <td></td> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td rowspan="2">Initial</td> <td>Voltage [V]</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Mass [g]</td> <td>3.011</td><td>3.014</td><td>3.013</td><td>3.009</td><td>3.033</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td></td> <td>Max. Temperature [°C]</td> <td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>90°C&gt;</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td rowspan="5">After Test</td> <td>Leakage</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Venting</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Disassembly</td> <td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Rupture</td> <td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> <tr> <td>Fire</td> <td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td> </tr> </table>                     |                       |       |       |       |       |                            |   |   |   |   | No. |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Initial | Voltage [V] | —     | —     | —     | —     | —     | — | — | — | — | — | Mass [g] | 3.011 | 3.014 | 3.013 | 3.009 | 3.033 | — | — | — | — | — |  | Max. Temperature [°C] | 90°C> | 90°C> | 90°C> | 90°C> | 90°C> | — | — | — | — | — | After Test | Leakage | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Venting | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Disassembly | No | No | No | No | No | — | — | — | — | — | Rupture | N/A | N/A | N/A | N/A | N/A | — | — | — | — | — | Fire | No | No | No | No | No | — | — | — | — | — |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       | 1     | 2     | 3     | 4     | 5                          | 6 | 7 | 8 | 9 | 10  |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| Initial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage [V]           | —     | —     | —     | —     | —                          | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Mass [g]              | 3.011 | 3.014 | 3.013 | 3.009 | 3.033                      | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Max. Temperature [°C] | 90°C> | 90°C> | 90°C> | 90°C> | 90°C>                      | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
| After Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Leakage               | N/A   | N/A   | N/A   | N/A   | N/A                        | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Venting               | N/A   | N/A   | N/A   | N/A   | N/A                        | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Disassembly           | No    | No    | No    | No    | No                         | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rupture               | N/A   | N/A   | N/A   | N/A   | N/A                        | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Fire                  | No    | No    | No    | No    | No                         | — | — | — | — | —   |  |   |   |   |   |   |   |   |   |   |    |         |             |       |       |       |       |       |   |   |   |   |   |          |       |       |       |       |       |   |   |   |   |   |  |                       |       |       |       |       |       |   |   |   |   |   |            |         |     |     |     |     |     |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |             |    |    |    |    |    |   |   |   |   |   |         |     |     |     |     |     |   |   |   |   |   |      |    |    |    |    |    |   |   |   |   |   |



