

**TEST REPORT**

|     |                                                     |                                                                                                |              |
|-----|-----------------------------------------------------|------------------------------------------------------------------------------------------------|--------------|
| 1.0 | Service Request / Job No:                           | SRF No                                                                                         |              |
| 2.0 | Test Requested By:<br>(Organization Name & Address) | M/S Sparco Batteries Pvt.Ltd.<br>Killa No:22, Khashra No: 23/1/2 Village Nathupur.<br>Sonipat. |              |
| 3.0 | Description of Unit Under test<br>(UUT):            | Description:                                                                                   | VRLA         |
|     |                                                     | Rating:                                                                                        | 12V/150AH    |
|     |                                                     | Model No:                                                                                      | ATC 150      |
|     |                                                     | Serial No:                                                                                     |              |
| 4.0 | Date of Receipt of Sample: (start date)             |                                                                                                |              |
|     | Date of Completion of test                          |                                                                                                |              |
| 5.0 | Condition of UUT on receipt:                        | Dry Charge Battery                                                                             |              |
|     | No. Of sample Tested:                               | 4                                                                                              |              |
| 6.0 | Test Site:                                          | On site                                                                                        |              |
|     | Environment Conditions:                             | 35°C                                                                                           |              |
|     | Temperature: 25°C+5%<br>Humidity 40 to 95% RH       | 83%                                                                                            |              |
| 7.0 | Applicable Standards /<br>Specifications:           | Test Method:                                                                                   | IEC 60896-21 |

## Major Measuring Instrument and Traceability:

| S.No | Description              | Make/Model        | S.No. of Instrument | Calibration validity | Calibration Agency |
|------|--------------------------|-------------------|---------------------|----------------------|--------------------|
| 1    | Discharger               | ADOS/12V-35Amp    | 131014-1            |                      |                    |
| 2    | Charger                  | ADOS/12/24V-20Amp | D600202K-1          |                      |                    |
| 3    | Digital Multi Meter      | Mastech/MS2 101   | 994995570           |                      |                    |
| 4    | Digital Clamp Meter      | Mastech/MS2 101   | 994995570           |                      |                    |
| 5    | High rate discharge unit | ADOS/12V-1500Amp  | 160117              |                      |                    |



|                 |                                        |                |
|-----------------|----------------------------------------|----------------|
| Test Report No: | Description: 12V/150AH<br>VRLA Battery | Serial No:     |
|                 |                                        | Model: ATC 150 |

Test Result:

| S.no             | Specification Requirement | Serial Number |    |    |    |    |    |
|------------------|---------------------------|---------------|----|----|----|----|----|
| Test Description |                           | 22            | 23 | 24 | 25 | 26 | 27 |

| 01       | (a)<br><br>(b) | <b>Content and of required markings</b><br>Cell or battery shall be clearly and permanently marked with required information. / Information shall remain readable after exposure to chemicals and remain in place.                                                                                                                                                                                                                                                                                                                                                                                                   | Readable | Readable | Readable    | Readable | Readable | Readabl<br>e |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
|----------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-------------|----------|----------|--------------|----|-----|----------|----|-----|----------|----|-----|----------|-------|-------|----------|--|--|--|--|--|--|
| 02       | (a)            | <b>Material Identification</b><br>The plastic materials used for the units are clearly identified with the ISO 1043-1 material symbol and legible throughout the service life.                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ok       | Ok       | OK          | OK       | OK       | OK           |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| 03       | (a)            | <b>Discharge capacity</b><br>The actual capacity C shall be greater than or equal to 95% of the rated capacity. C of the 6 units tested with the following rates to the following end voltage.<br><table border="1"> <thead> <tr> <th>Capacity</th> <th>Rate</th> <th>End voltage</th> </tr> </thead> <tbody> <tr> <td>C10</td> <td>10 h</td> <td>1.80 Vpc</td> </tr> <tr> <td>C8</td> <td>8 h</td> <td>1.75 Vpc</td> </tr> <tr> <td>C3</td> <td>3 h</td> <td>1.70 Vpc</td> </tr> <tr> <td>C1</td> <td>1 h</td> <td>1.60 Vpc</td> </tr> <tr> <td>C0.25</td> <td>0.25h</td> <td>1.60 Vpc</td> </tr> </tbody> </table> | Capacity | Rate     | End voltage | C10      | 10 h     | 1.80 Vpc     | C8 | 8 h | 1.75 Vpc | C3 | 3 h | 1.70 Vpc | C1 | 1 h | 1.60 Vpc | C0.25 | 0.25h | 1.60 Vpc |  |  |  |  |  |  |
| Capacity | Rate           | End voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| C10      | 10 h           | 1.80 Vpc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| C8       | 8 h            | 1.75 Vpc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| C3       | 3 h            | 1.70 Vpc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| C1       | 1 h            | 1.60 Vpc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| C0.25    | 0.25h          | 1.60 Vpc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |             |          |          |              |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |
| 04       | (a)            | <b>Charge retention during storage.</b><br>The charge retention factor, C of the 6 unitstested, shall be greater than or equal to 70%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 72%      | 71%      | 73%         | 72%      | 74%      | 73%          |    |     |          |    |     |          |    |     |          |       |       |          |  |  |  |  |  |  |

Tested By:  
(Quality Engineer)Authorized By:  
(Technical Head)



|                 |                                        |              |
|-----------------|----------------------------------------|--------------|
| Test Report No: | Description: 12V/150AH<br>VRLA Battery | Serial No:   |
|                 |                                        | Model:ATC150 |

Test Result:

| S.no | Specification Requirement                                                                                                                                                                                                                     | Serial Number |     |     |     |     |     |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----|-----|-----|-----|-----|
|      | Test Description                                                                                                                                                                                                                              | 22            | 23  | 24  | 25  | 26  | 27  |
| 05   | <b>Recharge Behaviour</b><br>The recharge behaviour factor <b>Rbf</b> , after 24h of charge shall be greater than or equal to 90%.<br>The recharge behaviour factor, <b>Rbf</b> , after 168h of charge shall be greater than or equal to 98%. | 98%           | 96% | 97% | 98% | 97% | 98% |

Tested By:  
(Quality Engineer)

Authorized By:  
(Technical Head)