## firefly ${ }^{\circ}$

# Electrical lab Test Report Voltage vs. SOC \% 

Date: 24.09.2016

Firefly batteries private limited, India, Factory: survey no 61/20, opp. super gas plant, Bavla- Bagodhara Highway, VillageKalyangarh, Taluka-Bavla, Ahmedabad-382240, Gujarat

| Date: | 24.09 .16 |
| :--- | :--- |
| Type | Microcell ${ }^{\text {TM }}$ Carbon Foam AGM VRLA gel Battery |
| Model | MCF G31 |
| Battery serial No | H-649, 719 |
| Rating | 12 V 110 Ah @ C10 at $27^{\circ} \mathrm{C}$ |
| Description | Endurance Life cycle test(75\% DOD) |
| Tested During | September 2016 |
| No of pages | 02 |
| Manufacturing date | Aug'2016 |
| Reference No | ETL 16/2016-TR 719\& 649 |

## Test procedure:

- Fully charge the battery with 55 A until the charging current goes down to 1 A .
- Carry out $\mathrm{C}_{3}$ Discharge with a discharge current of 30 A until 10.5 V and note down the voltage.
- Similarly. Carry out a $\mathrm{C}_{10}$ Discharge with a discharge current of 11 A until 10.5 V and note down the voltage.
- Compare the SOC \% vs. Voltage.


## Test Results:



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| SOC | Voltage/Battery |  |
| :---: | :---: | :---: |
|  | $\mathbf{C}_{3}$ | $\mathbf{C}_{\mathbf{1 0}}$ |
| $100 \%$ | 13.35 | 13.35 |
| $90 \%$ | 12.58 | 12.78 |
| $80 \%$ | 12.49 | 12.64 |
| $70 \%$ | 12.38 | 12.50 |
| $60 \%$ | 12.25 | 12.34 |
| $50 \%$ | 12.13 | 12.19 |
| $40 \%$ | 12.01 | 12.02 |
| $30 \%$ | 11.80 | 11.84 |
| $20 \%$ | 11.58 | 11.63 |
| $15 \%$ | 11.47 | 11.49 |
| $10 \%$ | 11.30 | 11.33 |
| $5 \%$ | 11.05 | 11.10 |
| $0 \%$ | 10.50 | 10.50 |


| Tested By | Verified By | Approved by |
| :---: | :---: | :---: |
| Vishal Tholiya | Rakesh Prajapathi | Balaji Balasundaram |
| EL Technician | (Head-QC) | (Head-Design) |

