

JOINT NOTE

Place : HPCL, Usar, Alibagh.

Activity : Signet ETP battery life extender demo.

Purpose : To analyse the battery capacity improvement.

The analyses of the test results are presented in the following manner for ease of understanding:

Section A:

Testing procedure adapted.

Section B:

Observations

Section C:

Inference / Improvement

Section D:

Conclusion

Section A:

Testing Procedure adapted:

Date : 20/07/2010

A team from Signet Components Pvt Ltd; Mumbai conducted demo at HPCL, Alibagh.

A 180 AH, 12 Volt, age 2 years, fully charged battery used for at Fire Pump house was selected for demo. Battery parameters viz. Specific gravity and voltage recorded at 04:35 pm. Battery then put on discharge by a discharge unit. It was discharged at 12 amp. The voltage and specific gravity was recorded after every 1 hr.

The end voltage for individual cell dropped at 1.96 which was good but specific gravity for each cells dropped at ~~1.60-1.50~~ ^{1.60-1.50}; hence discharge activity stopped. The end voltage of the battery at the end of 180 minutes observed ⁽¹¹⁶⁰⁻¹¹⁵⁰⁾ 11.68 V.

Signet ETP activator @ 18 ml/ cell added in each cell.
(Doses : 10% of Ah capacity in ml per cell)

Battery then put on charge.

Date: 21/07/2010

After attaining full charge Signet representative repeated the discharge activity on 21/07/2010. The prolongation in discharge period was checked by comparing initial data.

Section B:

Observations:

Before activation:

1. The selected battery voltage condition was in good condition with each cell end voltage range was 1.92 V - 1.96 V.
2. Specific gravity in the range of 1.150 to 1.160.
3. Voltage at the end of 180 minutes ie.3hrs was 11.68 V.
4. Specific gravity in full charge condition ranges 1.180 to 1.190.
5. Specific gravity at the end of 180 minutes ranges 1.150 to 1.160.

After Activation:

1. Specific gravity in full charged condition ranges 1.220 to 1.240.
2. Voltage at the end of 180 minutes recorded 11.84 V.
3. Battery sustained for 220 minutes and reaches the voltage of 11.74 which is also more than previous discharge condition.
4. Specific gravity at the end of 180 minutes ranges 1.170 to 1.190.
5. After sustaining for 220 minutes specific gravity ranges 1.150 to 1.170.

Section C:
Inference / Improvement:

A) Voltage improvement

At start of discharge test

Before dosing ETP : 13.20 V
After dosing ETP : 14.08 V

At the end of discharge test (180 minutes)

Before dosing ETP : 11.68 V
After dosing ETP : 11.84 V

B) Specific Gravity improvement

At the start of discharge test

Before dosing ETP : 1.180 to 1.190
After dosing ETP : 1.220 to 1.240

At the end of discharge test (180 minutes)

Before dosing ETP : 1.150 to 1.160
After dosing ETP : 1.170 to 1.190

C) Capacity improvement at the end voltage 11.68 V and with Specific gravity

Discharge time before ETP dosing : 180 minutes.
Discharge time after ETP dosing : 220 minutes.
Discharge prolonged by : 40 minutes.


Capacity improvement = $(220 - 180) / 180 * 100 = 22.22 \%$.
Capacity improvement of 22.22 % is achieved.

Section D:
Conclusion:


The charge holding capacity of the battery increased. ETP has rejuvenated capacity of the battery which helped it to prolong discharge time. This capacity will further improve with charge discharge cycles over the period of time.

Signet-ETP treatment is focusing on resolving lead sulphate and rejuvenating battery capacity. This being chemical reaction further improvement is also expected and same can be verified by conducting similar test.

Signet-ETP also helps preventing crystallization of sulfation, reduces hydrogen evolution (loss of water) that attributes to increase life of NEW / IN USE BATTERIES.


22/01/20
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Joint Note.

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Activity: Signet ETP Battery life extender demo.
Date: 20/7/2010.

A team from Signet components Pvt. Ltd; Mumbai conducted demo at HPCL, Usar, Alibagh.

A 180AH, 12v fully charged battery was selected for demo. Battery parameters as, Specific gravity and voltage recorded at 04.35pm. Battery then put on discharge by a discharge unit. It was discharged @ ~~12~~ 12 amps. The voltage recorded after 0hrs and 3hrs.

The voltage at the end of 3hrs reached 11.68v which was stable but the specific gravity reached at 1150, hence discharged activity stopped. Signet ETP activator @ 18ml/cell added in each cell.

Observations:

Before activation:

The Battery condition was good for voltage condition as its capacity after 3hrs of discharge was 11.68v total but the specific gravity has reached to 1150 which was the end level.

Date: 21/07/2010

At morning after full charged the reading was taken & was found that some observations & carried out discharge activity at the same 12 amp rate.

Observations:

1. Initial voltage has improved from 13.20v to 14.08v.
2. Specific gravity earlier was 1180 & now improved to 1240.
3. Discharge period earlier was 3hrs which is now increased to 3.40hrs (near to 4hrs).
4. At the end of discharge ~~to~~ end voltage was 11.74v which is comparatively greater than earlier one.
5. The issue of specific gravity has been improved along with the voltage.

Conclusions: → The charge holding capacity of the battery increased. ETP has rejuvenated capacity of the battery which helped it to prolong discharge time. This capacity will further improve with charge discharge cycles over the period of time.

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