



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
INSTRUMENTATION MANUAL**



Issue No. 01	Rev. No: 02	Effective Date: 20.09.2017	SOP/INST/002
Issued By: M.R		Approved By: HOD - INSTRUMENTATION	
SOP for checking of Batteries			

Scope: To check the condition of batteries.

Responsibility: Instrumentation technician.

Accountability: Instrumentation - Section Engineer.

PPE:

- Safety helmet
- Safety shoe
- Mask
- Goggles
- Hand gloves
- Apron coat

Tools required:

- Hydrometer
- Multimeter
- Battery cap opener

Hazard Analysis:

Risks associated

Fumes from batteries

Electric shock

Mitigating Measures

Use of nose mask, goggles, hand gloves.

Use of rubber gloves, shoes without metal toe, standing on rubber sheets, properly insulated tools.



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Procedure:

1. Use insulated tools while working on the battery to prevent accidental short circuit.
2. Do not place or drop metal objects on top of the battery.
3. Remove rings, wristwatch, and loose coins from the pockets that might come in Contact with the battery terminals.
4. Wear rubber gloves, goggles and long sleeved clothing when working on the battery.
5. Check inter-cell connectors for proper tightness.
6. This will prevent heat generation at the point of loose contact, which causes damage to the components
7. Check the electrolyte level and ensure that it does not fall below the minimum level, which is indicated, on the cell-marking label.
8. Use only DM/DI water to top up the cells
9. If electrolyte is splashed on the skin or clothing, wash immediately with water for 10 to 15 minutes.
10. If eyes are affected, flood with water followed by eye wash solution and obtain immediate medical attention
11. If potassium carbonate crystals (grey white deposits) form on top of the battery, rub with a soft brush and wipe with a clean dry cloth and apply white petroleum jelly on connectors and terminals.
12. Don't use wire brush or solvents such as gasoline, thinner, acetone, kerosene etc.,
13. Keep the battery location well ventilated to prevent buildup of the oxygen and hydrogen gases, and do not cover the battery during charging.

Records/Annexure:

1. Refer the check list for batteries F-1/WI- 24 (SP-8;AM-7)
2. JSA



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Job Safety Analysis	Job: CHECKING OF BATTERIES	Date: 20.09.2017	Analysis by:	Reviewed by:
Title of employee doing job: INST - TECHNICIAN	Supervisor: SECTION ENGINEER	Department: INSTRUMENTATION	Section: RM/PYRO/CM/CRUSHER	Approved by:

Req'd/recommended PPE: SAFETY HELMET, SAFETY SHOES, GOGGLES, DUST MASK, RUBBER HAND GLOVES

Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
1. Use tools while working and remove your watches, coins etc which may come in contact with batteries.	If conducting materials come in contact with batteries, it may lead us to electric shock	Use properly insulated tools, and remove watches, coins etc which may come in contact with batteries before starting the work.	Electric shock	Use properly insulated tools and rubber gloves
2. Check cell tightness and electrolyte level. top up if required.	Electric shock while checking tightness, splashing of electrolyte while top up	Use properly insulated tools while checking tightness and also wear goggles, hand gloves and apron before the top up of the electrolyte	Electric shock and splashing of electrolyte in eyes	Use properly insulated tools and wear recommended ppe's. wash the eyes completely with water followed by eye wash solution and obtain immediate medical attention.
3. Close the batteries after top up, check the tightness, keep it properly ventilated.	Electric shock while checking tightness	Use properly insulated tools while checking tightness	Electric shock	Wear hand gloves.