



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



Issue No. 01	Rev. No: 02	Effective Date: 07.07.2017	SOP/Elect /018
Issued By:		Approved By: HOD ELECTRICAL	
SOP For Testing of Transformer Oil			

Scope : This Procedure is to establish and ensure safe method of Testing of Transformer Oil

Responsibility : Section Engineer – Electrical

Accountability : Section Head-Electrical

PPE:

1. Safety helmet,
2. Safety shoe,
3. Rubber Gloves.

Tools:

1. Insulated tools
2. Oil test kit

Hazard Analysis:

Risks associated

Electrical shock
Slippery due to Oil spillage

Mitigating Measures

Use of proper tools and PPE
Proper Handling methods

Training needs:

1. Usage of tools and Nature of Hazards
2. Fire fighting training
3. Usage of PPEs

Procedure:

- 1) Get work permit from the concerned Electrical section in-charge.
- 2) Clean the bottom and top sample valve by cloth, while cleaning use PPEs like hand Gloves.
- 3) Clean the sampling cubicle with cloth and rinse with transformer oil while rinsing, avoid transformer oil spillage.
- 4) Ensure the gap between electrodes of sampling cubicle 2.5mm.



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- 5) Use Insulated tools for Sampling & Testing.
- 6) Ensure presence of Fire fighting equipments near to testing place.
- 7) Open the Bottom / Top sample valve carefully and collect the sample in sampling cubicle and close the valve while collecting the sample, avoid oil spillage in the ground. Then immediately close the sampling cubical to avoid moisture entry.
- 8) Clean and power up the test kit with proper earthing.
- 9) Place the sampling cubicle in the test kit.
- 10) Increase the voltage up to 60KV and check the withstanding interval. Requirement is $\geq 60KV$ for 3Minutes.
- 11) If break down happened in voltage before required value, oil filtration is required.
- 12) Do the Same test for Top & Bottom valve samples.
- 13) Record the values in the concern check list.
- 14) Avoid spillage of oil while testing and handling of oil.
- 15) Stay away from test kit During Testing.
- 16) Dispose the tested oil / waste oil as per proper disposal methods.

Emergency / Emergency Shut OFF:

1. If electrical shock injury or body injury is there, give First aid and inform to the Safety department or Call Emergency number 3108/9865152222/9750963761.

Records/Annexure:

1. LOTO permit
2. Testing of Transformer Oil
3. JSA is enclosed below.



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JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Testing of Transformer oil	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Electrician	Supervisor: Section Engineer	Department: Electrical	Section: Plant	Approved by:
Reqd./recommended PPE: Safety helmet, Safety shoe & Rubber Gloves.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Sampling	Injury due to oil spillage / over through	Proper sampling method	Slip / broken valves during sampling	Proper sampling method & Usage of hand gloves
Testing	Electric shock	Proper Testing procedure	Live circuit / Usage of Improper tools	Switch off the test kit & Usage of proper tools
	Oil splash / Oil burning	Proper Testing method	Oil splash / Oil overheat due to Faulty Trip circuit	Ensuring protection circuit for Proper tripping
	Unconsciousness	Proper Testing method	Release of Toxic gases due to oil overheat / burn	Use of PPEs & Stay away from test kit