



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT**  
**ARIYALUR**  
**MECHANICAL DEPARTMENT**

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/155
Issued By: M.R		Approved By: HOD MECHANICA	
SOP FOR TOTAL ACID NUMBER (TAN) MACHINE OPERATION			

**Scope** : This SOP is applicable for Total acid number (TAN) machine operation  
**Responsibility** : Tool room maintenance Engineer  
**Accountability** : Section Head – Utility operation

**PPE:**

1. Safety helmet,
2. Goggles,
3. Safety shoe,
4. Nose Mask,
5. Face shield,
6. Rubber Hand Gloves,
7. Ear plug.

**Tools:**

1. High pressure hose
2. Box Spanner set
3. Ring Spanner set
4. Waste oil collecting tray.
5. Waste oil collecting drum
6. Waste cloth for cleaning

**Hazards/Aspects & Impact:**

**Risks associated**

Hose/Pipe Burst

High pressure oil  
exposure with human being  
Oil receiver burst

**Mitigating Measures**

Switch OFF the pump and change the hose/Pipe.  
Monitor the pressure gauge and hose periodically.

Wear full body Apron and Face shield.  
Periodic maintenance of Safety relief valve.  
Periodic testing of High pressure vessels.

**Training needs:**

1. Lubrication handling system
2. Emergency preparedness
3. Compressor safe operating procedure

**Procedure:**



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➤ **Safe operation procedures:**

1. Always Fix the TAN machine at a designated area with proper wheel locks.
2. Take General work permit for Cleaning or service activity.
3. Keep the servicing area neat and well organized. Sweep or pick up all trash and debris daily or as needed, before it is carried away during cleaning activity.
4. Ensure no slip/trip hazards are present in workplaces and walkways.
5. Use proper PPE'S while cleaning the equipment s.
6. Before starting the TAN machine, be sure that the manual and all warning signs have been completely read.
7. Hoses, fittings, regulators, and valves should be inspected periodically for leaks, damage, and other defects.
8. Goggles & Rubber Hand Gloves, must be worn while handling oil.
8. Check that all fittings and connections are in good condition prior to starting.
9. Check for any oil leaks from any flexible oil lines and immediately report if any leaks are observed.
10. All necessary guards & safety devices are in place protecting operators from all moving & rotating parts.
11. Connect the inlet hose of the TAN machine to the impure oil tank out let pipe
12. Connect the outlet hose of the TAN machine to the impure oil tank inlet pipe
13. Ensure the outlet and inlet valve open condition
14. Start the TAN machine pump.
15. Check 'ON' indication lamp glows
16. Check the DP . if the DP lever below 20 psi TAN machine running properly.
17. After completing the operation pot off the pump
18. Remove all the outlet and inlet hoses
19. Drain the system by opening the vent valve after stopping the pump.

**Emergency / Emergency Shut OFF:**

1. If any Electrical hazard is there, first switch OFF the main and inform to the Section Electrical Authority.
2. If any Emergency, Call Safety department or Call Emergency number 3108/9865152222/9750963761.
3. If any hose pipe got punctured or burst, then stop compressor with an Emergency switch.

**Records/Annexure:**



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1. Refer General work permit register.
2. JSA as enclosed below.

**JOB SAFETY ANALYSIS : (JSA)**

<b>Job Safety Analysis</b>	Job: Usage of Lub oil	Date: 15.5.2018	Analysis by: Sec.Engineer	Reviewed by: Sec.Head
Title of employee doing job: Section engineer	Supervisor: Section Engineer	Department: Mech	Section: utility	Approved by: HOD
Req'd/recommended PPE: Safety helmet, Safety shoe, Face shield, safety goggles & Rubber Gloves.				
<b>Sequence of Basic Job Steps</b>	<b>Potential Hazards</b>	<b>Recommended Safe Job Procedure</b>	<b>What Could Go Wrong</b>	<b>Corrective Action</b>
Hose connecting the TAN machine	Slip due to material spill	Don't unload the oil if there any leakages	Leakage on the floor	Ensure the proper fixing of the hose .
Handling the lub oil from machine to tank	Oil leakage	Check the proper line valves open condition and other valves are closed condition	Valve inside leakage	Re place the valve as the supplier recommendations.
Transferring the / from tank to cleaner machine		Check the oil line before starting pump for transfer.	Leakages may be not identify	Check thoroughly and then only runs the pump.