



## DALMIA CEMENT (B) LIMITED – ARIYALUR

### MECHANICAL SOP

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/080
Issued By: M.R		Approved By: MECHANICAL HOD	
SOP FOR GEAR BOX MAINTENANCE			

**Scope: FOR GEARBOX MAINTENANCE**

**Responsibility: Section Engineer**

**Accountability: Mechanical-Section In charge**

**PPE:**

1. Safety helmet,
2. Safety shoe,
3. Hand gloves.

**TOOLS:**

1. Box spanner set.
2. Ring spanner set.

**Hazard Analysis:**

Risks associated	: Mitigating Measures
Body Injury	: Use proper tools and tackles

### **SOP for Maintenance of Gearbox**

1. Take the line clearance. Use LOTO system
2. The line clearance paper should be with the person who is working in the site.
3. Use ppe's while working
4. Decouple the gear box input and out put coupling.
5. Drain the gearbox oil.
6. Open the top cover of gearbox.
7. Inspect the gears for any damage.
8. Clean the gear box and its sump.
9. Check the internal pipe lining for any leakage.
10. Inspect the input pinion bearing for clearance.



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11. Replace the bearing if clearance is more than permitted limit.
12. Inspect the shaft seals and replace if it is in damage condition.
13. Check axial play of input pinion and matching gears.
14. Check lubrication of oil in all bearing.
15. Clean thoroughly gear box all flanges and end cover.
16. Check hold back for proper functioning. (If hold in gearbox).
17. Check gear box root clearance and back lash.
18. Check and clean all the breathers ,Replace if required
19. Apply loctite/flange sealant and fix top cover and side flanges.
20. Tight all bolt as per recommended torque.
21. Ensure the free movement of input /out put shaft.
22. Top up recommended oil quantity.
23. Couple the gearbox couplings.
24. Clear the shut down and take the trial.

#### **Emergency / Emergency Shut OFF:**

1. If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222

#### **Records/Annexure:**

1. Refer Line clearance certificates.
2. JSA as enclosed below



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SL No	Activity			Isolation Matrix for Utility & General Equipment.							
				Isolation Type							
				<b>Electrical Energy</b>				<b>Other Energy</b>			
	<b>Gearbox Maintenance</b>	Name and Tag for the Equipment		<b>Drive Pertaining to gearbox</b>	<b>Lubrication pump(if any)</b>						

<b>Job Safety Analysis</b>	Job: Deep Pan Conveyor Maintenance	Date: 01/09/2014	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Engineer	Supervisor: Section In charge	Department: Mechanical.	Section: Pyro. & Cement Mills	Approved by: HOD Mech.
Req'd/recommended PPE:				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Coupling guard removal and fixing	Hand Injury	Use Proper Tool	Tools may slip	Ensure proper and certified tools usage
Clearance Checking	Hand Injury	Use proper Feeler and Hand gloves,	Hand May Got Stuck-up	Lock the Coupling and avoid finger insertion in less gap areas