



**MECHANICAL**

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/05
Issued By: M.R		Approved By: HOD-Mechanical	
REPLACEMENT OF ROTARY AIR LOCK			

Scope: Replacement of Rotary Air Lock

Responsibility: Engineer/SH

PPE:

1. Safety harness(Full body)
2. Safety helmet,
3. Safety shoe,
4. Nose Mask,
5. Hand gloves
6. Safety goggles

TOOLS:

1. spanner set
2. chain blocks
3. Crowbar
4. Slings
5. D-shackles
6. Hydraulic jack

Hazard Analysis:

Risks associated:

Fall from height,  
Hand or Leg slipping in to the rotary vanes  
Fall of chain Block  
Fall of tools,  
Contact with hot body

Mitigating Measures

Use of safety harness  
Locking the movement of rotor  
Use certified chain block as required  
Carry the tools in tool box/bag  
Use of hand gloves/apron

Procedure:

1. Stop the RAL and take the work permit as per LOTO for all the feed & Discharge equipment.



**MECHANICAL**

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/05
Issued By: M.R		Approved By: HOD-Mechanical	
REPLACEMENT OF ROTARY AIR LOCK			

2. The line clearance paper should be with the authorized person who is working in the site.  
In case of man entering inside the hopper/chute take the confined area work permit from the relevant department and allow the persons to work
3. Use PPE's while working.
4. Open the main man holes.
5. Remove the coating/material in the RAL
6. Match mark on the coupling before removing the pins and also match mark on the flanges of RAL.
7. Remove all the coupling pins.
8. (Dismantle the shrink disk)
9. Remove the Gear box from the RAL
10. Both the ends of the RAL, load are to be taken on chain block
11. Lock the inlet and outlet duct / pipe and remove all the RAL flange bolts.
12. Take out the RAL with the chain block and keep it aside.
13. Hang to the chain block the new RAL to be fixed and take out to the position.
14. Place the RAL as per the match marking and fix all the bolts, Tighten the bolts diagonally opposite.
15. Fix the Gearbox
16. Fix the shrink disc
17. Make the alignment of the coupling as per the match marking and fix the pins.
18. Release the chain block load and remove the chain block.
19. Clear the LOTO and take the trial run, check the direction and record the amps
20. If it found Ok then inform to the CCR.

**Emergency Shut- off:**

In such cases, the rotary air lock must be placed on floor and chain block should be freed from load. All tools and tackles should not be in the workstation, to be placed in the tool box/ floor in a systematic manner in order to avoid fall of the same.

**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:** Job safety analysis.



## DALMIA CEMENT (B) LIMITED – Ariyalur



### MECHANICAL

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/05
Issued By: M.R		Approved By: HOD-Mechanical	
REPLACEMENT OF ROTARY AIR LOCK			

### JOB SAFETY ANALYSIS :( JSA)

<b>Job Safety Analysis</b>	Job: Replacement of Mill Feed RAL	Date: 01 – 06 - 2012	Analysis by Section Engineer	Reviewed by: Section head
Title of employee doing job : Section engineer	Supervisor: Section Engineer	Department: Mech	Section: Vertical Roller Mills	Approved by: HOD. Mech

Sl.No	Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure		
1	Shift the RAL from ground floor to respective floor	Falling of material	Use the suitable tools	May fail due to lifting tools failure.	Check for the Valid certification.
2	Remove the old RAL and fix the new RAL	Injury to hand, Falling of material, Slippage of tools	Gloves to be used, Use correct size tools & competent workmen.	RAL vanes may rotate	Lock the vanes before handling.
3	Provide asbestos rope in all the flange joints	Injury to hand	Gloves to be used	Fingers may entrap	Use proper tools & arrest the equipment while such type of work.
4	Trail run of RAL	Damage due to abstractions	Ensure the locking system provided to arrest the vanes is with drawn	Injury	Ensure all the inspection doors closed & tighten properly
5	Scrap removal and area cleaning.	Hand injury	Use Hand gloves	Harmful to others	Barricade the area.

