



MECHANICAL

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/186
Issued By: M.R		Approved By: HOD-Mechanical	
SOP - REPLACEMENT OF ROTARY AIR LOCK			

SOP FOR ROTARY AIR LOCK DISC WELDING

Scope	: This SOP is applicable to Safe working of RAL disc welding
Responsibility	: Section Engineer mech
Accountability	: Section Incharge mech

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:



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1. Stop the RAL and take the work permit as per LOTO for all the feed & Discharge equipment.
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. Lock the RAL by fixing the rod on vanes plate in hole of casing area
7. Remove the small door of rotary air lock side disc area
8. By rotating the motor cooling fan RAL to be positioned
9. After positioning the RAL the worn out portion of side disc can be weld
10. Direct earth to be connected
11. By using the certified welder & welding machine the job can be start
12. Side disc can be welded with suitable welding electrode
13. After the welding the area to be grinded with grinding machine
14. By rotation of RAL free movement to be ensured
15. Release the locking bolt and close the all door.
16. Clear the LOTO and take the trail run, check the direction and record the amps
17. 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.

JOB SAFETY ANALYSIS :(JSA)



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Job Safety Analysis	Job: RAL Disc welding	Date:21.04.2020	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Incharge	Supervisor: Section Sr.Engineer (Mech.)	Department: Mechanical	Section: VRM'S	Approved by: HOD Mechanical
Req'd /recommended PPE:				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Rotate RAL in reverse/ forward direction with wet/lump material	Minor Injury	Ensure the inspection door & coupling guard is in closed condition	To remove choke work men may open the inspection door & operate the RAL Contact of body parts with rotating equipment.	Engage trained workmen. Continuous supervision of site engineer is required
Open RAL side door and remove accumulated material.	Injury / fracture	Ensure LOTO procedure & rotor is locked at blades to casing to avoid movement	Slippage of tools.	Engage trained workmen. Use PPE
Rotate in reverse /forward direction in local mode.	Minor Injury	Ensure the inspection door is in closed condition	To remove choke work men may open the inspection door & operate the RAL Contact of body parts with rotating equipment.	Engage trained workmen. Continuous supervision of site engineer is required



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Isolation Matrix:

15	Mill Feed RAL	Name and Tag for the Equipment	561MD2 / Mill Main Motor	561SR1 / Classifier	561FN1 / Mill Fan	561AD2/ Axilary drive Chain not to be connected	Rollers Position Landed & Pressure Zero at Pannel	561DV1 / Diveting Gate Air Valve.
		Name and Tag for the Equipment	561RA1 / Mill feed RAL	561FN4 / Booster fan	561SD2 / Hot Air Shut-off Damper(In closed condition only)			
		Name and Tag for the Equipment	K21 RA4 / DFA Feed RAL	531BC2 / mill feed Belt Conveyor.				
		Name and Tag for the Equipment						