



DALMIA CEMENT (B) LIMITED – ARIYALUR



MECHANICAL SOP

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/185
Issued By: M.R		Approved By: HOD Mechanical	
SOP - Dismantling of AFR shredder			

Scope:

This SOP is applicable for Dismantling of AFR shredder safely.

Responsibility : Section Engineer – Mechanical

Accountability : Section head – Mechanical

PPE:

1. Helmet,
2. Safety shoe,
3. Goggles
4. Gloves.
5. Nose mask
6. Full body harness

Tools:

1. Spanner set
2. Hammer
3. chain block-2no
4. Web (Nylon) slings-3Nos.

Hazards:

Risks associated

1. Body injury
2. Leg injury
3. Hand injury
4. Fall of person
5. Fall of equipment

Mitigating Measures

1. Safe and tested tools and tackles
2. On job training
3. Full body harness
4. Hydra inspection before lifting



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Isolation matrix:

Sl: No	Activity	Description	Electrical Energy	
1	AFR shredder maintenance	481 SH1	Belt conveyor feeding (481BC2 & 481BC3)	Shredder drives(1&2)

Procedure:

1. Take the Energy isolation permit as per the isolation matrix
2. Ensure use of PPE & dust mask etc.
3. Ensure the physically the isolation of equipment by operating in local mode.
4. Clear all the AFR material around the shredder area.
5. Pour some water on AFR material for safer side to avoid the fire.
6. Make sure the availability of Fire hydrant water near by working area before starting the job.
7. Remove the feeding hopper by removing the respective bolts.
8. Remove the slow speed coupling guard from both side by removing the respective Nuts and bolts
9. Unbolt the slow speed geared coupling from both side by removing the respective Nuts and bolts
10. Unbolt the bearing covers by removing the respective Nuts and bolts
11. Unbolt the top side bearings plates by removing respective bolts.



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12. Vertical pull the entire both shaft assembly one by one from the housing which includes main shaft, bearings, blades, spacers, locking nuts and the radial oil seals.
13. Unbolt the top and bottom clamping bar by removing respective bolts.
14. Remove cleaning fingers one by one from the plates.
15. Remove double row spherical row Bearing no. 23228 (A) & Remove radial seal no. 180/145/13 (B).
16. Remove Square lock nut (C) & Remove Round lock nut (D).
17. Remove double row spherical row Bearing no. 23230 (E) & Remove radial seal no. 190/155/13 (F).
18. Remove Spacer rings (G) and Blades (H) one by one form the shaft.

Emergency / Emergency Shut OFF:

1. If body injury is there, First aid will be given and inform to the Safety department or Call Emergency number 3108/9865152222.

Records/Annexure:

1. Refer Line clearance/permit in mech department. JSA is enclosed below



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JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job:	Date: 01/09/2014	Analysis by: G.SHYAM	Reviewed by: G.SHANKARAPPA
Title of employee doing job: Section Engineer	Supervisor: Section Head	Department: MECH	Section: PYRO	Approved by:
Req'd/ recommended PPE: Safety helmet, Safety shoe, Gloves, Goggles, Gloves, Nose mask & Full body harness				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Remove the feeding hopper bolts	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles
Remove the slow speed coupling guard from both side	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles
Unbolt the bearing covers	hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles
Unbolt the top side bearings plates	hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles
Removing the shaft assembly	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Shaft assembly may fall due to improper lifting	Ensure Use/working condition of tools and tackles and proper lifting procedure to be ensured
Unbolt the top and bottom clamping bar	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles
Remove cleaning fingers one by one from the plates.	Health injury & hand injury, Fire hazard	Use goggles, nose mask & proper tools, chain clocks	Hands may injure	Hand gloves and proper tools to be used for clening
Dismantling of shaft assembly	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of tools and tackles