



DALMIA CEMENT (B) LIMITED – ARIYALUR

MECHANICAL SOP

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/097
Issued By: M.R		Approved By: HOD Mechanical	
HAMMER CRUSHER			

Scope:

This SOP is applicable for hammer crusher maintenance work.

Responsibility : Section Engineer – Mech

Accountability : Section head – Mech

PPE:

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

Tools:

1. Spanner set
2. Hammer

Hazards:

Risks associated

1. Body injury
2. Leg injury
3. Hand injury

Mitigating Measures

1. Safe and tested tools and tackles
2. On job training



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Isolation matrix:

Sl: No	Activity	Description	Electrical Energy			Other Energy	
1	Hammer crusher maintenance	Name and Tag for the Equipment	(471CC1) Hammer crusher & Cooler water spray pump (471WP1)	Cooler all fans (471FN1 to 471FN7)	Cooler all four drives & water pump	Inlet air blasters Compressor air Valve to be Closed & locked	Air in the Header to be released
			Primary Air fan 481FN2&3	(461KL1) Kiln main drive	(461AD1) Kiln aux	Hydraulic line pressure to be made zero	
			(431MD1&MD 2)Ph bucket elevator	Kiln (481BL1) and pc (451BL1) & Standby blowers	Pre-heater (441FN1) and ESP fan (471FN8)	Cooler water spray pump valve closing after line made zero	

SOP for the Maintenance of Hammer Crusher.

1. Take the energy isolation permit for the as per the isolation matrix.
2. Take work permit for the work area with the relevant department and allow the people to work.
3. Remove all inspection doors of the upper grate.
4. Ensure 24 V Supply for proper lighting.
5. Ensure coating in the top casing if so remove and then take the job



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6. Use PPE'S while working.
7. Check the condition of hammers for wear and tear.
8. Check the condition of the casing liners for wear and tear.
9. Ensure proper tightening of all the internal fasteners.
10. Check the condition of both drive and non drive bearings.
11. Check the condition of the v belt for any looseness.
12. Check the condition of the pulleys for wear and tear.
13. Ensure shaft end sealing condition if not provide proper sealing arrangement.
14. Check the grizzly bars condition for any damage.
15. After checking and tightening of all the internals close the inspection doors.
16. Remove all unwanted and scraps material from the area.
17. Cancel the line clearance for operation.

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.
2. JSA is enclosed below.



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JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job:	Date: 15/10/2013	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Head	Department: Mechanical	Section: PYRO	Approved by: HOD Mechanical
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
Opening of the cooler doors	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 clinker coating/ boulders & check the condition	Health injury	Use goggles & nose mask & 24 V lights	Dusty area (Clinkers fines) may leads to suffocation & eye problem	Ensure Use of goggles & nose mask. Use 24 V lights for working
Inspection of hammer, disc, liner wear & tear condition with the use of ladder from cooler/ planks from the discharge chute	Hand or leg injury	Planks & ladder should be in good condition	Persons may slip	Use of certified ladder & full body harness
Tightening of the loose fasteners and Closing of the door	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 nobody inside & remove all tools & tackles & Scraps from inside and Use/working condition of TOOLS AND TACKLES.