



## DALMIA CEMENT (B) LIMITED – ARIYALUR



### MECHANICAL

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/168
Issued By: M.R		Approved By: HOD-Mechanical	
SOP FOR PRIMARY CRUSHER IN-SITU CASTING REPARING			

**Scope** : SOP - Primary Crusher In-situ casting repairing

**Responsibility** : Section Engineer – Mech

**Accountability** : Section Manager - Mech

**PPE:**

1. Safety Helmet,
2. Safety steel toe shoe,
3. Hand Gloves Cotton/Leather
4. Safety goggles.
5. Nose mask.

**Tools:**

1. Welding shield
2. Welding machine
3. Chipping hammer
4. Drill bit
5. Wire Brush
6. Hand blower
7. Cutting set

**Hazards:**

**Risks associated**

Body injury  
Cut injury  
Caught in-between

**Mitigating Measures**

Safe and health tools and tackles  
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1. Take confined space permit with the line clearance. Use LOTO system
2. Permits and line clearance paper should be with the people who are working in the site.
3. Use PPE's while working
4. Take the shutdown of Crusher, Apron feeder and bottom belt conveyor
5. Hook the confined space token in designated place and open the door.



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6. Lock the wedge piece b/w rotors and also in side combs
7. Clean the coating in Primary crusher's rotors.
8. Inspect and mark the Damaged Castings Taper tip and three tooth cap in Rotors.
9. Cleaning of Damaged taper tip and three tooth caps casting by Drill bit and compressed air.
10. If crack found in taper tips castings Welding to be done in Taper tips with 3 tooth cap body by using Phinolloy **101** electrode and use the **Cobal arc 1mm** electrode for Taper tip Hard facing.
11. And also find the damages in 3 tooth caps castings top cover plates and Patch-up to be done with hordox plates.
12. Remove wedge piece, all tools and tackles.
13. Take out confined space token and ensure that nothing inside crusher
14. Close the door and take the trial.

### Emergency / Emergency Shut OFF:

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. JSA is enclosed below.
2. Isolation Matrix.



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### JOB SAFETY ANALYSIS :( JSA)

<b>Job Safety Analysis</b>	Job: Primary crusher In-situ casting repairing	Date: 08 – 04 - 2020	Analysis by Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section engineer	Supervisor: Section Engineer	Department: Mech	Section: LS CRUSHER	Approved by: HOD-Mechanical
Reqd./recommended PPE's: Safety Helmet, Safety shoe, Hand Gloves, Safety goggles. Nose mask.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Open the inspection door	Body injury	Use only proper spanners to avoid slip / shear of bolt and nut during un screwing.	Spanners may slip and hit hands while un screwing. Bolt may shear/cut due to load	Check the condition of the bolt / nut and spanners.
Caught in between	Leg injury	First lock the two rotors with stoppers	Stoppers may be in damage condition.	Check the condition of stoppers
Struck up of drill bit while cleaning the sticky material.	Body injury	Use only certified drilling machines to avoid slip / shear of drill bit during cleaning.	Drill bit may have struck up and hit hands while cleaning. Drill bit may shear / cut during load	Check the condition of the drill bit / handle.
Hand Blower operation	Eye injury & Dust inhalation	Use only certified Hand blowers.	Power Cable damage	Check the condition of cable and certification to use.
Using the Cutting machine	Hand injury	Use only certified cutting sets	Cutting set fail	Check the condition of Hoses, cutting torch, Flash back arrester, Blankets,



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				Pressure Quage
Using the Welding machine	Hand injury (electric Shock)	Use proper Earth connection	Use proper Earth connection	Check the earth connection before doing the welding
Close the inspection door	Body injury	Use only proper spanners to avoid slip / shear of bolt and nut during screwing.	Spanners may slip and hit hands while screwing. Bolt may shear/cut due to load	

SL No	Activity	Isolation Type					
		Electrical Energy			Other Energy		
1	<b>Primary crusher In-situ casting repairingn</b>	Tag /Name of the Equipment	Apron feeder 211AF1 Drive	Primary Crusher 211CR1 Drive	Unloading Hopper Barricaded	Rotor to be locked	
			Belt conv 211BC1 Drive				