



**DALMIA CEMENT (B) LIMITED
DALMIAPURAM
CPP ELECTRICAL DEPARTMENT**



Issue No. 01	Rev. No: 00	Effective Date: 01.03.2016	SOP/CPP/06
Issued By: M.R		Approved By: HOD - CPP	
SOP for MOTOR BEARING REPLACEMENT WORK			

Scope : Describe the procedure for bearing replacement in Motor

Responsibility : Electrical Engineer

Accountability : Section In-charge

PPE:

1. Goggles
2. Electrical safety Gloves
3. Safety shoes
4. Safety helmet

Tools:

1. Suitable spanner
2. Hammers
3. Circlip players
4. Bearing Pullers
5. Bearing fixing kit
6. Induction heater
7. Cutting player
8. Insulated Screw driver

Hazards:

Risk Associated

Minor body injury

Equipment damage

Electrical Safety Gloves

Mitigating Measures

Safety shoes, gloves, helmet, goggles
Electrical Shock

Training needs:

1. Electrical shock recovery Training
2. Emergency preparedness
3. Fire fighting
4. First aid training



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Procedure:

1. Take the Energy isolation permit & work permit for the particular Panel as per ELEC/SOP/003.
2. Disconnect the Motor power cable terminals.
3. Decouple the Motor & remove from the Bed with suitable tools.
4. Remove the Motor coupling & key with appropriate puller.
5. Remove the locking circlip of DE & NDE sides.
6. Remove the End shields & Bearing cups with suitable spanners.
7. Remove the Rotor with shaft without touching the stator.
8. Remove the bearings with suitable bearing puller.
9. Check the bearing seating area clearance in the shaft.
10. Ensure the fitting clearance in the bearing seating area in end shields.
11. Ensure the new bearings free from dust.
12. Heat the bearing in induction heater after reaching the specified temperature fix the bearing in the shaft.
13. Ensure the bearing is seat properly & cool the bearing naturally up to room temperature.
Cooling bearing temper.
14. Insert the rotor without touching the rotor winding.
15. After cleaning the bearing apply recommended lubricant as per the OEM manual.
16. Ensure the circlips are fitted properly.
17. Fix the end shields with even tightening of the bolts.
18. Ensure the Free rotation of the shaft.
19. Re fix the Motor cooling fan & cover.
20. Re fix the coupling with key.
21. Motor shifted to the original bed.
22. Clear the Permits as per ELEC/SOP/004.



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23. Record all Check point in the concern Check list.

Emergency / Emergency Shut OFF:

1. If electrical shock injury or body injury are there, give First aid and inform to the Safety department or Call Emergency number 222/9865155288/9865177444.

Records/Annexure:

1. Refer work permit certificates.
2. JSA as enclosed below.

JOB SAFETY ANALYSIS:(JSA)

Job Safety Analysis	Job: Replacement of bearings in the Motor	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Electrician	Supervisor: Section Engineer	Department: Electrical	Section:	Approved by:
Req'd/recommended PPE: Nose mask, Goggles, Electrical safety Gloves, Cotton Gloves, Safety shoes, Safety helmet				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Put on PPE, Take Permit				
Removal of the motor	Body injury	Wear safety helmet, safety shoes , hand gloves	Tools and material may fall on human body	Without PPE don't perform the job
	Eye irritation,	Wear goggles	Damaged goggles/non standard goggles	Periodic replacement
Removal of the Power cable	Electrical shock	Use Electrical safety gloves	Damaged Gloves	Periodic replacement.
	Body injury	Use proper tools	Nonstandard /damaged tools	Training for tools handling/ Periodic replacement
Shifting & removal of the Coupling & Bearing	Body injury	Wear safety helmet, safety shoes , hand gloves	Tools and material may fall on human body	Without PPE don't perform the job



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Heating of the bearing	Electric shock	Use Electrical safety gloves	Damaged Gloves	Periodic replacement.
	Burning injury	Use high temperature gloves	Damaged Gloves	Periodic replacement
	Body injury	Wear safety helmet, safety shoes , hand gloves	Nonstandard /damaged tools	Without PPE don't perform the job
Clear permit				