



DALMIA CEMENT (B) LIMITED – ARIYALUR



MECHANICAL DEPARTMENT

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/115
Issued By: M.R		Approved By:	
SOP for Bearing Mounting by Oil Bath			

Scope: Bearing Mounting by Oil Bath

Responsibility: Section Engineer

Accountability: Section Head.

PPE:

1. Safety harness(Full body)
2. Safety helmet,
3. Safety shoe,
4. Nose Mask,
5. Hand gloves / Kevlar Gloves
6. Safety goggles

TOOLS:

1. Pyro meter
2. Fire extinguisher Foam Type.
3. Fire tender.
4. Clean oil (Probably Transformer Oil)
5. Oil Tub with Lid.
6. Steel Sling & "D" shekel.

Hazard Analys

Risks associated:

Mitigating Measures

Hot Oil Spillage

: Keep fresh water available for First aid.

Huge fire

: keep the fire in control & monitor continuously.

Oil fire

: avoid water entering with Hot Oil

Tilting of Oil Tub

: Keep Legs as wide as possible (during Fabrication)

Sudden Ran fall

Be prepare accordingly & arrange I side the shed if possible

SOP for Bearing Mounting by Oil Bath:

- The surrounding area should be as clean and dirt free as possible.
- Heat the bearings in oil having high flash point. use Transformer oil.



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- Make sure that both the oil as well as the container is clean and free of any contamination.
- Heat the oil and the bearing simultaneously. Do not put the bearing in hot oil as this would create "thermal stresses" in the bearing.
- The bearing should not be in direct contact with the heat source.
- The bearing may also be suspended in the oil bath with the use of a hanger.
- Bearings should normally be heated up to a temperature of around 120 degrees C. The larger spherical roller bearings may, depending on the size and the fit on the shaft, have to be heated up to a temperature of around 140 degrees C.
- Continuously monitor the temperature by using a temperature measuring device. Always keep the measuring point of the thermometer as near as possible to the inner ring so that the bearing temperature can be measured.
- After heating, any oil adhering to the bearing should be well drained off and the fitting surfaces should be carefully wiped clean.
- Use heat protective gloves or non fraying cloths. Never use cotton waste.
- Mounting of heated bearings, particularly large size ones, requires some skill. They should be quickly pushed on the shaft and positioned squarely against the shoulder. A slight twisting motion during fitting facilitates the mounting.
- Do keep in mind that there is always a risk that the bearing may cool down well before it reaches its final seating position.
- The entire heating process should be carried out as close to the assembly site as possible
- Hand over the used oil to stores

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: BearIng / Coupling replacement by oil Bath	Date: 01 – 09 - 2014	Analysis by Section Engineer	Reviewed by: Section head
Title of employee doing job : Section engineer	Supervisor: Section Engineer	Department: Mechanical	Section: All Sections	Approved by: HOD. Machining

Sl.No	Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure		
1	Oil Filling in the tub	Tub May Tilt	Use proper tools	Tub Tilt	Keep The legs of the tub as wide as possible
2	Firing	Fire may propagate	Isolate the surroundings from fire propagation	Fire uncontrolled	Monitor continuously & keep control measures available
3	Oil Heating	Oil Temperature may exceed & oil caught fire due to fire point	Monitor continuously, arrange reliever if out of the spot.	Oil splash while checking the temperature	Use Radiation Pyrometer.
4	Oil Heating	Oil caught fire	Keep the water away	Oil fire	Use "B" Type (foam) fire extinguisher by trained persons
5	Oil Heating	Hot Oil splash	Use proper protecting PPE	Oil sash	Keep first aid available (water)