



DALMIA CEMENT (B) LIMITED – ARIYALUR



MECHANICAL SOP

| | | | |
|------------------------|-------------|-----------------------------|-------------|
| Issue No. 01 | Rev. No: 02 | Effective Date: 17.10.2017 | SOP/MEC/091 |
| Issued By: M.R | | Approved By: HOD Mechanical | |
| KILN Shell Maintenance | | | |

Scope:

This SOP is applicable for kiln shell maintenance safely.

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
3. Feeler gauge
4. Wire or nylon rope

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

Isolation matrix:

| Sl: No | Activity | Description | Electrical Energy | | Other Energy |
|--------|------------------------|--------------------------------|-----------------------------|----------------------------|---|
| 1 | kiln shell maintenance | Name and Tag for the Equipment | (461KL1) Kiln main drive | (461AD1) Kiln aux drive | Take out DG ISOLATION OR PROVIDE STOPPERS IN BETWEEN TYRE AND ROLLER- (During rotation for checking of shell ovality remove stopper & rotate with DG) |



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SOP FOR Maintenance of Kiln Shell

1. Take the energy isolation permit as per the above matrix
2. The line clearance paper should be with the person who is working in the site.
3. Take the work permit from the relevant department and allow the people to work.
4. Use ppe's while working.
5. Provide life line over the Kiln properly.
6. Provide staging for the respective areas for checking if required.
7. Check the condition of the shell for any ovality.
8. Check all shell joints welding for any cracks with ultrasonic testing.
9. Check shell condition at tyres position for any abnormality.
10. After completion all the maintenance activities take out all unwanted and scrap material from the area.
11. Clear the line clearance



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Emergency / Emergency Shut OFF:

If any injury takes place, provide First aid 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.

JOB SAFETY ANALYSIS :(JSA)

| Job Safety Analysis | Job: Kiln Shell Maintenance | Date: 1/09/2014 | Analysis by: Section Engineer | Reviewed by: Section Head |
|--|--|---|--|--|
| Title of employee doing job: Section Engineer | Supervisor: Section Head | Department: Mech | 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 |
| Providing life line over the tyre | Body and hand injury | Use proper tools and tackles so that person will not slip | person may slip and fall | Ensure Use/working condition of TOOLS AND TACKLES. |
| Check for shell joints, thickness & condition | Body injury, hand injury & leg injury | Use life line & full body harness | Over the kiln shell person may slip & fall | Ensure Use of life line & full body harness |
| Checking of ovality | Body injury, hand injury & head injury | Ensure no one working inside kiln, cooler & in cyclone area while rotate by | Any other separate work may go inside or other area during | Ensure no one is working inside kiln, cooler & in cyclone area while |



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|--------------------------|--|---|--|---|
| | | DG | rotation accidents may happen | rotate by DG & get the clearance from respective dept before rotation |
| Checking of ovality | Body injury, hand injury & head injury | Use proper protection for head to avoid direct intact with kiln shell during rotation kiln for checking ovality reading in different location | Inaccessible as head, hand and body may hit or stuck to the shell gap during DG rotation | Ensure utmost care while checking the thrust roller. |
| Removal of the life line | Body and hand injury | Use proper tools and tackles so that person will not slip | person may slip and fall | Ensure Use/working condition of TOOLS AND TACKLES. |