



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



PRODUCTION DEPARTMENT

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|--|-------------|--------------------------------|-------------|
| Issue No. 02 | Rev. No: 01 | Effective Date: 22.05.2015 | SOP/PROD/05 |
| Issued By: S & P | | Approved By: Head – Production | |
| SOP FOR Raw Material Grinding and Storage -VRM-I | | | |

SCOPE : Raw Material Grinding and Storage -VRM-I

RESPONSIBILITY : CCR executive.

Accountability : Section Head – Pyro.

PPE:

1. Safety goggles,
2. Safety helmet,
3. Safety shoe,
4. Mask,
5. Cotton Gloves.
6. Safety harness(Full body)

TOOLS:

1. Poking bar,
2. Hammer.
3. Showel

Hazard:

Risks associated:

Mitigating Measures

Fall from height,

Use of safety harness

Fall of tools;

Carry the tools in tool bags

Hit of Hammer in hand;

Trained to be engaged

Procedure:

- Get the clearance from hopper M/A and W/F M/A as per Work Instruction and ensure that it is done as per Work Instruction.
- Ensure that plant is ready for operation as per Work Instruction to VRM-I W/F- M/A.
- Check and ensure hot air available from Genset exhaust or from KHD plant is ready for operation as per Work Instruction to VRM & W/F M/A.



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- Ensure raw meal divertor is diverted to the silo to which raw meal is to be discharged as per Tester instruction.
- Start mill auxiliaries and ensure that all the drives are running and operating pressure between 45-70 bar & rollers are lifted. Set classifier speed at min 900 rpm.
- Start ESP auxiliaries group and ensure that all the drives are running.
- Start ESP Fan and set airflow set point to 70 Km³ / Hr. and ensure the fan inlet damper is in Auto mode.
- ESP group to be started and ensure KV & MA are maintained.
- Start the mill and ensure the rollers are lowered.
- Select Hot gas source from one of the three groups namely.
 - Group-I : Genset Hot gas group
 - Group-II : Cooler Hot gas group
 - Group-III : Genset and cooler Hot gas group
- Adjust ESP Fan damper and hot air damper in VRM-I & keep the air volume about 70 to 82 Km³ / Hr.
- Monitor fan load and ' after mill ' temperature.
- Start feeding group when mill outlet temperature is 75°C and ensure all the drives are running.
- Set the feed rate to total at 35 – 42 TPH.
- Adjust the mid-air fan outlet damper in case of Groups-I & II (or) adjust the mid air damper, monitor mill load, outlet temperature, ESP pressure and DP across the mill.



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- Operate the plant at steady state and increase the feed rate to optimum level by altering the hot air
- Quantity and maintaining mill outlet temp, by adjusting back air, fresh air, hot air dampers and also by maintaining operating parameters as
 - Mill outlet temperature around 70 – 90° C
 - Mill vibration below 6mm / sec
 - Mill differential pressure 700 – 950 mmWG
 - Mill feed rate around 30 - 60 tph
 - Classifier speed at min 900 rpm.
- If the operating parameter goes beyond the suggested range take necessary corrective action to bring it back to the suggested range.
 - Raw Meal to be produced as per quality control plan – KP13.
 - When raw mill is running in stable condition, put fuzzy control by setting the ranges and current parameters in fuzzy system.
 - Operate the plant with manual control, whenever loop facility is not available or found not optimised.
 - To achieve the above the feeding ratio between Limestone, ferrogeneous Limestone, Black Clay, Fine Silica etc. to be altered based on the hourly analysis of the raw meal sample collected.

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|-------------------------------------|------------------------------------|------------------------------|-------------------------------|------------------------------|
| Job Safety Analysis | Job: Belt Discharge chute cleaning | Date: 01– 06 - 2013 | Analysis by: Section Incharge | Reviewed by: Section Head |
| Title of employee doing job: | Supervisor: Sec. Incharge | Department: Raw mill section | Section: All belt conveyers | Approved by: Department Head |
| Req'd/recommended PPE: | | | | |



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| Sequence of Basic Job Steps | Potential Hazards | Recommended Safe Job Procedure | What Could Go Wrong | Corrective Action |
|---|--------------------------------|--|---|--|
| Cleaning of the Coating at belt discharge chute | pipe hit to the person | Hold the Pipe properly, if there any possible tie it one end. | Pipe may hit the person while cleaning the chute. | Hazards to be explain to the people who are working in that area by safety PP talk, tool box talk. |
| Inspecting the chute | Fall of the person | While inspecting the chute use safety belt and make proper approach to view the chute. | Person may fall on to the chute due to slip. | Use Proper safety belt to inspect the chute. |
| Cleaning of raw meal dust spillage | Hot material cause burn injury | Use hand gloves and shovel for cleaning hot powder | Hot powder may entrapped into shoes | Use proper safety asphestos PPE's |

Emergency Shut- off:

1. In case of belt is moving, Emergency pull chord switch should be activated by the person.
2. If body injury is there, First aid will be given and inform to the Safety department or Call Emergency number 233/555/9865125176/9865177444.

HOD PRODUCTION

HOD TECHNICAL