



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
DALMIAPURAM
Production Department**



Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/Prod/26
Issued By: S & P		Approved By: Head – Production	
Procedure for Brick lining execution in Kiln			

Scope/Purpose : This procedure applicable for Brick lining execution in Kiln

Responsibility : Section Head (Production)

Accountability : HOD - Production

PPE:

1. Nose mask
2. Safety Shoes
3. Helmet
4. Goggles
5. Cotton gloves

Tools:

1. Wooden Hammer
2. Jack / Brick lining Machine

Hazard Analysis:

Risks associated

Fall Injury due to brick

Mitigating Measures

Provided cotton gloves

Training needs:

1. Handling of bricks

Work instruction:

PROCEDURE:

Only after 16 to 20 hours of stopping the kiln for brick lining repair, breaking of clinker coating will be started, either by manually or through Brokk Machine (KHD & FLS Kilns only).

After cleaning the clinker coating, inspection will be made by Section Head (Production) to assess the extent of brick lining damage.

The amount of damage will be assessed and then proposal for laying brick lining will be decided. Then the breaking of damaged brick lining will be started, either by manually or through Brokk Machine (KHD & FLS Kilns only).



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After deciding the quantity of new brick lining, the respective quantity and quality of refractory bricks Required for new lining will be shifted from stack yard to the kiln premises.

The broken bricks from damaged lining will be cleared and transported to the directed place.

The number of bricks in the first row on the respective zone will be aligned perfectly and the lining work will be progressed. Depending upon the volume of new lining, the number of brick lining lap will be decided. Generally 7 to 10 M will be considered as one lap.

Depending upon the Volume of new lining, it will be decided to do the Brick lining either by Screw

a. Jack method or through Brick laying machine.

During the progress of lining, utmost care will be taken to avoid the following discrepancies and the lining work will be carried out as per lining manual.

- a) Looseness in the bricks.
- b) Deviation of bricks joints in both vertical and horizontal direction.
- c) If any coating is there in the brick to be laid, they should be thoroughly cleaned.
- d) For any slight deviation in the brick alignment in both the directions, the refractory mortar will be applied on the brick top to correct the same.
- e) The end ring of the particular lap will be suitably trimmed to suit the gap prevailing using appropriate size of bricks.

Jacking of bricks will be done after completing brick laying for half round in the kiln shell. Additional jacks will be provided (in case of KHD & FLS kiln) after completing the three fourth of the lining. While laying, the plank used for jacking should be kept 10 to 15mm below the edge of the bricks.

As far as possible, the standard key bricks should be used, while doing lining at the key position. The last key brick should be made by chipping a regular brick. The minimum depth of brick should be 60% of the depth of regular brick.

After completing the entire lining operation, the jacks will be removed or Brick lining machine will be Dismantled and Removed.

The quantity and quality of brick lining done in the respective zone of kiln is marked in the drawing to assess the life of brick lining.

Material requisition will be raised in SAP, for the bricks that are used in the particular stoppage to update the stock position.

After verifying the stock position, new purchase request shall be raised for procuring new bricks for next stoppage.



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Emergency / Emergency Shut OFF:

1. If there is any emergency Call Emergency number 9865155664/ 9865155144/
984243544/ 9842994072/9865165001/ 555/233

Records/Annexure:

1. Refer Log book.
2. JSA is enclosed below.

JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Brick lining in Kiln	Date: 06.10.12	Analysis by:	Reviewed by:
Title of employee doing job: contract labour	Supervisor: Production incharge	Department: Production	Section:	Approved by:
Req'd/recommended PPE: Safety shoes, goggles, ear plug, nose mask , Cotton gloves				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Transporting of bricks from winch to brick conveying machine with Hydraulic jack	Hit Injury	Placing the bricks in pallet orderly in order avoid collapse of bricks while transporting using Hydraulic jack	Brick fell down may hit the person who is standing near by.	Walkway should not be block while brick transporting happen by hydraulic jack
Transporting brick from Kiln platform to inside Kiln for lining	Hit Injury	Place the brick at the center of the conveyor.	Brick may fell down while unloading from conveyor	No person should stand at the discharge end of the conveyor.

HOD PRODUCTION

HOD TECHNICAL