



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT  
DALMIAPURAM  
QUALITY ASSURANCE DEPARTMENT**



Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/QA/03
Issued By: S & P		Approved By: Head - QA	
SOP FOR X RAY ANALYZER CHECKING			

**Scope:** X-ray Analyzer Checking.

**Responsibility:** X-ray Lab Chemist.

**Accountability:** Head Quality assurance.

**TOOLS:**

1. Cleaned sample holder,
2. De ionized water.
3. X-ray machine tools kit.

**Machine Safety**

The X-Ray tube is placed in a spectrometer chamber of cast Iron ( 25 mm thickness ) so that no X-Ray can come out. They are absorbed by the thick walls. Also the equipment is built with safety interlocks, so that human contact is not possible to X-Rays.

The X-Ray automatically switched off in the following conditions.

- Spectrometer cabinet cover switch open
- Spectrometer tank cover switch open
- Short Circuit in X-Ray tube
- Short Circuit in HV Capacitor
- Short Circuit in HV Cable or rectifier
- X-Ray tube filament broken or shorted

“X-Ray warning lamp” filament broken

**Procedure to be followed:**

1. Never touch the Beryllium window of the X-Ray tube. It is highly fragile.
2. Always maintain the room temperature around 25 ° C by running the A/C's for effective operating of X-Ray analyzer.
3. Ensure that the X-Ray power supply do not cut off frequently. Effective maintenance of chiller unit is a must.



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT  
DALMIAPURAM  
QUALITY ASSURANCE DEPARTMENT**



Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/QA/03
Issued By: S & P		Approved By: Head - QA	
SOP FOR X RAY ANALYZER CHECKING			

4. Ensure the secondary water level or else fill up to mark.
5. Do not attempt to middle with the equipment when out of order, unless you got prior permission.
6. Do not bypass any interlocks connected with X-Ray tube power supply.
7. In case of any emergency press the emergency button to switch off the X-Ray.
8. In case of power shut down, ensure the UPS and confirm with Instrument people then decrease the X-Ray load.

**JOB SAFETY ANALYSIS:(JSA)**

<b>Job Safety Analysis</b>	Job: Sampling of Hot meal in Pre heater.	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Testing Boy	Supervisor: Chemist	Department: Quality assurance	Section: Plant control lab.	Approved by:
Req'd/recommended PPE: Rubber Gloves. Nose mask				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Inspecting the Machine	Don't touch the window	Pl watch by visual only.	Touch the Beryllium window.	Put sign board
Analysis	Body Injury	Use defined room condition.	Improper room condition will create error in analysis.	Maintain the room condition with effective AC.