



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT  
ARIYALUR  
INSTRUMENTATION MANUAL**

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/INST/003
Issued By: M.R		Approved By: HOD - INSTRUMENTATION	
SOP for Replacement of Thermocouple/ RTD in Hot gas duct			

Scope: To Replace the Thermocouple/RTD.

Responsibility: Instrumentation Technician.

Accountability: Instrumentation - Section Engineer.

PPE:

- Safety helmet
- Safety shoe
- Nose Mask
- Goggles
- Hand gloves
- Safety belt

Tools required:

- Adjustable spanner
- Pipe wrench

**Hazard Analysis:**

**Risks associated**

Puffing of material

Splash of Hot material

Fall from height

**Mitigating Measures**

Stand beside the thermocouple/RTD tapping point.

Use of hand gloves & Goggles.

Use Safety Belt.



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**Procedure:**

- 1 Use proper PPEs.
- 2 Carry all the necessary tools in a tool bag.
- 3 Ensure the signal interlocks and block the interlock if necessary.
- 4 Close the Air blaster's Compressed air line of the particular equipment, if applicable.
- 5 Release the air in the air blaster by manually pressing the solenoid valve.
- 6 If the height is more than 1.5 meters, use safety belt.
- 7 Remove the thermocouple/ RTD.
- 8 While / after removing thermocouple/RTD, stand beside the tapping point.
- 9 Replace the thermocouple/RTD.
- 10 Confirm the signal in CCR.
- 11 Retrieve the blocked condition.
- 12 Give the clearance to CCR.
- 14 Open the Manual valve of Incoming air airline of Air Blaster JB.



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**JOB SAFETY ANALYSIS:(JSA)**

<b>Job Safety Analysis</b>	Job: REPLACEMENT OF THERMOCOUP LE/ RTD	Date:20.09.2017	Analysis by:	Reviewed by:
Title of employee doing job: INST - TECHNICIAN	Supervisor: SECTION ENGINEER	Department: INSTRUMENTATI ON	Section: PYRO/ VRM	Approved by:
Req'd/recommended PPE: SAFETY HELMET, SAFETY SHOES, GOGGLES, DUST MASK, HAND GLOVES				
<b>Sequence of Basic Job Steps</b>	<b>Potential Hazards</b>	<b>Recommended Safe Job Procedure</b>	<b>What Could Go Wrong</b>	<b>Corrective Action</b>
1.Removing / Changing the thermocouple/ RTD	Splash / Puffing of Hot material / Gas.	Close the Air blaster compressed air line and release air from blaster. Stand beside the draught line point.	Minor burn injury due to hot material / gas.	Use proper PPE's like Goggles, Hand gloves and Nose Mask.
2.Touching the hot body of thermocouple / RTD	High Temperature	Wear Hand gloves	Minor burn injury due to high temperature.	Use proper PPE's like hand Gloves.