	VEDANTA LIMITED – VALUE ADDED BUSINESS	Document No:	VL/IMS/PID1/INST/WI/03
	INTEGRATED MANAGEMENT SYSTEM	Revision Date:	05/01/2022
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CALIBRATION OF TEMPERATURE / PYROMETER INDICATOR

Objective: To check calibration of temperature indicator/pyrometer.

Scope: This procedure is applicable for calibration of temperature Indicator/pyrometer

Reference: Operating manual for fykays make digital pyrometer/Radix temp Controller.

Standard Used

- 1) Multi-Function Calibrator: FLUKE 725
- 2) International reference table for S Type thermocouple calibration.

Performance Criteria : Accuracy of temperature indicator/pyrometer

Reference: RISK/INST/17

Aspect for the Activity : Waste generation

Identification of Hazards:

Physical: Noise, Hot surfaces, hot metal, contact with moving machinery

Mechanical: Trip & Fall

Chemical: CO Gas poisoning, Dust, Graphite.

Ergonomics: Insufficient work practices

Hazard due to Human Behavior/Human error: Not adhering to WI/ PPE, Alcoholism, Use on non-certified tools/equipment.

Responsibility: Sr. Engineer Instrumentation/Associate/Instrumentation Technician


Procedure

All Engineers/Technicians should follow procedure whilst calibrating the temperature indicator / pyrometer. Care should be taken not to come in contact with the high temperature areas. Use heat resistance hand gloves if required.

A. CALIBRATION OF PYROMETER /TEMP INDICATOR

Caution : During cast Open or Mudgun Operation calibration activity of pyrometer should not be carried out. Calibration activity to be done only during Cast close condition.

- 1.) Don't use gum boots while working in cast house area, take clearance from cast house in charge for checking the pyrometer.
- 2.) Disconnect thermocouple input at temperature indicator & short the input terminals with S-type cable. Temp. shown by indicator in this condition will be room temp.(Rt)

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- 3.) Now connect the t/c cable which is coming from field to indicator & disconnect the t/c input in junction box situated in cast house area.
- 4.) Check the mV in chart as per Rt say it is v1.
- 5.) Check the mV in chart corresponding to 1700 Deg C says it is v2.
- 6.) Source V ($V=v2-v1$) mV from junction box with either mV source or multifunction calibrator. This mV has to be verified with Precision multimeter. In this condition indicator should read & display 1700 (± 10) Deg C, if not then try to adjust the pot & make it 1700 Deg C.
- 7.) Repeat the procedure from Step No. 4 to calibrate the indicator at 1200,1300,1400,1500 & 1600 Deg. C
- 8.) Prepare the calibration report as per the format FRMT/INST/03 Rev 1 & update the calibration history.
- 9.) In case of deviation raise out of calibration report & report to Mgr -production for further corrective action and File the record.

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