**[CALIBRATION OF](D:\\d drive\\Paresh\\BF1 173 m3 After Relining\\WI & HIRA\\Intranet Upload_2019-2020_Final\\Local Settings\\Temporary Internet Files\\Content.IE5\\M3  MASTER LIST WORK INST Inst..doc)** **[TEMPERATURE / PYROMETER INDICATOR](D:\\d drive\\Paresh\\BF1 173 m3 After Relining\\WI & HIRA\\Intranet Upload_2019-2020_Final\\Local Settings\\Temporary Internet Files\\Content.IE5\\M3  MASTER LIST WORK INST Inst..doc)**

**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.

1. **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)
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.

**Amendement Record**

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| **Date** | **Manual Section Ref. & Para** | **Brief details of Revision** | **New Rev.** |
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| **Prepared By:**  Head Instrumentation PID1 | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Head – Electrical & Instrumentation PID1 |
| **Signature:** | **Signature:** | **Signature:** |
| **Review Date:** 13.09.2023 | **Review Date:** 13.09.2023 | **Review Date:** 13.09.2023 |
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