



**DALMIA CEMENT (B) LIMITED
DALMIAPURAM
INSTRUMENTATION DEPARTMENT**



Issue No. 01	Rev. No: 00	Effective Date: 25.05.2016	SOP/INST/09
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Issued By: S & P	Approved By: HOD-Instrumentation
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SOP FOR CALIBRATION OF Transweigh make Weigh Feeder

Scope/Purpose : This SOP is applicable for calibration of Transweigh make Weigh feeders.

Responsibility : Instrument section -Engineer

Accountability : Section In-Charge

PPE:

Helmet
Shoe
Nose Mask

Tools:

1. Multi meter
2. Screw driver

Hazard Analysis:

Risks associated

Electric shock
Leg Injury

Mitigating Measures

Usage of Insulated tools and Safety shoes
Correct positioning of test weight in weighing zone

Training needs:

1. First aid procedures
2. Awareness of Dangerous shock
3. Operating procedures

MODES OF OPERATION:

1. Gravimetric mode: Controlled mode (Closed Loop)

- ✓ Feed rate actual value is controlled for specified set point. Maximum possible set point equals nominal feed rate.

2. Volumetric mode: Uncontrolled mode (Open Loop)

Drive motor for material pre-feeder is controlled in proportion to set point. At rated conditions, feed rate roughly corresponds to specified set point. Set point is limited to the triple nominal feed rate



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CALIBRATION PROCEDURE

DROP TEST

1. Make arrangements to take drop test and collect the material.
2. Give set point of nominal operating capacity and start the weigh feeder from CCR.
3. Collect the required quantity of material and stop the weigh feeder from panel.
4. Note down the indicated weight from W/F's TUC controller.
5. Weigh the collected material for true weight and calculate the % error as follows

$$\% \text{ Error} = \frac{\text{Indicated weight} - \text{True weight}}{\text{Indicated weight}} \times 100$$

6. Take two trials and check for repeatability, if repeatability is ok then adjust the error.
7. Calculate new FT value as follows
 - If % error is negative New FT = Old FT – (% Error/100 * Old FT)
 - If % error is positive New FT = Old FT + (% Error/100 * Old FT)
8. Repeat the steps 1 to 7 till error comes below +-1%. If the error is below +-1% then take another drop test for repeatability and note the readings in the log sheet.

STATIC AND DYNAMIC CALIBRATION

1. Empty the belt and go to CALIBRATION menu in the TUC controller.
2. Press 'Enter' key then the display will show "RECALIBRATE".
3. Press 'Enter' key then the display will show "DEAD LOAD".
4. Press 'Enter' key to zero the dead load and press 'down arrow' key to go to span calibration.
5. The display will show "CALIBRATION LOAD" then place test weight on weigh feeder then enter count value corresponding to test weight (2000 count =100% of test weight) in TUC controller.



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6. Press 'Down Arrow' key to finalize the static calibration. Then go to main menu.
7. Remove the test weight and run the weigh feeder from panel at rated belt speed in manual mode.
8. Press the Dynamic zero correction (>0<) key in TUC to initiate zero correction.
9. At the end of Dynamic zero correction, the correction value automatically will be stored in TUC controller.
10. After static and dynamic calibration take drop test and adjust the error accordingly.

Emergency / Emergency Shut OFF:

1. If any unconsciousness is there, give First aid and inform to the Safety department or Call Emergency number 222/233/9865155288

Records/Annexure:

1. Daily check list
2. Sop for operating procedure

JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Calibration of Weigh feeder	Date: 25.05.2016	Analysis by: section Incharge	Reviewed by: Section Head
Title of employee doing job: Instrument Engineer	Supervisor: Section Engineer	Department: Instrumentation	Section: Instrument	Approved by: HOD - Instrumentation
Req'd/recommended PPE: Insulated Tools, Safety shoes,				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
1. CLEAN THE LOAD CELL & JUNCTION BOX WITH HAND BLOWER.	MAY COME OUT OF THE JUNCTION BOX DUST	WEAR GOOGLES,HAND GLOVES & NOSE MASK BEFORE BLOWERING	COUGHING,EYE IRRITATION MAY OCCUR	USE GOOGLES, DUST MASK AND HAND GLOVES
	ELECTROCUTION	ENSURE THE FITNESS CERTIFICATION FOR PORTABLE INSTRUMENTS	RESULTING ELECTROCUTION	CHECK THE INSTRUMENTS HEALTHINESS AND FITNESS CERTIFICATE VALIDITY
2. PLACING THE TEST WEIGHT ON THE LOAD CELL	WEIGHT MAY SLIP FROM THE HAND.	WEAR HAND GLOVES	LEG INJURY	USE HAND GLOVES AND SAFETY SHOES BEFORE LIFTING THE WEIGHT