



FINAL YEAR PROJECT REPORT

STUDIES OF SLIP GAUGE CALIBRATION USING TESA UPC SYSTEM

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SYNOPSIS

This project has been carried out to study how slip gauge is being calibrated using TESA UPC Calibration System. Calibration process of slip gauge was investigated with master gauge blocks served as reference to the gauge blocks to be calibrated using TESA UPC Calibration System.

The main objective was to determine the grade of steel gauge blocks either as confirmed or a new grade is given. Before the TESA UPC Calibration System is automatically processes and certifies measured values, ensured the temperature between measuring stand table, master and test gauge block to be calibrated at stable temperature $20 \pm 0.5^{\circ}\text{C}$ according to the coefficient of expansion. Actually, the ensure the temperature to be stable, the measurement should only begin after wiped the gauge blocks with a cotton swab dipped in vesseline. Whereas in this project, the gauge blocks is not followed the process. It is because in the laboratory has not the kit to wipe the gauge blocks. After wiped the gauge blocks, left it for about 24 hours (1 day) to stabilize with the surrounding temperature and then its can be measured. The greater the different from the reference temperature of $20 \pm 0.5^{\circ}\text{C}$, the greater the measuring uncertainty will be. The exact result dependent to the temperature stabilization.

Process calibration of steel gauge blocks grade 1 using comparative measurement method of TESA UPC Calibration System was determined with ensured the temperature reference is stabilized at $20 \pm 0.5^{\circ}\text{C}$ was achieved and the wiped of gauge blocks in the right method.

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