

ABSTRACT

COMPARISON ON DESIGN OF FLEXURE MEMBERS WITH LOAD AND RESISTANCE FACTOR DESIGN METHOD (AISC-LRFD 360-05) AND SNI 03-1729-2002

By

VENI FAJARWATI

ANSI/AISC 360–05 and SNI 03–1729–2002 enclose identical LRFD steel structure design formulations for flexure members. The research aims to find out design formulations differences and to determine modified resistance factor ($\bar{\phi}_{\text{mod}}$) that enable SAP2000 flexure structure design based on SNI 03–1729–2002.

The research stages are design formulations evaluation, structure capacity analysis, structure capacity comparisons in order to determine modified resistance factors and inspection on modified structure capacity deviations.

The result of this research shows that the concepts that ANSI/AISC 360-05 and SNI 03-1729-2002 enclose are nearly the same. Under the condition of lateral torsion buckling, the model for mid-length span earns $\bar{\phi}_{\text{mod}}$ of 0,90 for fy of 210 MPa, $\bar{\phi}_{\text{mod}}$ of 0,910 for fy of 250 MPa, and $\bar{\phi}_{\text{mod}}$ of 0,95 for fy of 410 MPa. While the model for wide span earns $\bar{\phi}_{\text{mod}}$ of 0,916 for every fy.

Keywords: LRFD, steel structure, flexure members, modified resistance factor ($\bar{\phi}_{\text{mod}}$)