Thesis Title	Investigation of strength of Angle Welded Connection under Tension by Full-scale Tests
Thesis Credits	12
Candidate	Mr. Opas Mekpramual
Thesis Advisor	Asst. Prof. Dr. Aphinat Ashakul
Program	Master of Engineering
Field of Study	Civil Engineering
Department	Civil Engineering
Faculty	Engineering
Academic Year	2014

Abstract

American Institute of Steel Construction Specification (AISC 2010) recommends that design of welded end connection of single angle, double angle, and similar members need not consider the effect of eccentricity. However, the eccentricity in the angle may affect strength of the connections, especially welded connection at the end of single angles which out-of-plane bending naturally occurs. This research is aimed to study the effects of eccentricity on the strength of the welded connection in the angle tension member by test. Specimens include single and double angles with balanced and unbalanced weld arrangements, including various thicknesses of gusset plates, lengths of connection ,and sizes of angle. Every specimen is designed to fail in the welds. The results show that unbalanced weld arrangements and out-of-plane bending can reduce efficiency of the connections up to 20 %.

Keywords: out-of-plane bending / Balanced / Unbalanced