

ABSTRACT

In the field of construction, the development of science, especially for studying the properties and behavior of steel elements is very important in designing the steel structure. This research studies the connection plate of wide flange beam, especially the block shear behavior of the connection plate with two rows of bolts. The capacity of wide flange beam and the non-uniform tensile stress and shear stress distribution pattern of the bolt connection are compared to the previous study. In this study, seven test specimens with double angle section connections are analyzed. The finite element method is used to approach the real condition of the connection. The analysis was performed using ANSYS v.16.2 as the finite element method software. The results showed that the distribution of tensile stress and shear stress on the connections area are relatively uniform except at the bolt holes area.

Key words: block shear, finite element method, connection with double bolt line