

ABSTRACT

Trapezoid web beam is a type of steel I-section in which the web is made corrugated in a trapezoidal profile form. The corrugated thin web is continuously welded to the flanges along the top and bottom edges. Trapezoid web beam is a built up section that able to support vertical loads over long spans. The higher bending capacity is achieved by increasing the depth of the section. Increasing the depth will increase the slenderness of web and hence reducing the shear buckling capacity. Ordinarily, the economic design of steel web I-beam requires thin web. To avoid shear buckling, intermediate stiffener has to be used, or alternatively, the web can be made corrugated in trapezoidal profile. When beams with corrugated webs are compared with those with stiffened flat webs, it can be found that trapezoidal corrugation in the web enables the use of thinner webs and trapezoidal web beams eliminate costly web stiffeners.