

Concrete-filled stainless steel tubes can be considered as a new type of composite construction technique. (C) 2013 Elsevier Ltd. An experimental test series has been carried out at the University of Wollongong and the University of Western Sydney to investigate the performance of stainless steel hollow and concrete-filled steel tubular (CFST) columns under static and impact loads. Finite element modelling was carried out to predict the behaviour of composite columns under a lateral static or impact load using ABAQUS to simulate the static and impact experiments. Generally, the stainless steel specimens showed improved energy-dissipating characteristics compared with their mild steel counterparts, especially when concrete was used to fill the hollow tubes. This paper presents the behaviour of hollow and concrete-filled stainless steel tubular columns under static and impact loading.