

عنوان مقاله:

A new composite structure composed of CFT and TBC

محل انتشار:

سومین کنفرانس بین المللی یافته های نوین عمران معماری و صنعت ساختمان ایران (سال: 1397)

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خلاصه مقاله:

Reducing labour costs together with higher quality can be obtained by prefabricated steel structures. The prefabrication includes a high segment of the steel tube columns connected to a short beams stub. Subsequently, the prefabricated columns and another part of the steel beams are transported to the site to complete installation of a steel structure. Finally, concrete is pumped inside the steel tube and on the floor to form composite structures. The available researches have shown that through beam connection detail is ideal rigid connections to attach steel I-beams to concrete filled steel tube columns. This paper presents design, fabrication and erection technology of a new composite structure composed of steel I-beams which are passed through to concrete filled circular steel tube column to form three dimensional through beam connection. In this connection detail, the main beam with an I-shape slot in its web was initially passed through the circular steel tube and then the orthogonal beam was passed through the tube and the main beam. Finally the beam flanges and webs were then welded to the tube by full penetration weld. Cutting I-shape slot with beveled corner on the tube for passing the steel beams to the tube and making full penetration weld are two important parameters in the fabrication of the structures. In addition, using bottom concrete filling of the tube .was an important parameter of the structures

کلمات کلیدی:

Concrete Filled Tube (CFT), Through Beam Connection (TBC), Fabrication and Installation, Bottom Concrete Filling of Steel Tube

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