Evaluation of Flexural-Load Capacity for Composite Member with Considering Initial Stress of Fabricated Steel at the Concrete Casting

Yoshihide KAWAMURA Yuki NAKATA Masaru OKAMOTO
Chisato AOKI Manabu IKEDA

The initial stress will be generated in members of steel-framed reinforced concrete (SRC) and concrete filled steel tube (CFT) during construction. However a method to consider the initial stress in the calculation of limited values of these members such as bending capacity has not yet been proposed. In this study, by comparing the calculated result with consideration of the initial stress and that without consideration of the initial stress, the influence of the initial stress on the flexural-load capacity of SRC members was evaluated. In addition, a calculation method of the flexural-load capacity was proposed with considering the initial stress generated by the concrete lateral pressure based on the investigation of constructed CFT members and trial calculations.