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Influence of Prestress Loss on Mechanical Performance of Fabricated Girder Bridge

Authors : Wu Xiaoguang, Liu Jiaxin, Fang Miaomiao, Wei Saidong

Abstract : There are many prestressed concrete prefabricated girder Bridges with small and medium span and the damage is serious. This paper mainly study the effect of prestress loss of prefabricated bridge bearing performance, through the establishment of ANSYS finite element model, from the condition of different prestress loss research, get the stress and strain data, draw curve, finally get the following conclusion: loss of prestress can reduce the ultimate bearing capacity of Bridges, the side span across the deflection value than the influence of times side span, the influence of the deflection in the midspan cross value. Therefore, the prestress loss and the effective prestress should be strictly considered in the design and construction process.

Keywords : across the deflection, loss of prestress, prefabricated girder bridge, the main tensile stress
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