

Evaluation of Service Life of Aged Prestressed Concrete Sleeper

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PC sleepers have been treated as replacement track materials that are replaced each time deformation occurs. For this reason, currently no criteria have been established for quantitative soundness assessment nor for replacement of sleeper. In this research, to establish a new maintenance management system, we collected aged PC sleepers, conducted a survey of aging deterioration, conducted various tests such as bending tests specified by JIS, and evaluated the load-bearing capacity of aged PC sleepers through numerical analyses using a three-dimensional FEM model. Based on these results, a guideline for the service life of PC sleepers was proposed.