

## **Survey of Load Condition and Evaluation of Bending Load Capacity of Aged Shinkansen Prestressed Concrete Sleeper**

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In order to quantify the actual load condition of the prestressed concrete (PC) sleeper for high-speed trains, field measurement tests and numerical analyses were conducted on PC sleepers. As a result, it was clarified that the loading condition of the PC sleepers had a margin of safety compared to the design limit value for cracking due to bending. In addition, the results of the bending tests of the PC sleepers specified in Japanese industrial standard showed that the load capacity of the PC sleepers tends to decrease with age. Although the load capacity of PC sleepers over 50 years old met the standard value of bending fracture load, in some cases this was lower than the standard value of flexural proof load of crack.