

**The Detection System for Bending Cracks of Railway Prestressed Concrete Beams  
by Electro-conductive Paint**

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The prestressed concrete beams has a possibility of bending cracks on the bottom surface of the girder due to the breakage or deterioration of PC steel material caused by poor grout filling, etc. We are investigating a crack detection method using conductive paint for the purpose of detecting the bending cracks and specifying the location where they occur. In this paper, we report that confirmed the crack detection performance of the conductive circuit by the load test. In addition, we performed design calculations that reproduced the stress state at the time of application for the existing PC girder, grasped the residual strength of the PC girder when bending cracks occurred, and then constructed a monitoring system using conductive paint to the actual structure.