

Development of a Method to Prevent Girders Outflow with due Consideration on Mechanism Resisting Tsunami

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Some girders flowed out by Tsunami at the Great East Japan Earthquake on March 11, 2011. Some researchers stated that the outflow was caused by the horizontal force, the lift force and the moment that were acting on girders by Tsunami. In this study, a reinforcing method to prevent the girders from outflow was developed. The method provided the girders with PC tendons and side-blocks for resisting the hydronic forces. Based on the loading test and finite element analysis with the full-scale model, the resisting force of the girders to Tsunami by this method was calculated as a summation of the resisting moments of PC tendons and side-blocks.