

Evaluation of Safety Margin after Fracture of Member of Through Truss Bridge

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Steel truss bridge consists of many different trussed members and it is important to clarify the possibility of the bridge collapse after the fracture of a member. In this study, the authors evaluated the safety margin of a standard steel railway through-truss bridge after the fracture of members, by using 3-D finite element analyses. As a result, it was found out that the safety margin of the surviving members is relatively large after the fracture of the lower chord members because the floor members can make up for the lost sectional force of the fractured members. Finally, the degree of importance of each member was evaluated.