

## Hybrid Stainless Steel Girder for Bridge Construction

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**Abstract :** The main object of this paper is to present the research results of the development of a hybrid stainless steel girder system for bridge construction undertaken at University of Ryukyu. In order to prevent the corrosion damage and reduce the fabrication costs, a hybrid stainless steel girder in bridge construction is developed, the stainless steel girder of which is stiffened and braced by structural carbon steel materials. It is verified analytically and experimentally that the ultimate strength of the hybrid stainless steel girder is equal to or greater than that of conventional carbon steel girder. The benefit of the life-cycle cost of the hybrid stainless steel girder is also shown.

**Keywords :** smart structure, hybrid stainless steel members, ultimate strength, steel bridge, corrosion prevention

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