

# **Construction of the Roof of the New National Stadium of Japan Considering Efficiency and Structural Capacity**

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## **Abstract**

The New National Stadium is a facility that is also used for the Tokyo Olympic Games and Paralympic Games in 2020. This stadium is hoped to become a place where all athletes can show their best performance, and to be loved and used frequently by people of future generations. Based on the concept of "Stadium in Forest", the new stadium is open to everyone. Becoming a part of the forest of Meiji Jingu, it will form a green network spreading from the Inner Garden of Meiji Jingu Shrine to the Imperial Palace and become a "new center of sports cluster" where everyone can enjoy taking walks and various types of sports.

After completion of construction of the main frame, the process of the construction is reported in this paper. There are various unique ideas which enhanced efficiency of the construction and ensured the structural capacity of this stadium. From among them, some of unique challenges such as truss system with triangle section shape and new temporary supporting column for the construction of cantilever roof are reported. Besides, the outline of the construction analysis and comparison between analysis and measured value is also shown.