

Akashi Strait Bridge Anchorage 1A

Owner & Design: Honshu-Shikoku Bridge Authority

Contractors: Joint Venture of Obayashi-Gumi, Shimizu Corp., Tobishima Construction and Toa Construction

Completion: March 1998

Structure: Reinforced Concrete
140,000 M3(183,000 sq.yd)

Size: L84.5xW63.0xH47.5 m
(278'x207'x156')

500 NMB Splice Sleeve 16U for D51 rebars were used.

Akashi Strait Bridge is about 4km (56 mile) long bridge with 1,990m (1.24mile) central span, the world largest truss suspension bridge at the time of completion 1998. Anchorage 1A is the abutment at the Kobe side which connects the two cables of the suspension bridge between Kobe and Akashi to the ground, and it is a gigantic structure with a width of 63 m, a length of 84.3 m and a height of 47.5 m. The precast concrete panels were used instead of the formwork and the steel reinforcement was placed inside the panels. Due to its size, the structure was divided into 5 blocks where high fluid concrete was poured. The reinforcing bar connection was mainly done by gas pressure welding and thread couplers, however, where the bars from both sides were fixed by the couplers at the joining portion between the blocks, the conventional fitting cannot be used to connect those fixed bars. This is where the NMB Splice Sleeve was chosen because it can accommodate the bar misalignment and connect the bars. When the Hyogo Prefecture Nambu Earthquake (M = 7.3) that caused the Great Hanshin-Awaji quake disaster occurred on January 17, 1995, the bridge was under construction, and the main towers moved about 1 meter for each of the ground and the anchorages at both ends, respectively, however, it was confirmed that there was no damage at all.



Anchorage 1A under construction

(Upper left) NMB Splice Sleeves for D51 bars

(Left) Grouting NMB Splice Sleeves