New Brahmaputra Bridge (India)

Project description

Brahmaputra is one of the longest rivers in Asia with a total length of 2,880 km, of which approximately 920 km are in India.

The New Brahmaputra Bridge near Tezpur poses great challenges when trying to bridge the river. This river traditionally has been considered extremely difficult to cross due to its unpredictable behavior combined with flash floods, high currents, turbulence and widespread erosion of the banks.

The scheme has been initiated by the Ministry of Road Transport & Highways with the aim to create a four-lane connection to Itanagar, the capital city of Arunachal Pradesh.

The new 3,040-m long bridge runs parallel to the existing Kaliabhomora Bridge and was constructed using the balanced cantilever method.

mageba scope

The superstructure of the bridge consists of 9 continuous modules, separated by 8 TENSA®MODULAR LR4 joints, which are 360 m apart from each other.

Since the structure was built using the balanced cantilever construction method, mageba supplied special hinge details, which consist of a pair of central hinge bearings at each expansion joint location.

Specially designed RESTON®POT LIFT-CONTROL bearings were also placed at the top and bottom interfaces of the central hinge bearings to allow pre-compression during the installation stage and further compression during the service life, along with sensors, which when connected to an automated monitoring system, it can measure the pre-load at any time.

In addition, vertically-installed RESTON® DISC bearings were supplied to transfer transverse forces across the mid-span discontinuity and prevent relative transverse displacements.

Highlights & facts

mageba Products:

Type:	TENSA®MODULAR LR joints RESTON®DISC and RESTON®POT LIFT-CONTROL bearings Special hinge details
Feature:	Sensors within the RESTON®POT LIFT-CONTROL bearings
Installation:	2021

Structure:

City:	Tezpur
Country:	India
Type:	Prestressed concrete box girder bridge
Length:	3,040 m
Contractor:	M/s Gammon India Ltd. – SP Singla Constructions Pvt. Ltd. (JV).

The bridge is located near Tezpur in eastern India

Placing a complete central hinge bearing assembly at one mid-span location

Following the installation of the hinge bearings, TENSA®MODULAR LR joints were installed

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