

New Kelani River Bridge (Sri Lanka)



Project description

The New Kelani River Bridge, recently constructed in Sri Lanka, is the country's first extradosed bridge – combining the main elements of a prestressed box girder bridge and a cable-stayed bridge but with the “stay cables” treated as external pre-stressing tendons.

It is one of Sri Lanka's finest bridge structures, and has been constructed accordingly with high-quality components.

The bridge was built to cross the Kelani River in the capital city, Colombo, connecting to the main expressway serving the international airport of the city.

The structure has a main span of length of 180 m and outer spans of 100 m each. The construction was done using the balanced cantilever method.

The structure is located in the capital of Sri Lanka, Colombo



mageba scope

After a very detailed selection process, mageba was chosen to supply the expansion joints required for the structure. In total six TENSA®FINGER RSFD joints were designed to suit the structure's particular needs in accordance with relevant Japanese (JIS) and American (AASHTO) standards, and to facilitate movements of up to 300 mm.

A unique feature of the expansion joints is the secondary elastic seal that has been integrated into their design in accordance with the client's specifications.

As a result, the watertightness of each joint is ensured not only by the drainage channel that hangs beneath the joint (like all TENSA®FINGER joints), but also by a strip of compressible watertight material just below the joint's surface plates.

The addition of this second line of defence against leaks required the design and fabrication of the joint to be adapted accordingly.

TENSA®FINGER RSFD as manufactured for the bridge in mageba's Kolkata factory



Highlights & facts

mageba Products:

Type: TENSA®FINGER RSFD expansion joints
Installation: 2020–2021

Structure:

City: Colombo
Country: Sri Lanka
Type: Extradosed bridge
Built: 2017–2021
Length: 180 m
Owner: Road Development Authority of Sri Lanka
Contractor: Sumitomo Mitsui Construction Co. Ltd. Sanken JV
Designer: Oriental Consultants Company Limited and Katahira Engineers

Installation of a TENSA®FINGER RSFD joint at one location on the new structure

