St. Croix Bridge, Minnesota (USA)

Project description

Interstate traffic across the St. Croix River, between the states of Minneapolis and Wisconsin, has been served for over 80 years by the Stillwater Lift Bridge – a structure which is now in a poor state of repair, functionally obsolete and over capacity. The new St. Croix Crossing, when opened in 2016, will enable the old bridge to be closed to vehicular traffic. The new structure will be an extradosed bridge – a combination of a box girder and cable-stayed structure. The resulting low profile will minimize visual and environmental impacts.

mageba scope

mageba is supplying 68 RESTON®DISC bearings to support the deck of the new bridge. The key component of a disc bearing is the disc at its centre, which carries the load of the structure above and allows rotations about any horizontal axis. The disc is moulded from high-strength Polyether Urethane (PU), an aromatic thermoplastic with excellent mechanical properties. The allowable compressive stress on the disc is as high as 35 MPa, and it does not require confinement, as does, for example, the elastomeric pad at the heart of a pot bearing. The disc is also highly resistant to environmental impacts, and remains effective at a very wide range of temperatures, from –94 °F to 249 °F (–70 °C to +121 °C).

The bearings supplied by mageba include all three types (fixed, free sliding, and guided bearings) with vertical load capacity of upto 6,584 kips (29,300 kN), and horizontal load capacity of upto 1,310 kips (5,830 kN).

Highlights & Facts

mageba products:

Type:	RESTON®DISC bearings
Installation:	2015

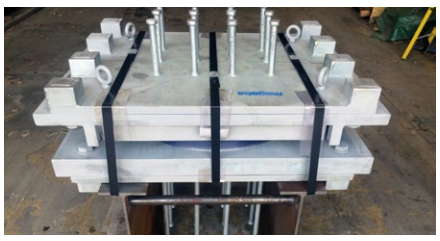
Structure:

City:	Oak Park Heights (MN)
Country:	USA
Construction:	Extradosed bridge
Type:	Highway bridge
Built:	2013–2016
Builder:	Lunda/Ames JV

The bridge will connect Oak Park Heights (MN) and St. Joseph (WI) across the Ohio River

3D render of a mageba Disc bearing

A finished Guided Disc bearing ready for delivery



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