**THE EXPERIENCE OF BRIDGE SEISMIC ISOLATION IN RUSSIA**

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**ABSTRACT**

Positive experience of applying seismic isolation systems for seismic stability of the civil and industrial buildings and structures began to extend to the objects of transport construction about twenty years ago, as is evidenced by theoretical and experimental studies conducted in this regard, as well as by the use of seismic isolation devices in the road bridge structures in Europe, Japan and China. At the same time seismic isolation systems in the railway transport facilities (bridges, overpasses) were still not used in the world practice, that was related to a number of unsolved engineering problems, especially under high-speed running conditions. Reducing the seismic load when using seismic isolation leads to increasing of a structure main periods and consequently increases its deformability, so that above-standard significant displacements emerge, they can lead to a rail rupture under the operational loads. Nevertheless, a number of Russian engineers and scientists had carried out a number of studies and succeeded in solving this problem theoretically and practically. This solution made it possible to ensure the safe operation of the bridge tracks under operational loads, to reduce the seismic loads during minor and moderate earthquakes, to limit damages during strong impacts, and had been applied for seismic protection in new constructions for the Olympics in Sochi, Russia. The paper considers the peculiarities of seismic isolation on both highway and railway bridges. They are based on the projects that had been implemented in the seismic regions of Russia given the world scientific experience.

*Keywords: highway bridges, railway bridges, seismic isolation systems, seismic load*

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