

Epoxy asphalt concrete is a perspective material for the construction of roads

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Abstract. An effective way to increase the durability of asphalt concrete pavements that are subject to high traffic loads and adverse weather and climatic factors is the use of polymer additives which drastically improve the rheological and physical-mechanical properties of bitumen. The use of thermosetting polymers including epoxy resins for asphalt and bitumen modification is seen as a perspective solution for this issue. Conducted at DerzhdorNDI SE studies have proved high riding qualities of asphalt pavements that contain epoxy resins. When replacing 20-35% of bitumen with epoxy component, a significant improvement in strength characteristics of asphalt pavement is noted, especially at elevated temperatures. Specific feature of epoxy asphalt concrete is its ability to gain strength over a long-term operation. Thus, despite the increased cost of epoxy asphalt concrete, long service life of pavements on its basis (up to 30 years as predicted) ensures a high profitability of using this material, especially on the roads with heavy traffic and severe traffic conditions.