The authors argue that the operation of highways has proved that a substantial number of constructed and commissioned roads lose the durability and stability of their road beds for various reasons, including collapses and deformations caused by landslides off the slopes. Therefore, traditional construction technologies cannot provide the required performance parameters due to the elevation of road building and repair charges. Now the issue of improving performance parameters of a road bed constitutes a relevant objective. One of solutions contemplates application of geo-materials.

A classification of geo-materials, their functional purposes and key parameters are considered in respect of the road bed construction. Various structural solutions applied in the course of construction of the road bed embankment in Vietnam are proposed.

Geo-synthetic materials efficiently improve the durability and stability of road beds in harsh engineering, geological and hydrological conditions. However widespread introduction of geo-materials in Vietnam is restrained by the unavailability of regulatory documents and flow charts governing their application.

Key words: road bed embankment, geo-synthetic materials, soft floor, ground waters, water and wind driven erosion, reinforcing layer, dividing membrane, durability and stability of a road bed.

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