

YUGOSLAV EXPERIENCE IN THE PRODUCTION AND APPLICATION OF POLYMER BITUMENS FOR HOT AND COLD ASPHALT MIXES

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SUMMARY

This paper analyzes characteristics of three (3) samples of polymer modified bitumens produced in "GRMEČ", Belgrade out of bitumen made at the refinery "NOVI SAD" (crude oil VELEBIT and KELEBIJA) and 3, 5, and 7% of polymer based on styrene-butadiene-styrene (EUROPREN - Italy), as well as asphalt mixes containing these polymer modified bitumens.

Polymer-bitumens "POLIBIT" ("GRMEČ") exert influence on the improvement of asphalt mix characteristics such as resistance to permanent deformation and resistance to fatigue when compared to asphalt mixes with standard road bitumen BIT 60. That influence is even more pronounced when the polymer content is increased within the polymer-bitumen mix.

This paper also presents the results of testing characteristics of cold asphalt mixes with emulsion of diluted bitumen, emulsion of polymer modified bitumen and cut back polymer-bitumen, which were produced by "GRMEČ" as well as characteristics of the corresponding cold asphalt mixes.

The results of testing showed better physical and mechanical characteristics of cold asphalt mixes with polymer-modified emulsions ("BPR-P" and "KPR-P") and cut-back polymer-bitumen ("RPmB") and less optimum content of binder than cold mixes with unmodified emulsions ("BPR" and "KPR").