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## Production and characteristics of rubber-bitumen compositions

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Petroleum bitumen widely used in many industries, including road building constructions. Main problem with road building is the poor quality of bitumens used in asphalt-concrete pavements. One of the ways to improve the quality of the binders is their modification with polymers and rubber crumb.

Physical and mechanical characteristics of rubber-bitumen compounds on based spent rubber items and spent engine oil were investigated experimentally. Scanning Electron Microscopy analyzes showed that crumb rubber has variety of morphological structures. It was determined, the rubber crumb is very low pores heterogeneous material.

It is established that the quantity of entered binders depending on physical and chemical conditions, which was optimal composition of rubber-oil at a ratio of 1:1 and 3:2 and introduction to bitumen in amount of 15-25 wt. %. On the physical and mechanical characteristics of rubber modified bitumen with engine oil (rubber crumb : oil = 1:1 and rubber crumb : oil = 3:2) correspond to grade of paving rubber-bitumen compositions RBC 60/90, RBC 90/130 and RBC 130/200. Adding of rubber crumb and modifier to bitumen were improved characteristics of prepared samples. At that time, rubber crumb and spent engine oil use to road construction will allow decrease environmental pollution with industrial wastes.

### Biography

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