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## **PHYSICAL AND MECHANICAL PROPERTIES OF ASPHALT MIXTURES USED IN POLAND IN COMPARISON TO EUROPEAN REGULATIONS**

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### *ABSTRACT*

Programme of the research work contains laboratory tests of 2 types of asphalt mixtures, made on the base of 2 various aggregates, 5 types of bitumen and 3 values of binder content. Asphalt Concrete (AC) and Stone Mastic Asphalt (SMA) mixtures for wearing course were the objects of the tests. Asphalt mixtures mentioned above have been designed according to Polish regulations. Full range of laboratory tests, which are obligatory in Poland, have been carried out. On the second stage of the research work the following tests according to European standards have been carried out:

- resistance to rutting using large device (acc. to LCPC),
- resistance to rutting using small device (acc. to British Standard),
- compactibility using gyratory press,
- indirect tensile stiffness modulus at various temperatures: -2,10,23°C.

On the basis of results of the tests and analysis it can be stated that asphalt mixtures designed according to Polish regulations are able to satisfy the most difficult European requirements. However, in several cases, results of the tests have not been satisfied. Thus, there is necessary to introduce the rutting tests to Polish regulations.

*KEY WORDS:* asphalt, rutting, polymer modified bitumen