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Influence of crude oil type and production technology on bitumen fractional composition

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This paper presents bitumen quality, which can be a relevant issue in the performance of road surfacing. Bitumen is a byproduct of the distillation process of the crude oil in refineries. Also, bitumen is a colloidal system, which consists of resins, aromatics, saturates and asphaltenes. The most important components of bitumen colloidal system are asphaltenes, which quantity and the interaction with the resins, aromatics and saturates influence bitumen properties. In order to determine an interaction between bitumen fractional composition and other properties, one single parameter Gaestel index (I_c) was used. Using bitumen from different producers with the same physical characteristics can be significantly different in fractional composition. Crude oil selection and processing play an important role in bitumen properties, since distillation residual, as in each case the bitumen fractional composition, can be different. There are many kinds of crude oil but only a few of them are suitable for the production of bitumen. Changes in processing and crude sources even within a market may also lead to variability in bitumen fractional composition. The aim of this study is to determine to which extend the type of crude oil and the production technology influence the bitumen fractional composition. Bitumen samples were selected based on the origin crude oil and different producers. In order to obtain information about bitumen chemistry, IATROSCAN MK 6S chromatography was used. The results showed that recommendations of bitumen fractional composition provide a better quality of bitumen according to crude oil type and processing.

Biography

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