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# The investigation influence of high carbon technical filler on the properties of the plantar rubber

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**Abstract**

The article investigates the influence of the high-carbon technical filler of the RP-CARBON series of three brands RP-C 100, RP-C 150 and RP-C 200, differing in the size of microparticles, on the properties of the rubber mixture which used for the manufacture of rubber shoe soles. The investigation influence of replacement of technical carbon grades TU N 330 and TU P 803 on high-carbon technical filler in the plantar rubber compound based on the combination of SKI-3 and SKMS-30ARKM-15 caoutchoucs has been investigated. The rubber mixture contained caoutchoucs, vulcanizing agent sulfur, vulcanization accelerators thiazole 2 MBS and guanid F, vulcanization activators zinc oxide and stearic acid, antioxidant naphtham-2; plasticizers rosin and industrial oil I-8A; chalk fillers and carbon blacks of grades TU N 330 and TU P 803. The plasto-elastic, rheometric properties of the rubber mixture and the physicomechanical properties of vulcanizates, as well as the change of these properties after thermal aging of vulcanizates in air were studied. It was established that with replacement of technical carbon grades TU N 330 and TU P 803 with high-carbon technical filler, the plantar rubber mixture has satisfactory technological, physicomechanical and operational properties. Rubber mixture containing 11 weith parts high-carbon technical filler brand RP-C 100 instead of carbon black TU P 803, characterized by improved technological properties during calendering and can be recommended for the manufacture of sole rubber based on non-polar rubbers.

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