

# Comparison of influence of ageing on low-temperature characteristics of asphalt mixtures

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**Abstract.** Ability of relaxation of asphalt mixtures and thus its resilience to climate change and traffic load is decreasing by influence of aging – in this case aging of bituminous binder. Binder exposed to climate and UV ages and becomes more fragile and susceptible to damage. The results of the research presented in this paper are aimed to finding a correlation between low-temperature properties of referential and aged asphalt mixture specimens and characteristics (not low-temperature) of bituminous binders. In this research there were used conventional road binders, commonly used modified binders and binders additionally modified in the laboratory. The low-temperature characteristics were determined by strength flexural test, commonly used in the Czech Republic for High Modulus Asphalt Mixtures (TP 151), and semi-cylindrical bending test (EN 12697-44). Both of the tests were extended by specimens exposed to artificial long-term aging (EN 12697-52) – storing at 85 ° C for 5 days. The results were compared with characteristics of binders for finding a suitable correlation between characteristics of binders and asphalt mixtures.