

# USING 1/3 SCALE ACCELERATED PAVEMENT TESTING TOOL TO LOAD ON QINGCHUAN ROCK ASPHALT IN SHANDONG, CHINA

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## ABSTRACT

In this paper, authors investigated the performances of China Qingchuan Rock asphalt to asphalt mixture at high temperature. Four kinds of binders were prepared: Base asphalt, SBS modified asphalt, China Qingchuan rock asphalt modified asphalt, China Qingchuan rock asphalt and SBS composite modified asphalt. The high temperature creep performance of the cement was analyzed through DSR test; The 1/3 scale accelerated loading test equipment is used as the basic test platform to evaluate the high-temperature stability of the "AC-10C+AC-16C" double-layer asphalt mixture composite rutting test specimen. It compares with the single asphalt mixture rutting test. The results show that after road petroleum asphalt is modified by China Qingchuan Rock asphalt, the dynamic stability of the asphalt mixture increases by about 40%, and the high temperature stability is greatly improved; After SBS modified asphalt is modified by China Qingchuan Rock asphalt, the dynamic stability of the asphalt mixture is increased by 5-10%. The order of the contribution of different types of asphalt binders to the high temperature stability of the asphalt mixture ranks as China Qingchuan Rock asphalt and SBS composite modified asphalt, SBS modified asphalt, China Qingchuan rock asphalt modified asphalt, Matrix asphalt. After modified by China Qingchuan Rock asphalt, the asphalt mixture is used as the upper layer, and its anti-rutting performance is the more significant than that of the lower layer; the rutting of the 1/3 scale accelerated loading full thickness rutting test better characterizes the development and damage of the rutting during the process. The accelerated pavement testing (APT) of composite rutting specimens could accurately evaluate the anti-rutting performance of asphalt mixture or pavement at high temperature, and provide a new method to further clarify the development law of high-temperature rutting performance of asphalt pavement.