

ESTIMATION OF BRAKING DISTANCES OF ELECTRIC TRAIN FOR EMERGENCY PNEUMATIC AND ELECTRIC-PNEUMATIC BRAKING

A brief analysis of the results associated with studies of emergency braking a new-generation high-speed passenger train is provided. The braking system of railway rolling stock is one of the main systems providing the safe traffic. The problems of improvements in the braking effectiveness of the newly developed passenger cars have received much consideration due to an increase in both an axial load and a speed of motion. At present the disk braking systems providing an improved braking effectiveness at speeds of 160 km/h and more are in considerable use. Electric trains are the most advanced types of railway transport to carry passengers by rail at range of 500-700 km. For emergency pneumatic and electric pneumatic braking the assessment of braking the EKr1 Tarpán electric train, vehicles of which are equipped with gap-free couplers and disk brakes, is made. The braking distance is presented as a criterion of the effectiveness of train brakes. The predicted values of braking distances of the electric train for emergency pneumatic and electric pneumatic braking on the horizontal ground do not exceed the specified values, and agree practically with the data of running braking tests. Maximal values of braking distances for pneumatic and electric pneumatic braking at an initial speed of 160 km/h with a 10 ‰ slope are in agree with the requirements of signaling instructions.

Keywords: *electric train, emergency braking, effectiveness of braking system, disk brakes, experimental investigations, braking distance.*

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