

STRUCTURAL AND THERMAL ANALYSIS OF HEAVY VEHICLES' DISC BRAKES

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ABSTRACT: The effect of temperature and mechanical loads that occur when the vehicle is slowing down or stopping is shown in this paper. In the first section of paper, it is shown that with increasing temperature leads to decrease of the coefficient of friction i.e. the brake efficiency characteristics fade. The structural and thermal analysis is carried out on the model of brake disc and the brake pads, and the deformation and stress states of these elements are shown.

KEY WORDS: vehicle, coefficient of friction, deformation, stress.

STRUKTURNA I TERMIČKA ANALIZA DISK KOČNICA TERETNIH VOZILA

REZIME: Ovaj rad razmatra uticaj temperature i mehaničkih opterećenja koji se javljaju pri usporavanju ili zaustavljanju vozila. Na samom početku je prikazano kako sa porastom temperature opada koeficijent trenja, odnosno karakteristike kočenja blede. Na modelu je izvršena strukturna i termička analiza diska i kočnih pločica i prikazana su deformaciona i naponska stanja ovih elemenata.

KLJUČNE REČI: vozilo, koeficijent trenja, deformacija, napon.

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