Abstract
The paper describes results of research on heavy vehicle tyre with Run Flat VFI insert. The experiment has included the determination of heat generation, rolling resistance, and radial stiffness of two different tyre designs (textile and steel carcass). The results have been used for the purpose of evaluation of tyre operating characteristics. The study included research on non-inflated tyre properties.

The purpose of the paper is to determine characteristics of the tyres equipped with inserts, which are essential for driving wheeled APCs. The inserts are composed of polymer rings mounted on the rims inside the tyres. If the inflation pressure of the tyre is very low or if there is no inflation pressure at all, the ring transfers the loads imposed on the tyre to the rim. Usually in such a case, there is a contact of the ring and inner surface of the tyre tread area.

Laboratory facility for surveys of heavy vehicles tyres, summary characteristics of radial stiffness and hysteresis of test tyres, temperature distribution on the external surface of the test tyre, comparison of radial characteristics of the tyres tested, example of stiffness characteristics, distribution of temperature on the side of tyre during the road test and carcass damages on the flat tyre are presented in the paper.