
EXPERIMENTAL STUDY OF CHARACTERISTICS OF VIBROCON SM HEIGHT-ADJUSTABLE PROPS UNDER VARYING LOADS WITH DIFFERENT FREQUENCIES

M.A. Pyatakova

pyatakovama@asv.org.ru

Bauman Moscow State Technical University, Moscow, Russian Federation

Abstract

This article is a continuation of a previously published work presenting the results of an experiment conducted on a height-adjustable Vibracon® SM prop. The results of the experimental studies presented in this paper show that there are considerable elastic deformations in Vibracon props. When screwing the nut and as a result of precompression and final screwing, the initial contact of the parts from the line contact outgrows into the flush contact. As a result, slippage occurs and a hysteresis loop takes place, the area of which depends on the amplitude of the force acting on the prop. The conclusions given in this article are part of the research work (master's thesis) aimed at ensuring proper consideration of the parameters examined and the results obtained in modeling and studying the props.

Keywords

Props, rigidity tests, deformations

© Bauman Moscow State Technical University, 2017

References

- [1] Pyatakova M.A., Ryakhovskiy O.A. Research on rigidity of height-adjustable chocks Vibracon SM. *Aktual'nye problemy gumanitarnykh i estestvennykh nauk*, 2016, no. 6–1, pp. 132–135.
- [2] Grudziński P., Konowalski K. Studies of flexibility of a steel adjustable foundation chock. *Advances in manufacturing science and technology*, 2012, vol. 36, no. 2, pp. 79–90.
- [3] Grudziński K., Jaroszewicz W. Seating of machines and devices on foundation chocks cast of EPY resin compound. Szczecin, 2004. 188 p.
- [4] Vibracon SM: Das universelle Stahlpasstück. Schweinfurt, SKF GmbH, 2015. 4 p.

Pyatakova M.A. — Master's Degree student, Department of Machine Construction Principles, Bauman Moscow State Technical University, Moscow, Russian Federation.

Scientific advisor — O.A. Ryakhovskiy, Dr. Sc. (Eng.), Professor, Department of Machine Construction Principles, Bauman Moscow State Technical University, Moscow, Russian Federation.
