

## Comparison of the Continuous and Intermittent Relaxation Test

Vladimir Sleger, Cestmir Mizera

Faculty of Engineering, Czech University of Life Sciences Prague. Kamycka 129, 165 21 Praha 6 - Suchbát. Czech Republic. E-mail: sleger@tf.czu.cz, mizera@tf.czu.cz

The article presents the measurement results of the relaxation of long-term loaded compression springs manufactured out of non-alloy steel. The goal was to determine the differences between the interrupted and uninterrupted tests. During the relaxation test that lasted 5000 hr in a laboratory with a temperature of 22°C, initial shear stress set at a value of 30% of the ultimate tensile strength of the material, decreased the strength of the springs with a wire diameter of 1 mm by 3.6%, springs with a wire diameter of 3.15 mm by 2.5%, and springs with a wire diameter of 5 mm by 1.3%. The difference in the results was found in tests 16 times and 4 times interrupted to measure the current relaxation. The results of intermittent tests cannot be considered as relaxation values for statically loaded springs. Conversely, when determining the maximum tension of quasi-statically loaded springs with respect to the relaxation, the uninterrupted relaxation tests cannot be used.

**Keywords:** Compression springs, Patented wire, Long-term test, Room temperature, Static loading

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