prediction of textile resilience changes during a certain period of cyclic loading. It was stated that the decay of pendulum impact β_n and rebound angles α_n in the period of t = 20 s can be described by power function $y = a + bx^c$ with a high accuracy (R^2 = 0.995 - 0.999) The higher resilience of fabrics and their fused systems during the pendulum rebound is characterised by higher values of power functions coefficients *a* and *b* and lower values of its coefficient *c*. Hence lower deformability of samples tested during pendulum impact is characterised by lower values of coefficients *a* and *b,* while a more intensive decrease in deformability – by higher values of coefficient *c*.

The application of the continuous pendulum impact loading method for textile systems with different fusing interlinings has proved that the most deformable are separate fabrics; but their fused systems become less deformed and their first impact angle β_1 decreases from 15.5% to 24.7%. The degree of fused system deformability depends directly upon the thickness and mass per unit area of interlinings used, i.e. less deformable and more stable systems were obtained with thicker interlinings, the mass per unit area of which was higher. Also it was stated that the vibration period T_n closely depends on both the impact and rebound angles. After fusing, the rebound and impact angles decrease; but the resilience properties of fused systems become better in respect to separate outer fabrics, because the duration of pendulum vibration periods becomes shorter, and at the same time the number of its vibrations becomes higher.

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