Evaluating Approaches to Estimating Endurance and Cyclic Cracking Resistance of Metal Structure Components

This paper considers issues on the life definition of category A structures for the buildings of CC3 class of consequences (liability) that may have defects at the beginning of operation or damages accumulated in the process of operation. The calculations to check resistance to cyclic loads shall be made for the stated structures at the design stage. The research includes analysis of requirements of Ukrainian and international regulatory documents for the calculation of structure components for quasistatic, low-cyclic fatigue and cyclic cracking resistance.

Keywords: quasistatic fatigue, low-cyclic fatigue, cyclic cracking resistance, resistance to brittle fracture.