

ON A TORSION OF PRISMATIC VISCOPLASTIC BARS WITH HARDENING

Sporykhin A. N., Chupis S. G., Scheglova Y. D.

In this paper torsion of prismatic viscoplastic bars with hardening is considered in two cases: when the plasticity condition and the associated plastic flow rule are linearized, and when associated plastic flow rule is linearized.

Analytic solutions for the stresses and deformations are obtained for the bars with polygonal cross-section. Cases of the bars with square and rectangular cross-sections are considered.

A stabilizing effect of viscosity on stress-strained state of the bars with torsion is defined.