Abstract

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CALCULATION STRESS-STRAIN STATE OF ESKALATORNY TUNNELS UNDER THE INFLUENCE OF CONSTANTS AND SEISMIC LOADINGS

Keywords: stress-strain state, lining, accelerogram, stress, displacement.

Aims. Scientific justification of construction an lining the eskalatorny of tunnels from monolithic reinforced concrete for the purpose of receiving considerable economic effect in comparison with an lining from pig-iron tubings.

Methods. On the basis of a method of final elements in combination with a direct method of Gauss and a method of decomposition of movements in forms of own fluctuations the stress-strain state (SSS) of an lining of an eskalatorny tunnel on various combinations of loadings is studied.

Results. Work represents the numerical research directed on studying of the SSS as an lining the eskalatorny of tunnels of the subway, and the surrounding soil massif for construction justification an lining the eskalatorny of tunnels from monolithic reinforced concrete. Multiple numerical experiments on studying of the SSS of designs of an lining the eskalatorny of tunnels on action of constants and seismic loadings are made. By results of the conducted researches recommendations about selection of the area and a class of longitudinal and ring fittings are made. Expediency of construction an lining the eskalatorny of tunnels in the conditions of Alma-Ata from monolithic reinforced concrete for the purpose of increase in rigidity and decrease in sizes of tension in ring sections of an lining on the basis of studying of regularities of distribution of tension in an lining is scientifically proved at constants and seismic loadings.